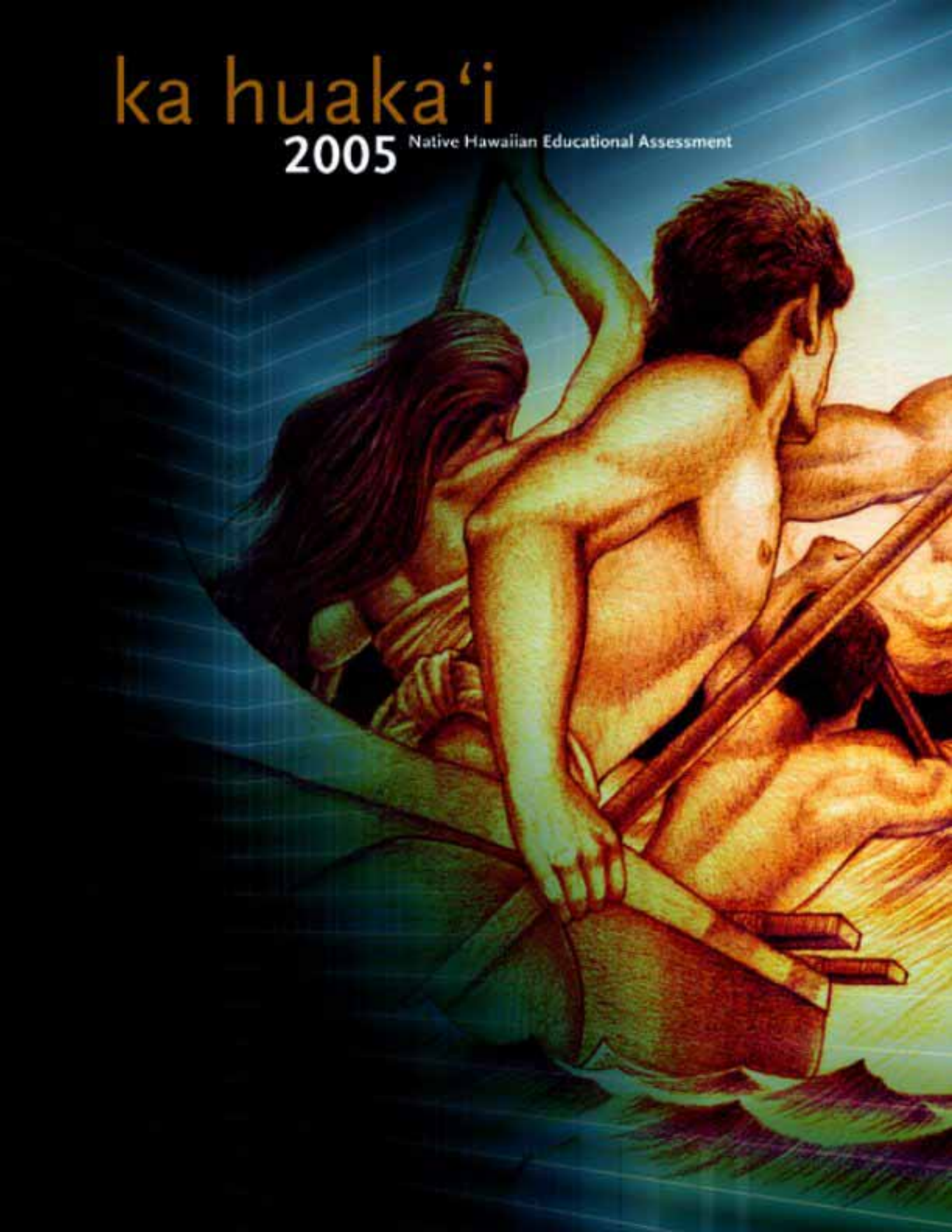
ka huaka'i

2005 Native Hawaiian Educational Assessment



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2005 Native Hawaiian Educational Assessment

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To Myron "Pinky" Thompson,
the Native Hawaiian Educational Assessment
Project's first navigator,

and to

nā kamali'i a me nā 'ohana Hawai'i
a puni ka honua

Na wai hoʻi ka ʻole o ke akamai, he alanui i maʻa i ka hele ʻia e oʻu mau mākua?

Who indeed would doubt my intelligence, a path well traveled by my parents?

—Kauikeaouli, Kamehameha III

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Our First Navigator

It is with great pleasure and gratitude that we dedicate this third major update of the Native Hawaiian Educational Assessment to Myron "Pinky" Thompson, our first navigator. Many do not know that it was Pinky, inspired by aloha for his people—and for all the people in our island state—who worked tirelessly to find ways to improve their quality of life. Pinky was the driving force behind the first Native Hawaiian Educational Assessment Project in 1983.

In the early 1960s, Pinky began his quest to address the unique needs of Native Hawaiians, especially the Hawaiian keiki. It was his belief that Native Hawaiians suffered similar challenges to those of other indigenous peoples in the United States. He was possibly the first to propose that our people suffer from collective depression as a result of the loss of culture, self-sufficiency, and self-concept. Pinky made innumerable attempts to obtain congressional support for Native Hawaiians. The lack of definitive data about the well-being (or not-so-well-being) of Native Hawaiians was a challenge. Pinky knew that a comprehensive assessment of the status of Native Hawaiians was the only way to obtain federal assistance.

The first Native Hawaiian Educational Assessment Project was authorized by Congress through Pinky's personal commitment, his influence as a trustee of the Bishop Estate, and his relationship with Senator Inouye and other congressional delegates from Hawai'i. Although the assessment was authorized, no funding was provided, so Pinky convinced the trustees of the Bishop Estate to fund the project. It was clear to him that without data, Native Hawaiians would never receive the funding and support they deserved.

The first assessment was presented to Congress and the U.S. Department of Education in 1983. It is very likely that none of today's Native Hawaiian legislation would have occurred without this precursor that outlined the unique needs of Native Hawaiians.

Thank you, Pinky, for your foresight, determination, and aloha for all Native Hawaiians. You are always here with us in spirit, as a tireless navigator in our quest to ensure that Native Hawaiians will soon return to the state of well-being they enjoyed more than a century ago.

—Sherlyn Franklin Goo

Message from the CEO

Kamehameha Schools recognizes the value of research on Native Hawaiians and is proud to support the publication of *Ka Huaka'i*. Even though it is a decades-long tradition for Kamehameha Schools to produce the Native Hawaiian Educational Assessment, we could not do it without the assistance of dozens of individuals and community and state organizations. In this regard, this publication represents a kākou effort that we can all be proud of.

In her day, Ke Ali'i Pauahi Bishop witnessed the decline of the Hawaiian population and resolved to channel resources to remedy the problems she observed through education. Kamehameha Schools has a specific mission to address the educational needs of Native Hawaiians. *Ka Huaka'i* makes it clear that education is only one part of the equation, and that cooperation among many groups and agencies is required to improve Native Hawaiian well-being.

Ka Huaka'i offers pointed findings about the challenges facing contemporary Native Hawaiians. The data also reveal some of the Hawaiian values and strengths that have withstood the tests of time. We hope educators, leaders, administrators, and organizations that serve Native Hawaiians will use this information to create programs that build on and encourage the inherent strengths in Hawaiian communities today.

Overall, this book serves as a significant point of reference documenting both the strengths of and challenges for Native Hawaiians. Within that purview, one particularly important theme emerges: that drawing on the strengths of families and communities remains the key to a strong people for all time.

Dee Jay Mailer
Chief Executive Officer
Kamehameha Schools

He Mahalo E Heahea Aku Ai

We express sincere gratitude to the trustees, CEO, and executive leadership of Kamehameha Schools for their guidance and vision. Many organizations supported the publication of this report, most notably the Native Hawaiian Education Council, the Office of Hawaiian Affairs, the Native Hawaiian Center of Excellence at the University of Hawai‘i John A. Burns School of Medicine, and the Department of Native Hawaiian Health at the University of Hawai‘i–Mānoa. We are also gratful to the Hawai‘i Department of Education for reviewing and supporting this work.

Many of our colleagues graciously gave of their time and talents. Their knowledge, patience, and aloha for our community of Native Hawaiian learners have been invaluable in producing this report. Just as the crew of a voyaging canoe includes experts in navigation, history, spirituality, and other disciplines, our efforts to gather data and share findings involved a diverse team with a broad range of expertise.

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The Policy Analysis & System Evaluation (PASE) department of Kamehameha Schools is grateful for the opportunity to contribute this report to the overall objectives of the Native Hawaiian Education Council, which coordinates, assesses, and makes recommendations for the improvement of educational programs and services for Native Hawaiians. We also acknowledge the authors of the previous editions of this report for their persistence and commitment to disseminating accurate and actionable data on Native Hawaiians.

‘A‘ohe hana nui ke ‘alu ‘ia.
No job is too big if everyone pitches in.

EXECUTIVE SUMMARY AND KEY FINDINGS

Executive Summary

Ka Huaka'i: 2005 Native Hawaiian Educational Assessment examines Native Hawaiian education and well-being from a multidisciplinary perspective. Building on earlier assessments of Native Hawaiian education published in 1983 and 1993, *Ka Huaka'i* discusses recent trends and synthesizes an extensive body of research to highlight the interrelated factors that influence educational outcomes.

Our story may be familiar to many: On the whole, there are few statistical gains in Native Hawaiian well-being. However, there are definite signs of progress among Native Hawaiians, and we share the hope and inspiration found in the significant gains occurring on a smaller scale. These, combined with the existing strengths found in Native Hawaiian families and communities, form important scaffolding opportunities for educational programs and other initiatives. The Native Hawaiian strengths described in this report do not necessarily mean that conditions are acceptable; rather, they represent building blocks for optimizing the delivery of programs and services for Native Hawaiians.

In general, our analysis indicates the need for continued efforts to enhance Native Hawaiian education and other related areas of well-being (physical, material/economic, social/cultural, and emotional). Overall themes of *Ka Huaka'i* can be summarized into (1) areas of strength and progress, (2) areas of mixed results, and (3) areas that signal increased needs.

1. Moving forward: Areas of strength and progress to reinforce

In education, recent years show improved access to preschool and other child development opportunities for Native Hawaiians. For example, the rate of Native Hawaiian preschool attendance has increased and is just slightly below the state average (although the quality of the preschools' settings is likely to be highly variable). Early signs of progress are also evident in Hawaiian-focused charter schools, where the level of achievement and school engagement for Native Hawaiian children is higher than that of their counterparts in conventional public school classrooms.

Progress is apparent in health outcomes of young Native Hawaiian children in recent decades, such as declining rates of infant mortality and increased prenatal care. Native Hawaiians are also living longer than before and have begun to experience some improvements in heart disease mortality. Though less favorable than statewide rates, these gains represent dramatic improvement over time.

A quantifiable strength that emerges in this study is the high level of social and familial support reported by Native Hawaiian adolescents and adults who find solace, comfort, and help from family and neighborhood members. This unique characteristic of Native Hawaiian families is an important asset and an opportunity that may help counter the persistent academic and social challenges faced by many Native Hawaiians.

2. In flux: Areas of mixed results to revisit and reassess

The achievement gap between Native Hawaiians and other students continues to loom large. Rough trend analyses, however, reveal slight reductions in the gap in certain grades. Also, survey results indicate that a slight majority of Native Hawaiian parents exhibit behaviors that are shown to enhance child development and engagement with school. These early childhood supports (reading and talking with children, parental involvement with school, etc.) are desirable for *all* children to enhance their healthy development at home and school.

Certain high-risk behaviors (e.g., smoking and substance abuse) among Native Hawaiian adolescents are less common than in previous years. However, Native Hawaiians continue to exceed state averages in substance abuse, incarceration, suicide, and deviance.

3. Warning signs: Areas of continued need to redirect

Standard measures of school achievement show that Native Hawaiian students are far from parity with their non-Hawaiian peers. On the whole, educational measures such as standardized tests, special education enrollment, high school graduation, and college completion reflect substantially lower achievement among Native Hawaiians compared with statewide norms.

Family welfare continues to be an issue. For example, domestic abuse and neglect are increasingly common in Native Hawaiian families. Native Hawaiians are increasingly unlikely to have health insurance. This situation is compounded by high rates of public assistance, poverty, single-parent households, and low-wage occupations among Native Hawaiians. Poverty rates were among the highest in the state in the 1983 Native Hawaiian Education Assessment Project, and there they remain. And, though employment among Native Hawaiian families with children is equal to statewide rates, the decades-long persistence of high poverty suggests that too many families—including two-earner families—face poor employment and wage prospects.

Overall, this analysis makes it clear that the status quo is not acceptable for Native Hawaiians. The key findings that follow include policy implications that address the need for collaboration, coordination, and support to facilitate the reinvention that must occur at the community level to create positive changes in areas such as decent and affordable housing, personal safety, employment and wages, in addition to education. These and other components must be addressed to increase the capability and well-being of Native Hawaiian families and communities.

KEY FINDINGS

Social and Cultural Well-Being

Strengths/Gains

Social ties are assets of Native Hawaiian families and communities.

- Compared with school-age children of other ethnic backgrounds, Native Hawaiian children are more likely to express strong attachments to their families.
- Many Native Hawaiian children enjoy close ties to *kūpuna* (elders). Grandparents and grandchildren reside together in more than one-quarter (25.7 percent) of Native Hawaiian households with children.
- Native Hawaiians have strong ties to their neighborhoods and communities. More than half (51.1 percent) of all Native Hawaiian adults are involved in at least one community activity or organization, and 70.5 percent of these participants assume leadership positions within their respective organizations.

Culture plays an important role in the lives of many Native Hawaiian families. More than one-quarter (26.1 percent) of Native Hawaiian families regularly engage in cultural practices, compared with 16.6 percent of all families surveyed.

Challenges/Opportunities

Compared with other families in the state, Native Hawaiian households have the highest incidence of single-parent families with minor children (15.8 percent versus 8.1 percent). Such families more often struggle with financial insecurity and family tensions.

Native Hawaiian children are more likely to report conflict within their families. Statistics show that child abuse and neglect are increasingly common in Native Hawaiian families.

Native Hawaiians on the whole have disproportionately high rates of substance abuse, arrest, and incarceration, suggesting areas that may benefit from engaging the support of kūpuna and the cohesive aspects of Hawaiian cultural practices and active community involvement.

Policy Implications for Social and Cultural Well-Being

Optimize the resources within families.

Some of the best chances for improving well-being rely on developing approaches that are based on the strengths of Native Hawaiian families and communities. For one, the *'ohana* (family) contains valuable assets that can be engaged in program efforts to improve well-being. Extended family ties and involved grandparents form social capital resources that can supplement services for Native Hawaiian children in low-income families or those dealing with issues related to substance abuse, criminal behavior, and absentee parents.

Recognize and address the underlying causes for the status quo.

Preventing harmful behaviors among Native Hawaiian adults and children requires an understanding of the underlying causes of such behaviors, including the prevalence of social stressors in Native Hawaiian families, socioeconomic disadvantages, lack of opportunities for advancement, and home and community environments that may have limited resources.

Draw on community and cultural assets.

Strengths-based approaches that recognize and enhance existing assets in the Native Hawaiian community reveal a high degree of community involvement and social networks among Native Hawaiians. These networks form important resources for effecting social change, as exemplified by the Hawaiian-focused charter school movement. Hawaiian cultural values, beliefs, and practices are also important assets to recognize and build upon, offering the keys to developing culturally appropriate services and programs for Native Hawaiian communities.

Material and Economic Well-Being

Strengths/Gains

Parents of Native Hawaiian children have employment rates that are comparable with state and national averages.

- Among school-age Native Hawaiian children in married-couple families, roughly two-thirds (68.8 percent) have both parents employed in the labor force, compared with a statewide rate of 68.2 percent.
- Native Hawaiian single mothers are actively engaged in the workforce. More than three-quarters (76.0 percent) of Native Hawaiian children in households headed by a single female have a working mother (compared with 77.6 percent statewide).

Challenges/Opportunities

Native Hawaiian families with children have the lowest mean income ($55,865 versus the statewide average of $66,413) and the highest poverty rates (18.3 percent versus 11.3 percent statewide) among the major ethnic groups in the state.

Poverty among Native Hawaiians is highest in rural areas such as Moloka'i and the eastern side of Hawai'i Island, where the concentration of Native Hawaiians is also high. In the Leeward district of O'ahu, almost one-third (32.4 percent) of school-age Native Hawaiian children live in poverty.

Native Hawaiians are underrepresented in professional and managerial positions and overrepresented in less-skilled production, transportation, and material-moving jobs.

On the whole, Native Hawaiian public school students from low-income families score lower on achievement tests, are more often retained in grade, and are less likely to graduate from high school within four years than are Native Hawaiian students from more financially secure families.

Although Native Hawaiians express strong attachments to their communities and their ancestral island home, labor and housing market conditions are driving the migration of Native Hawaiians out of the state of Hawai'i.

Policy Implications for Material and Economic Well-Being

Factor economic considerations into educational reform.

Research shows that material and economic well-being are strongly related to education. Successful efforts to improve the educational outcomes of Native Hawaiian children must account for the socioeconomic conditions within Native Hawaiian families. For example, the parents of Native Hawaiian children are as likely to be employed as are their non-Hawaiian counterparts; however, they are not achieving the level of financial stability enjoyed by other major ethnic groups. Efforts to address material and economic disparities will require greater investments in human capital and economic opportunities for Native Hawaiians.

Promote postsecondary education.

An important strategy for improving the earning power within Native Hawaiian families is support for and the promotion of postsecondary education among Native Hawaiians. Financial assistance and scholarship programs that target disadvantaged minorities have played a critical role in increasing postsecondary opportunities for Native Hawaiians and other ethnic groups that have historically been underrepresented in colleges and universities.

Support efforts to expand employment options for Native Hawaiians.

Although some manual labor occupations may pay as well as or better than professional and managerial jobs, the concentration of Native Hawaiians in these fields suggests that access to professional and managerial occupations with higher prestige remains limited. This underscores the need for programs that support Native Hawaiian college students who pursue degrees in less represented fields, such as science and medicine.

Strive for equitable infrastructure and resources across geographic regions.

The disparities in Native Hawaiian poverty rates across geographic areas highlight the role communities play in material and economic well-being. A community that is poor in infrastructure—industry, jobs, housing, transportation, and public services—may offer fewer resources to its residents. It is therefore important to employ community-level strategies to ensure that Native Hawaiian families have adequate access to resources.

Physical Well-Being

Strengths/Gains

In the past twenty years, infant mortality in the Native Hawaiian population has decreased from 11.1 deaths per one thousand individuals in 1980 to 7.0 in 2000.

The prevalence of timely prenatal care among pregnant Native Hawaiian women has increased from 66.0 percent in 1980 to 80.3 percent in 2001.

Cigarette smoking among Native Hawaiian high schoolers has decreased substantially in recent years.

Native Hawaiian adolescents exhibit positive indicators of physical activity and diet: Among middle school students, 60.0 percent of Native Hawaiians exercise on a regular basis, compared with 55.3 percent of non-Hawaiians. Roughly 16 percent of both Native Hawaiian and non-Hawaiian students eat five or more servings of fruits and vegetables a day.

Life expectancy among Native Hawaiians has steadily increased over the last five decades and is now approaching the statewide average (78.9 years).

Heart disease mortality in the Native Hawaiian population appears to be declining.

Challenges/Opportunities

Despite improvements in the utilization of prenatal care, Native Hawaiian women report lower prenatal care rates compared with statewide averages.

Native Hawaiian adolescents and adults remain vulnerable to serious health risk factors such as smoking and weight problems.

- In 2001, 25.2 percent of Native Hawaiian high school students had smoked cigarettes during the previous month, compared with 17.1 percent of non-Hawaiian students. Current smokers account for 31.1 percent of Native Hawaiian adults versus 20.4 percent of the state's total adult population.
- Almost three-quarters of Native Hawaiian adults (71.8 percent) are overweight or obese, compared with 51.8 percent of the total adult population.

Native Hawaiian mortality rates for cancer, diabetes, and heart disease are the highest among the major ethnic groups in the state.

The prevalence of uninsured Native Hawaiian adults has increased in recent years, while the percentage of Native Hawaiians who receive routine annual checkups has declined.

Policy Implications for Physical Well-Being

Focus on prenatal care and high-risk pregnancies.

Efforts to promote timely prenatal care among pregnant women have resulted in measurable improvement. At the same time, the ongoing disparities in prenatal care utilization point to the need for more targeted efforts that focus on improving high-risk pregnancy and birth outcomes among Native Hawaiians.

Research the causes of prevalent tobacco use and obesity among Native Hawaiians.

The pervasiveness of tobacco use and weight problems (and attendant health risks) within the Native Hawaiian population suggests the need for culturally appropriate health interventions and ongoing research on the causes of Native Hawaiian tobacco use and obesity.

Reduce barriers to preventive health care.

High mortality rates for cancer, diabetes, and heart disease among Native Hawaiians are a clarion call to action to promote preventive care and screening to facilitate early diagnoses and treatment. These efforts will require collaboration between health, education, and other social service organizations to remove barriers—including financial constraints—that may otherwise limit Native Hawaiians' access to preventive care and other health care services.

Plan for the growing population of uninsured Native Hawaiians.

The rising cost of health insurance and health care has serious implications for Native Hawaiians who, on the whole, appear to be more prone to health problems, socioeconomic challenges, and unemployment compared with other major ethnic groups in the state. A review of the health care "safety nets" for those who do not receive medical coverage through their employers is necessary to help ensure that uninsured Native Hawaiian adults and families are able to receive needed medical services.

Emotional Well-Being

Strengths/Gains

Native Hawaiian adolescents are just as likely as non-Hawaiians to express positive feelings about themselves and their future and are more aware of resources for emotional and social support.

- More than four out of five Native Hawaiian high school students (83.8 percent) know an adult they can turn to for guidance, compared with 77.7 percent of non-Hawaiians.

  Many Native Hawaiian adults express satisfaction with life (56.6 percent) and are more likely to seek comfort and emotional support from family and spiritual sources than are non-Hawaiians.

- More than three-quarters (77.2 percent) of Native Hawaiian adults say they can always count on their family in times of need, compared with 70.7 percent of non-Hawaiians.

- Almost half (48.8 percent) of Native Hawaiians find comfort in prayer/meditation, compared with 35.9 percent of non-Hawaiians.

Challenges/Opportunities

Compared with their non-Hawaiian peers, Native Hawaiian adolescents suffer higher rates of depression (34.5 percent versus 27.9 percent) and are more likely to attempt suicide (22.6 percent versus 20.0 percent).

Among Native Hawaiian adults, suicide ideation is disproportionately high, although the rate of suicide-induced deaths among Native Hawaiian adults is roughly comparable with the statewide rate.

Policy Implications for Emotional Well-Being

Recognize that the ʻohana is a primary emotional support for Native Hawaiians.

Policy initiatives and programs to promote the well-being of Native Hawaiians will stand a greater chance of success by actively involving the ʻohana, which serves as a basic network of emotional and social support available to many Native Hawaiians.

Explore the connections between depression, suicidal behaviors, and support networks for Native Hawaiians.

The apparent tensions between strong emotional support networks and the high prevalence of depression and suicide attempts suggest the need for more research to understand Native Hawaiian emotional health and the importance of culturally appropriate intervention strategies and services.

Educational Well-Being

Strengths/Gains

The majority of Native Hawaiian parents engage in stimulating learning activities with their young children, such as reading, storytelling, and singing songs.

Preschool enrollment among Native Hawaiians has increased significantly since 1990 and was only slightly lower than the statewide rate in 2000.

Charter schools in Hawai'i have made a significant contribution to Native Hawaiian education.

- Culture-based and Hawaiian-focused initiatives within charter schools actively incorporate parental involvement, community support, and Native Hawaiian activism to shape the future of Native Hawaiian education.
- Hawaiian-focused charter schools promote Native Hawaiian traditions, values, and ancestral wisdom while also incorporating modern technologies.
- Native Hawaiians in start-up charter schools score higher in math and as well or better on reading tests compared with their counterparts in mainstream public schools.
- Native Hawaiian students in start-up charter schools are engaged in learning. Just 4.1 percent of Native Hawaiians in start-up charter schools are excessively absent, compared with 17.3 percent of Native Hawaiians in mainstream public schools.

Momentum is building in Hawaiian language education, as evidenced by Hawaiian immersion programs, culture-based charter schools, and postsecondary Hawaiian studies.

Challenges/Opportunities

Many Native Hawaiian families with young children opt for unlicensed family-based care. Many center-based programs attended by Native Hawaiian children are not accredited.

Statistics show that public schools with high concentrations of Native Hawaiian students have higher faculty turnover and tend to have teachers with less experience and fewer qualifications compared with other schools.

Under the No Child Left Behind Act, nearly half of the schools in Hawai'i targeted for restructuring in school year 2005–06 serve predominantly Native Hawaiian students, making Native Hawaiian children twice as likely as their peers to attend a restructuring school (1 in 8 versus 1 in 17 for non-Hawaiians).

Native Hawaiian learners face persistent academic challenges within the public schools.

- The test scores of Native Hawaiian children lag behind statewide averages by approximately 10 percentile points in reading and math. The achievement gap widens as students progress to higher grades.
- Academic disparities are pronounced in rural regions with high concentrations of Native Hawaiians.
- With a more rapidly escalating rate of special education referrals than that of their peers, almost one in five Native Hawaiian students (18.5 percent) is identified for special education services, compared with roughly one in ten non-Hawaiians (10.9 percent).
- Native Hawaiian students experience pronounced absenteeism and are the least likely of the major ethnic groups to graduate from high school within four years (69.3 percent versus 76.7 percent statewide).

Strengths/Gains

College enrollment among Native Hawaiian young adults has improved over the past decade.

- The percentage of Native Hawaiians enrolled in college increased from 22.2 percent in 1990 to 25.6 percent in 2000.
- At the University of Hawai'i, the Native Hawaiian share of student enrollment has grown from 11.1 percent in 1992 to 13.9 percent in 2000.
- Native Hawaiian students at the University of Hawai'i–Mānoa are more likely than their non-Hawaiian counterparts to graduate with degrees in service-oriented fields such as education and social work.
- Most Native Hawaiian parents (86.4 percent) expect their children to pursue some type of postsecondary education.

Educational attainment among Native Hawaiian adults has also improved significantly in the past decade.

- Native Hawaiian adults with bachelor's degrees or higher increased from 9.1 percent in 1990 to 12.6 percent in 2000; those with graduate or professional degrees among Native Hawaiian adults grew from 2.2 to 3.2 percent.
- Native Hawaiian parental educational attainment is associated with more positive educational outcomes for children—including lower absenteeism and higher grades.

Challenges/Opportunities

Despite improvement, Native Hawaiians have not reached parity in measures of college achievement.

- College enrollment among Native Hawaiians is 25.6 percent, compared with the statewide rate of 32.5 percent.
- Native Hawaiians remain underrepresented in enrollment for the University of Hawai'i system, accounting for 23.1 percent of the state's college-age population (eighteen- to twenty-four-year-olds) in 2000 but just 13.9 percent of student enrollment.
- The percentage of Native Hawaiian adults who have obtained a bachelor's degree is half the statewide rate (12.6 percent versus 26.2 percent, respectively).
- Native Hawaiian students at the University of Hawai'i–Mānoa are least likely of the major ethnic groups to graduate within six years and are most likely to be working full time while attending school (22.3 percent versus 17.8 percent statewide).
- Native Hawaiian graduates of the University of Hawai'i–Mānoa are underrepresented in high-paying fields with high job security (e.g., architecture and engineering, business administration).

Policy Implications for Educational Well-Being

Improve school readiness by supporting family environments, early childcare and educational opportunities.

Family relationships and the home environment are the foundation of children's early experiences. The families and caregivers of our youngest Native Hawaiian children need better supports to help create and provide the types of environments and experiences that enhance children's cognitive development and personal growth. Improving early school readiness may be achieved by increasing access to quality childcare and preschool opportunities for Native Hawaiian preschoolers in Hawai'i. Although expanding subsidies programs for lower-income families will be important, programs and policies also must find ways to support quality "kith and kin," or friend and family childcare arrangements among Native Hawaiian families with children. This common practice may reflect a preference based on cultural values; it may also be affected by the high cost of many center-based preschools and limited access to quality childcare arrangements for families living in remote areas.

Start addressing disparities in student achievement early in children's development.

Long-term trends in achievement suggest that the gaps between Native Hawaiian students and non-Hawaiians have remained relatively stable over the past decade. A first step to reduce inequities is the promotion of strong early childhood education. Achievement disparities and educational obstacles can be mitigated early in a child's development, when the foundations for educational success are still being formed.

Assess challenges within the public school system that disproportionately affect Native Hawaiians.

First, the data suggest the need to ensure an equitable distribution of committed, qualified teachers and funding resources for schools, especially those in more geographically isolated areas. Building the core of well-trained and effective teachers in challenged schools will have a significant impact. Second, the increasing proportion of special education enrollment among Native Hawaiian children suggests the need for further research into processes of identification, referral, and effective interventions. Finally, a benefit for restructuring schools under the No Child Left Behind Act includes the provision of much-needed additional resources; the effect of this policy, however, depends on its implementation. An area that must be explored is whether schools in Native Hawaiian communities are able to respond to their local constituency given the centralized decision making and instructional models that accompany restructuring.

Build on the strength of families and communities.

Efforts to improve the educational achievement and engagement of Native Hawaiian children require support from within families and communities and the development of student–teacher and home–school relationships. For example, cultural skill-building for teachers might increase the engagement of Native Hawaiian students by fostering positive and inclusive classroom environments that build on and support the cultural values and norms children absorb in their homes. Further, the unique perspectives of families and communities are valuable tools for tailoring schools to meet the individual needs of students. Finally, family and community involvement in school also fosters an integrated approach to children's education, ensuring that learning extends beyond classroom walls and into children's homes

and neighborhoods. Recent legislation promoting greater family and community involvement in school decision making represents significant progress. Other innovative efforts to involve families and communities are still needed to improve engagement and achievement of Native Hawaiian students.

Support innovation and the development of new educational models.

Support is needed for the development of education models that build on strategies proven to effectively engage Native Hawaiian students, including hands-on learning and lessons framed within authentic experiences, projects, and places. Charter schools represent an important forum for such exploration and experimentation. The preliminary successes achieved by Native Hawaiian students in start-up charter schools highlight the critical role these schools play in developing innovative models of Hawaiian education, the lessons of which may eventually be applied throughout the public school system. However, these innovative schools need additional financial and administrative resources to support their important efforts, as well as the ability to multiply in number beyond the current limit mandated by the legislature.

Continue to promote collaborations and partnerships to support public schools.

Because funding constraints limit the breadth and depth of the public school system's work, community collaborations and provider partnerships are important ways to supplement the teachings of the school day with educational after-school activities and intersession programs. Many such collaborative efforts already exist, successfully combining the strategic resources of outside providers with the extensive reach of the public school system. These programs ensure the accessibility of supplemental education services to disadvantaged students, many of whom are Native Hawaiian.

Support more postsecondary opportunities and outcomes.

Although Native Hawaiian parents express high aspirations for their children's postsecondary pursuits, college enrollment and completion rates remain comparatively low. Programs and services that provide financial assistance play a critical role in the decisions college students make about balancing work hours and class time. Continued support is needed to 1) mitigate barriers of full-time work and family needs that are common to many Native Hawaiian postsecondary students, especially low-income and first-generation college students; and 2) increase enrollment in areas leading to occupational sectors in which Native Hawaiians are underrepresented, such as science, math, managerial, and professional careers.

Encourage holistic and integrated action.

The complex and multifaceted nature of well-being suggests that efforts to improve Native Hawaiian education require holistic and integrated approaches that address both the classrooms in which children receive instruction and the families and communities in which children are raised. Educational programs and supports for Native Hawaiian children must be situated in broader community efforts to ensure access to jobs, social services, housing, health care, and postsecondary educational opportunities.

INTRODUCTION

In the Hawaiian voyaging tradition, the success of an ocean journey depends on the competency of the crew, the degree of their preparation, the reliability of the vessel, and an understanding of climate and weather conditions. Similarly, a person's educational journey is influenced by many interrelated factors. *Ka Huaka'i* (The Journey) tells a *mo'olelo* (story) of Native Hawaiian education through a multidisciplinary perspective in which five primary components—social, physical, economic, educational, and emotional—form a highly interdependent nexus that determines overall child well-being. In this report, we frame our analysis around these five facets of well-being, each of which adds an important context to understanding Native Hawaiian education. This approach resonates with the Native Hawaiian worldview, which emphasizes holism, community, and interconnectedness.

Purpose of *Ka Huaka'i*

The key objectives of this publication are to:

1. Present a multidisciplinary analysis of the educational outcomes of Native Hawaiians.
2. Inform efforts to improve Native Hawaiian well-being through a comprehensive and rigorous analysis of existing data.
3. Assess changes in Native Hawaiian well-being over time.
4. Highlight innovative strategies and promising directions in Native Hawaiian education.

Background

Ka Huaka'i not only chronicles the educational journey of Native Hawaiians but also signifies a landmark in a voyage that began two decades ago. In 1983, Kamehameha Schools published the initial Native Hawaiian Educational Assessment. This report provided solid evidence of educational and social disadvantage among Native Hawaiians, which helped legislators pass the Native Hawaiian Education Act of 1988. A follow-up report in 1993 concluded that after ten years, Native Hawaiian children had not achieved parity with their peers in terms of school readiness, academic achievement, literacy, college attendance, and other measures. *Ka Huaka'i* builds on the foundation of the 1983 and 1993 publications, which we gratefully acknowledge as groundbreaking in purpose, scope, and influence.

The earliest assessment of the status of Native Hawaiian education was written by a group of consultants just after statehood (Booz Allen Hamilton 1961). It predicted that although inadequacies existed at the time, public schools would increasingly be able to serve the Native Hawaiian population adequately. Despite the positive forecast, our analysis of recent data is consistent with earlier 1983 and 1993 assessments. We find relatively minimal gains for Native Hawaiian children in the state of Hawai'i, especially in traditional public school settings.

Positive results, however, have begun to emerge in culture-based charter schools, immersion schools, and other innovative and enriching programs that infuse cultural significance and place-based relevance into the educational process for Native Hawaiian children. We believe that trends such as these hold promise for the future of well-being of Native Hawaiian children—and, indeed, all children of Hawai'i.

This report offers new insights to research about Native Hawaiians. Although conventional deficits-based studies about Native Hawaiians have generated a considerable knowledge base, the findings—and the process—of such studies often result in discouragement and disempowerment. Recent work has called for *ka'akālai kū kanaka*, a strengths-based approach that seeks to recognize and utilize the strengths of Native Hawaiian communities to bring about positive change (see Kana'iaupuni 2005). A goal of the present report is to highlight the existing strengths and assets of Native Hawaiians as building blocks for future success in Native Hawaiian education and well-being.

A Conceptual Model of Well-Being

Internationally, the concept of well-being has been used to describe global health, quality of life, and overall sustainability. According to the *Oxford American Dictionary*, well-being refers to being healthy, comfortable, and happy, although its uses extend to people, environments, wildlife, communities, nations, and so on. For the purposes of this assessment, we use a conceptual model (see Figure 1) based on our review of the research, which indicates five distinct but overlapping areas of well-being (Hauser, Brown, and Prosser 1997; Land, Lamb, and Mustillo 2001) as follows:

- **Social and cultural well-being.** This term indicates how individuals or groups function in relation to others in society and often refers to characteristics such as family composition and interaction, social networks and support, community dynamics, and social behavior, including lifestyle, risk-taking, and deviance. For Native Hawaiians and other groups, this area includes cultural practices, language, and traditions that form the contextual underpinnings of social functioning and lifestyle.

- **Material and economic well-being.** This term refers to access to monetary and material resources such as housing, land, employment, occupation, income, and other dimensions of socioeconomic status. In the Native Hawaiian context, *'āina mole* refers to land as both a resource and an ancestral foundation.

- **Physical well-being.** By physical well-being, we refer to characteristics such as life expectancy, wellness, nutrition, disease incidence, health risk factors, maternal and child health, and access to health care. In Native Hawaiian perspectives, physical well-being is inseparable from other sources of well-being and relies on being in balance spiritually and in relation to the natural environment.

- **Emotional well-being.** We define emotional well-being to include characteristics involved with feelings or the subconscious, such as perception, attitudes, spirituality, intimacy, self-esteem, and mental health. Important in this area for Native Hawaiians is cultural identity, a sense of place, ties to the land, and spiritual connections to ancestors as well as the living.

- **Cognitive well-being.** We operationalize the concept of cognitive well-being through its more specific educational proxies that encompass learners and learning systems. These proxies are discussed in the education sections throughout the volume and include characteristics of schools, groups, and individuals, such as school readiness, instructional quality, achievement test scores, special education rates, attendance, high school completion, and educational attainment. Taken together, these provide a picture of overall cognitive development, intellectual functioning, knowledge—including indigenous knowledge—and human capital in individuals and groups.

FIGURE 1 Conceptual framework depicting the dynamic and interrelated aspects of well-being

Data Sources

This report relies heavily on data from three major sources:

- U.S. Census Bureau
- Hawai'i Department of Education
- Hawai'i Department of Health

Although data from these sources are highly useful in a general sense, often the datasets do not permit specific analysis by race and ethnicity. Researchers in the Policy Analysis & System Evaluation (PASE) department of Kamehameha Schools therefore performed special tabulations to derive greater accuracy, reliability, and statistical rigor in assessing the Native Hawaiian population. *Ka Huaka'i* also draws from other databases such as the Kamehameha Schools Hawaiian Community Survey, which is a representative sample of approximately two thousand Native Hawaiian households within the state.

Key Definitions

Our comparative analyses rely on the following definitions:

- **Native Hawaiian**

  We define "Native Hawaiian" as any individual who can trace his or her genealogy to the original inhabitants (or their descendants) of the Hawaiian Islands, regardless of blood quantum or racial/ethnic identity. Note, however, that some of the data reported throughout this document are based on different definitions of Native Hawaiian.[1]

- **Major racial/ethnic groups**

  The major racial/ethnic groups referred to in this report include the largest racial/ethnic populations in the state of Hawai'i, based on U.S. Census counts in 2000: Native Hawaiian, Chinese, Filipino, Japanese, and non-Hispanic White. To the extent possible, we include comparative data for all these groups,[2] as well as a "State Total" value that represents all races/ethnicities in the sample.

  It should be noted that Census 2000 data on racial/ethnic groups differ from most other data sources because of multirace/multiethnic reporting. Throughout this study, therefore, multiracial/multiethnic Native Hawaiians may be represented among other racial/ethnic groups in the comparative graphs using Census 2000 data (see Appendix A for estimates of the amount of overlap). Accordingly, comparisons between Native Hawaiian and other major racial/ethnic groups should be viewed as conservative (lower-bound) estimates of actual differences.

- **Race**

  The terms "race," "racial," "ethnic," and "ethnicity" are not used consistently because of differences in reporting styles, organizations, and data sources.

1. See Appendix A for a discussion of variation in reporting conventions by race and ethnicity.
2. Comparison data for the Chinese population are not consistently included in the analyses (refer to Appendix A for more information). Where the term non-Hawaiian is used, the reference applies to any racial/ethnic comparison groups other than Native Hawaiian or part-Hawaiian.

Limitations

Although the current research on Native Hawaiians is more robust—and more accessible—than in previous decades, there are still considerable gaps in the literature, particularly with regard to the youngest Hawaiian learners. Not only are the data limited, but many of the existing studies are also grounded in Western models and ways of measuring that have inherent cultural bias. *Ka Huakaʻi* provides a primarily quantitative, analytical approach that may overlook other strengths in Hawaiian culture and achievement that are generally difficult to measure with standard Western approaches.

That said, Native Hawaiians have a long history of research and evaluative practices, and several of the authors of this report are founding members of *Hui Hoʻokahua*, an evaluation group whose purpose is to develop research and evaluation guidelines that are culturally responsible and responsive to Native Hawaiian ways of knowing. We hope future iterations of the Native Hawaiian Educational Assessment will amplify the native voice and benefit from the groundwork laid by other indigenous researchers and practitioners.

Organization of *Ka Huakaʻi*

This report is divided into six main parts. Part One provides a brief historical analysis of the Native Hawaiian population, with an emphasis on demographics and education. Part Two addresses the context of education and well-being of Native Hawaiian families and communities. Part Three focuses on *keiki* (children) ages five and under. Part Four examines educational outcomes and opportunities for school-age Native Hawaiian children in kindergarten through Grade 12. Part Five discusses the relevance of culture and outlines innovative strategies in Native Hawaiian education. Part Six synthesizes key findings from the entire report and includes overarching conclusions and implications. The appendices provide technical information about variation in reporting conventions by race and ethnicity, comparative data depicting Native Hawaiians in the national policy context, and Native Hawaiian population projections.

There is a story behind the tables, figures, and bullet points presented in this report. It is a story of cultural survival. It is a story of the struggle for self-determination and the efforts of Native Hawaiians to reclaim native land, families, and culture. Despite tremendous challenges, there is evidence of forward momentum for Native Hawaiians. The in-depth analyses in *Ka Huakaʻi*—combined with new insights into promising directions of Native Hawaiian education—illuminate some pathways marking the continued journey ahead.

ʻO kēia ʻuʻuku e nui ana

‘EKAHI | PART ONE

Synopsis of Hawaiian History, Population, and Education

1

PART ONE BRIEF OVERVIEW OF HAWAIIAN HISTORY

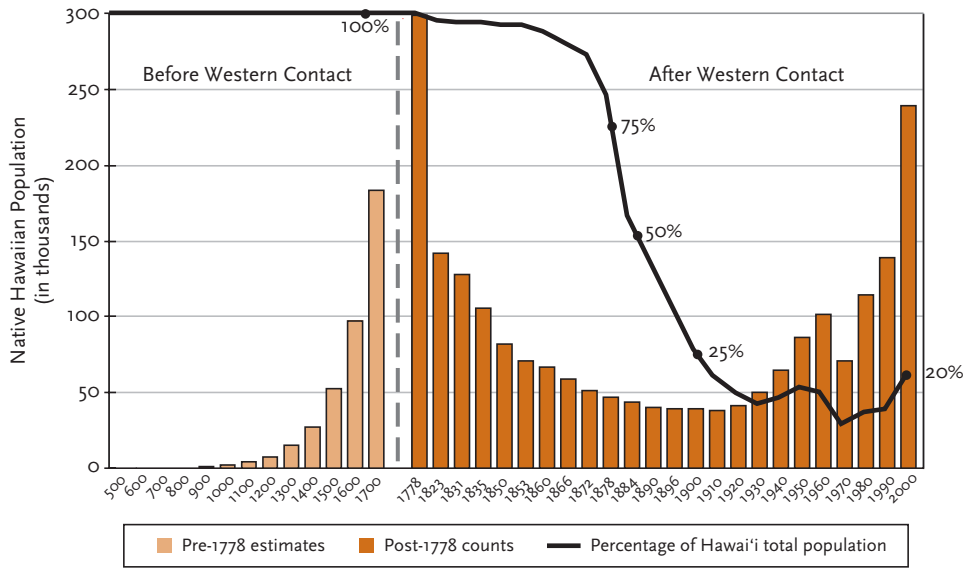
Prior to Western contact, the first settlers of Hawai'i, the *kānaka maoli* (Native Hawaiians), created a thriving society based on a complex social structure with distinct classes, each differentiated by the *mana* (power) of an individual's genealogy. The *kapu* system was a framework of religious law consisting of rules and codes that defined relationships between classes of people and between men and women. In their system of communal land ownership, the *ali'i* (chiefs and chiefesses) allocated land to the *maka'āinana* (commoners) to cultivate (Kanahele 1986).

Western contact came at a great price for Hawaiians. The introduction of foreign diseases had a devastating effect on kānaka maoli, resulting in a steep decline in population. Figure 1.1 shows stark changes in the Native Hawaiian population over time. Prior to Western contact, the Native Hawaiian population exhibited a healthy rate of growth, peaking at approximately 300,000 in 1778.[1] Exposure to American and European diseases caused a dramatic increase in mortality, accompanied by reduced fertility and higher infant mortality. By the end of the nineteenth century, kānaka maoli numbered less than 40,000 and represented only one-fourth of the islands' growing population.

The ramifications of Western influence in Hawai'i were profound. In the short term, the depleted native population could not support the cultivation of land in an agriculture-based economy. In the long term, such losses meant that Native Hawaiians were increasingly outnumbered by foreigners. Over the course of just a few decades, Native Hawaiians became a minority in their own homeland.

1. An upper-bound estimate by Stannard (1989) suggests that the Hawaiian population at the time of Cook's arrival (1778) numbered from 800,000 to 1 million.

FIGURE 1.1 Native Hawaiian population trends [total population size,* percentage of total population, Hawaiian Islands, 500 to 2000]



Source: Nordyke 1989.

Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 2.

Note: The abrupt drop in the Native Hawaiian population count in 1970 reflects a change in U.S. census policy that removed the "part-Hawaiian" category from the list of racial/ethnic identification responses allowed. The surge in the Native Hawaiian population in 2000 is attributable to the Census Bureau's adoption of multirace/multiethnic reporting, which permits individuals of multiple races/ethnicities to report all of their racial/ethnic affiliations in lieu of choosing a single entry.

* Light bars in the graph represent hypothetical calculations reported in Nordyke (1989), which are based on data presented in Kelly (1986) and Schmitt and Zane (1977).

The Role of Education

The introduction of Western education played a key role in the colonization of the islands. In traditional Hawaiian society, education reflected the needs and functions of its people. Though traditional Hawaiian society was highly stratified, both commoners and elite Native Hawaiians highly valued education that was skill-based, practical, and place-based. Children were informally taught by caregivers, which included older siblings and adults considered masters in their occupations. Intrinsic to this form of education was the importance of the natural classroom of the *'āina* (land), respectful observation of one's *kumu* (teacher), and the continuous pursuit of excellence or mastery (Benham and Heck 1998). Consequently, early Native Hawaiian learners developed not only tangible knowledge and skills but also valuable socialization experiences and spiritual fulfillment (Benham and Heck 1998). The Hawaiian approach to education permitted every child to be both student and teacher, given his or her particular skills and talents. Families passed down their specialized occupational knowledge once children were identified as having an interest in and propensity toward a particular content area. Older children were often placed under the tutelage of an acknowledged master as apprentices for the duration of their training. This kind of training—more formal in nature—required strict adherence to rules and regulations and precise memorization of large amounts of information (Kelly 1982).

A highly developed tradition of oratory generated a tremendous body of chants, genealogies, and stories that ensured an exacting perpetuation of history, technical information, and beliefs while instilling respect and gratitude for the 'āina as home, provider, protector, and classroom. As a result, Native Hawaiians achieved mastery in several areas, including agriculture and aquaculture, navigation, canoe construction, wood carving, genealogy, crafts and fine arts, and healing (Blaisdell 1993b).

Western contact marked a fundamental shift in the course of Native Hawaiian education. Native children were increasingly exposed to a curriculum devoid of the traditional teachings, practices, and knowledge that had previously characterized their learning. The arrival of missionaries in 1820 changed the nature of education in Hawai'i from family and occupationally focused to a classroom-centered systematic effort to spread written literacy and Western acculturation. Until 1830, efforts focused on developing teachers from the native adult population, and most adults quickly became functionally literate in Hawaiian. With support from Hawaiian rulers, education expanded to more than one thousand Hawaiian-medium schools, first educating adults, and later, children. Schools for commoners evolved, as well as select schools for young chiefs that were staffed and taught by missionaries (Stueber 1982). In 1887, Kamehameha Schools was founded by Bernice Pauahi Bishop, great-granddaughter and one of the last royal descendants of Kamehameha the Great.

For missionaries, schools were the most effective tool for converting "heathen" and "savage" Hawaiians into civilized and Christian people. For Hawaiians, especially chiefs, schools provided an opportunity to learn the ways of ever-encroaching foreign powers and to gain the knowledge necessary to deal with them at home and abroad.

Public education in Hawai'i was formally recognized in 1840 by Kauikeaouli, Kamehameha III. Its first superintendent was David Malo, a graduate of Lahainaluna Seminary. Literacy flourished among a people who prized language and elevated oratory to among the highest of the skilled arts, competition for which included wagers of both life and death. From 1890 to 1910, estimated literacy rates for Native Hawaiians were between 79.8 and 98.6 percent (Lind 1980). From 1834 to 1948, more than 135 different newspapers flourished in Hawai'i (Dawrs 2003). Some newspapers stayed in circulation for more than sixty years, providing religious content, local and international news, literary and historical writings, as well as translations of classic Western literature into Hawaiian. (See Silva 2004 for a review of the colonialist and resistance discourses that appeared in these papers during these years.)

Businessmen and missionaries were instrumental in pressuring the school system to change the language of instruction from Hawaiian to English. In 1896, only three years after the illegal overthrow of the Hawaiian monarchy by a group of Western businessmen and U.S. military forces, a new law was enacted that recognized only those schools whose "medium and basis of instruction" was carried out in English (Laws of the Republic of Hawai'i 1896). This law effectively ended Hawaiian medium schooling by the early 1900s and, ironically, eroded the kingdom's high levels of literacy. To this day, many Native Hawaiians can recount a story in which they—or a close family member or friend—suffered the irony and humiliation of being punished for speaking their home language at school.

The territorial school system focused on the Westernization, and later, Americanization, of a population that increasingly included immigrant laborers for the sugar industry. Public schooling was progressively formalized and segregated with the establishment of English Standard Schools in the 1920s, which were funded by the government and largely attended by White children (Steuber 1982), while the majority of non-White children continued to attend other public schools. Private and religious schools also flourished during this time.

By 1930, public education included secondary curriculum and a growing trend toward equal access by all children, regardless of English language ability. Independent schools continued to thrive and began to function as college-preparatory schools. In 1986, after one hundred years in effect, the law banning the use of Hawaiian language in schools was lifted, leaving in its wake fewer than fifty children under the age of eighteen who were fluent in Hawaiian (Wilson 1998).

Struggles over Land and Self-Determination

Laws such as the 1848 Mahele and the Kuleana Act of 1850 sought to protect the land interests of the maka'āinana by ending ali'i control of the land and by establishing a system of fee-simple ownership. However, the alien concept of private land ownership and the complex and flawed process for claiming land meant little to most maka'āinana, who never gained title to their land. By 1900, foreign individuals and corporations owned the largest portion of privately held lands. The loss of land had a physical and spiritual impact on Native Hawaiians: Their source of sustenance was gone, place-based education lost its foundation, and alienation from the 'āina triggered spiritual separation from the ancestors, whose mana permeated the land. These significant changes, on top of the abolishment of the kapu system in 1819, seriously undermined Native Hawaiians' firm foothold in traditions of the past.

During this period of adjustment, world powers posed a constant threat to Hawaiian sovereignty. Although Native Hawaiians resisted foreign occupation throughout much of the nineteenth century, an increasingly powerful group of mostly Western businessmen supported by American officials ultimately—and illegally—overthrew the Hawaiian government and deposed Queen Lili'uokalani in 1893. After the overthrow, the U.S. government sought to bring the Provisional Government–Republic of Hawai'i into the federal fold, while also capitalizing on the wealth of natural resources, goods, and services available throughout the islands. Annexation of Hawai'i as a territory of the United States followed not long after, in 1898. Years later, the bombing of Pearl Harbor increased Hawai'i's geographic importance to the United States, and in 1959 statehood was declared.

Despite America's eagerness to claim the Hawaiian Islands as its own, U.S. policies toward Native Hawaiians have been inconsistent and have often fallen short of expectations. For example, early efforts to empower Native Hawaiians through voting rights and the reallocation of Crown and Government Lands distributed during the Mahele were diluted or thwarted by Western business and property interests. Legislative maneuvers and changes to land law, which resulted in the foreclosure and forfeiture of vast parcels of land owned by Native Hawaiians, enabled wealthy American and European businessmen to quickly acquire the parcels through purchase or lease (Stauffer 2003).

A turning point for Native Hawaiian rights occurred when the federal government began to address Native Hawaiian issues with a more conciliatory approach. Led by Hawai'i's congressional representative Prince Jonah Kūhiō Kalaniana'ole, the Hawaiian Homes Commission Act was passed in 1921. The act created a land trust for the benefit of Native Hawaiians of 50 percent blood quantum or more. In the decades since, the program has been mired in controversy over its effectiveness and scope. Some view the Hawaiian Homes Commission Act as the first in an ongoing series of symbolic half-measures to address the rights to which Native Hawaiians are due as the descendants of Hawai'i's original sovereign people. Chief among these unresolved issues is Native Hawaiian self-determination. Although, in 1993, the U.S. government formally apologized to the Native Hawaiian people for "the illegal overthrow of the Kingdom of Hawai'i in 1893" and "the deprivation of the rights of Native Hawaiians to self-determination" (Joint Resolution 19 1993, p. 3), both the sovereignty and the federal recognition movements have been largely ignored by the U.S. government. On the whole, the history of U.S. legislation in relation to Native Hawaiians has been an incongruent series of programs, laws, regulations, and court decisions.

Despite the turbulence with which Hawai'i was absorbed into the United States, Native Hawaiians have succeeded in preserving Hawaiian culture and pursuing self-determination. In recent decades, the achievements of Native Hawaiian movements have included significant milestones, such as the successful journey of the Polynesian Voyaging Society's voyaging canoe *Hōkūle'a* to Tahiti and back, and the return of the island of Kaho'olawe from the U.S. military to the State of Hawai'i. Such victories have sparked a renewed vitality of Hawaiian culture and identity.

THE MODERN HAWAIIAN POPULATION

In addition to its resilient cultural base, the modern Native Hawaiian population is thriving in numbers and is increasingly dispersed. However, the accuracy of Native Hawaiian population counts is difficult to determine because of deficiencies in survey methodologies as well as the racial/ethnic diversity that characterizes the population.

Owing to new racial/ethnic identification methods on censuses and surveys, the reliability of population estimates has been substantially improved, particularly for the racially/ethnically diverse Native Hawaiian population.[2] By allowing individuals to report more than one race/ethnicity, the 2000 census (officially known as Census 2000) documented a substantial increase in the official population count of Native Hawaiians in the United States (Table 1.1). According to Kana'iaupuni and Liebler (2005), the 1990 census reported 211,014 Native Hawaiians in the United States, whereas the Native Hawaiian population count from Census 2000 was 401,162, of whom 40 percent resided on the continental United States. Furthermore, in 1990 the census reported only 12 percent of Hawai'i's population as Native Hawaiian, whereas Census 2000 reported the Native Hawaiian population as constituting roughly 20 percent of the state population.

This 20 percent estimate for Native Hawaiians in Hawai'i is supported by other data sources such as censuses conducted prior to statehood and the 1960 census, which also permitted Hawaiian or part-Hawaiian race/ethnicity responses and arrived at comparable figures of Native Hawaiian representation in the islands. Similar statistics were also reported by the Hawai'i Department of Health, which estimated the state population as 22 percent Native Hawaiian in 2000, and by the Hawai'i Department of Education, which identifies more than 25 percent of its students as full or part-Hawaiian. Figure 1.2 illustrates the reason for the substantial differences between Native Hawaiian population estimates from the 1990 and 2000 censuses. According to Census 2000, two-thirds of the total Native Hawaiian population in Hawai'i claimed multiple races/ethnicities. It is safe to assume that, in the 1990 census, many multirace/multiethnic Native Hawaiians identified with a race/ethnic group other than Native Hawaiian when forced to choose a single racial/ethnic identity.

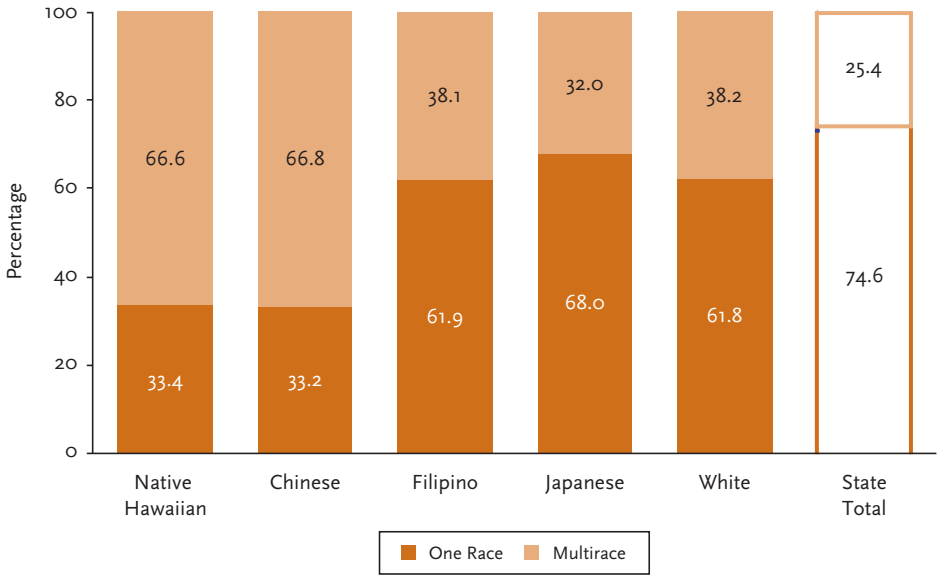
TABLE 1.1 Trends in Native Hawaiian population count [United States, 1960 to 2000]

U.S. census year	Population count
1960	102,403
1970	100,179
1980	166,814
1990	211,014
2000	401,162

Source: Gibson and Jung 2002.
Note: The decline in the Native Hawaiian population count in 1970 reflects the removal of the "part-Hawaiian" category from the list of racial/ethnic identification responses allowed in the U.S. census. The surge in the Native Hawaiian population in 2000 is attributable to the Census Bureau's adoption of multirace/multiethnic reporting.

2. See Appendix A for details on data collection and reporting.

FIGURE 1.2 Prevalence of multirace/multiethnic individuals [by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 2.

Note: This figure is based on Census 2000 multirace/multiethnic reporting (see Appendix A). The multirace/multiethnic percentage within the state total may appear disproportionately low because multirace/multiethnic individuals may be counted more than once among each racial/ethnic group. The state total is therefore not an average of the individual racial/ethnic groups, because the sum of the individual racial/ethnic groups is substantially higher than the total state population.

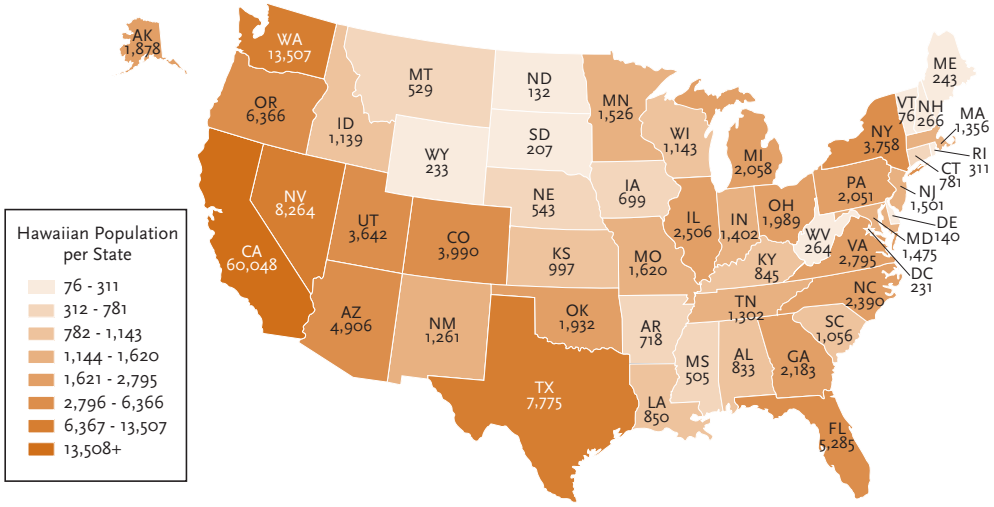
For example, approximately 66,000 individuals in the state are both part-Hawaiian and part-Chinese. While these individuals account for 27.5 percent of the state's Native Hawaiian population (i.e., roughly 66,000 of the state's 240,000 Native Hawaiians are also Chinese) and 38.6 percent of the total Chinese population (i.e., roughly 66,000 of the state's 171,000 Chinese are also Native Hawaiian), this same group of part-Hawaiian and part-Chinese individuals accounts for just 16.1 percent of the combined Native Hawaiian and Chinese total populations (411,000).

Other indigenous groups in the United States also share high rates of multirace/multiethnic reporting, the highest of which is found among Alaska Natives (not shown). These data give a sense of the importance of multirace/multiethnic reporting in understanding the Native Hawaiian population. But even with such systems in place, estimates like those in Figure 1.2 are subjective measures and may not accurately reflect the actual composition of the Native Hawaiian population. In a pair of related papers, Liebler and Kana'iaupuni (2004) and Kana'iaupuni and Liebler (2005) examined differences in self-reported racial/ethnic identification and self-reported ancestries from the 1990 census and concluded that a number of social factors affect racial/ethnic identification among Native Hawaiians, including connection to cultural and ancestral homelands, extended family traditions, the size of the Native Hawaiian population in their resident communities, and even the race/ethnicity of their non-Hawaiian parents. In other words, racial/ethnic identification not only is a product of personal development and internal identity formation but also reflects external social and political forces. All estimates of the size or racial/ethnic composition of specific groups, including the Native Hawaiian population, include this inherent uncertainty.

Geographic Population Statistics

Despite such caveats, Census 2000 offers valuable insights into the geographic and demographic characteristics of the Native Hawaiian population within the country.[3] As shown in Figure 1.3 and Table 1.2, Native Hawaiians are most likely to be found in the state of Hawai'i, which has the highest number of Native Hawaiians (239,655), the highest concentration of Native Hawaiians (19.78 percent), and the absolute majority of the Native Hawaiian population in the country (59.74 percent). However, every state in the union serves as home to kānaka maoli. On the continent, California hosts the highest number of Native Hawaiians (60,048), whereas Nevada has the highest concentration of Native Hawaiians (0.41 percent of the total state population).

FIGURE 1.3 Native Hawaiian population in the continental United States and in Alaska [by state, 2000]



Source: Kana'iaupuni 2002.

Within the state of Hawai'i, Native Hawaiians reside on all seven of the populated islands in the archipelago. As shown in Table 1.3, the highest concentration of Native Hawaiians is on the island of Ni'ihau, where 81.3 percent of the island population is Native Hawaiian. The island of Moloka'i has the second-highest concentration at 61.2 percent. The island with the greatest number of Native Hawaiian residents, O'ahu, has the lowest concentration: Only 17.5 percent of all O'ahu residents are Native Hawaiian.

The final column in Table 1.3 shows the distribution of the Native Hawaiian population within the state. These statistics show what percentage of all Native Hawaiians can be found in each location. When viewed from this perspective, O'ahu leads all other islands by hosting 63.9 percent of the state's Native Hawaiian population. Second is Hawai'i Island, where 18.0 percent of Native Hawaiians reside. Finally, Ni'ihau, the island with the highest concentration of Native Hawaiians, is home to the smallest percentage of the state's Native Hawaiian population, at 0.1 percent.

At smaller geographic levels, Native Hawaiians constitute the majority of the population in five high school complexes: Ni'ihau (81.3 percent); Nānākuli, O'ahu (69.2 percent); Hāna, Maui (62.8 percent); Moloka'i (61.2 percent); and Wai'anae, O'ahu (50.7 percent).

3. Data limitations preclude accurate estimates of Native Hawaiians residing outside the United States.

TABLE 1.2 Native Hawaiian population in the United States
[population count, concentration, and distribution, by state, 2000]

State	Total population	Native Hawaiian population		
		Number	Concentration[1]	Distribution[2]
U.S. Total	281,421,906	401,162	0.14	100.00
Hawai'i	1,211,537	239,655	19.78	59.74
California	33,871,648	60,048	0.18	14.97
Washington	5,894,121	13,507	0.23	3.37
Nevada	1,998,257	8,264	0.41	2.06
Texas	20,851,820	7,775	0.04	1.94
Oregon	3,421,399	6,366	0.19	1.59
Florida	15,982,378	5,285	0.03	1.32
Arizona	5,130,632	4,906	0.10	1.22
Colorado	4,301,261	3,990	0.09	0.99
New York	18,976,457	3,758	0.02	0.94
Utah	2,233,169	3,642	0.16	0.91
Virginia	7,078,515	2,795	0.04	0.70
Illinois	12,419,293	2,506	0.02	0.62
North Carolina	8,049,313	2,390	0.03	0.60
Georgia	8,186,453	2,183	0.03	0.54
Michigan	9,938,444	2,058	0.02	0.51
Pennsylvania	12,281,054	2,051	0.02	0.51
Ohio	11,353,140	1,989	0.02	0.50
Oklahoma	3,450,654	1,932	0.06	0.48
Alaska	626,932	1,878	0.30	0.47
Missouri	5,595,211	1,620	0.03	0.40
Minnesota	4,919,479	1,526	0.03	0.38
New Jersey	8,414,350	1,501	0.02	0.37
Maryland	5,296,486	1,475	0.03	0.37
Indiana	6,080,485	1,402	0.02	0.35
Massachusetts	6,349,097	1,356	0.02	0.34
Tennessee	5,689,283	1,302	0.02	0.32
New Mexico	1,819,046	1,261	0.07	0.31
Wisconsin	5,363,675	1,143	0.02	0.28
Idaho	1,293,953	1,139	0.09	0.28
South Carolina	4,012,012	1,056	0.03	0.26
Kansas	2,688,418	997	0.04	0.25
Louisiana	4,468,976	850	0.02	0.21
Kentucky	4,041,769	845	0.02	0.21
Alabama	4,447,100	833	0.02	0.21
Connecticut	3,405,565	781	0.02	0.19
Arkansas	2,673,400	718	0.03	0.18
Iowa	2,926,324	699	0.02	0.17
Nebraska	1,711,263	543	0.03	0.14
Montana	902,195	529	0.06	0.13
Mississippi	2,844,658	505	0.02	0.13
Rhode Island	1,048,319	311	0.03	0.08
New Hampshire	1,235,786	266	0.02	0.07
West Virginia	1,808,344	264	0.01	0.07
Maine	1,274,923	243	0.02	0.06
Wyoming	493,782	233	0.05	0.06
District of Columbia	572,059	231	0.04	0.06
South Dakota	754,844	207	0.03	0.05
Delaware	783,600	140	0.02	0.03
North Dakota	642,200	132	0.02	0.03
Vermont	608,827	76	0.01	0.02

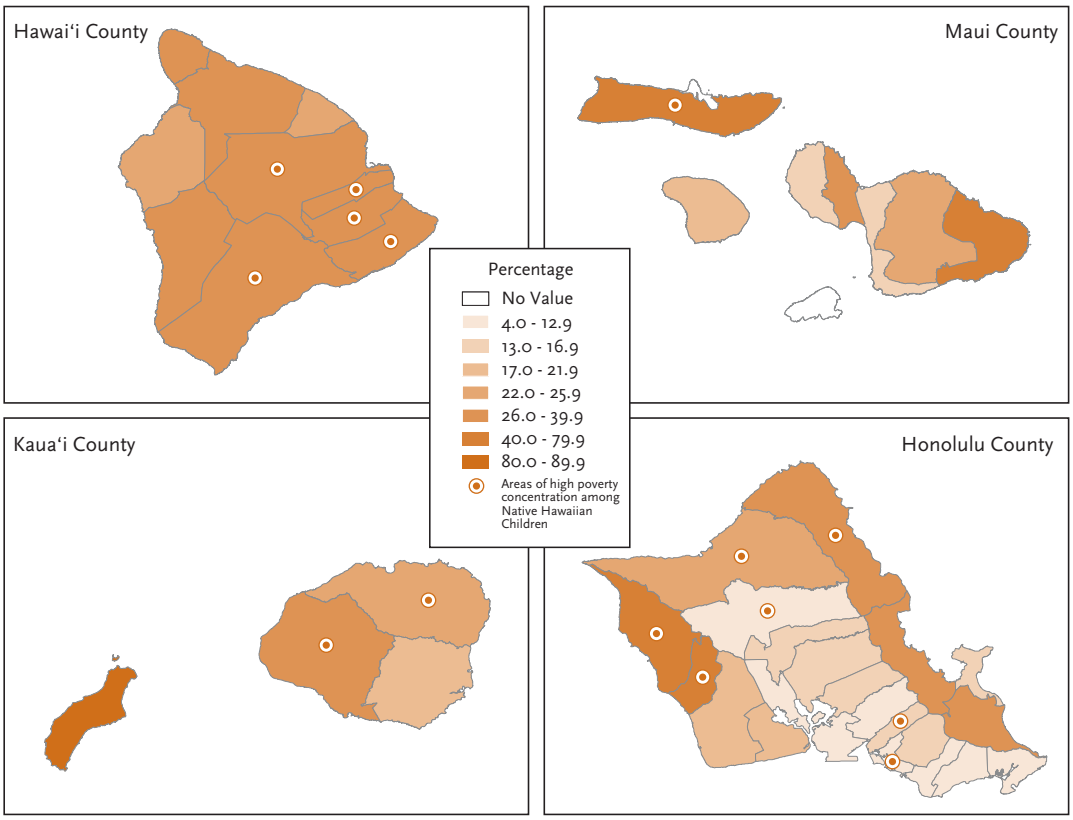
Data source: U.S. Census 2000, Summary File 1.
[1] Percentage of total state population
[2] Percentage of U.S. Native Hawaiian population

TABLE 1.3 Native Hawaiian population in the state of Hawai'i
[population count, concentration, and distribution, by high school complex, 2000]

Geographic unit	Total population	Native Hawaiian population		
		Number	Concentration[1]	Distribution[2]
State	1,211,537	239,655	19.8	100.0
Hawai'i County	148,675	43,020	28.9	18.0
East Hawai'i	*86,330*	*25,770*	*29.9*	*10.8*
Hilo	27,630	8,545	30.9	3.6
Ka'ū	5,750	1,720	29.9	0.7
Kea'au	16,640	4,685	28.2	2.0
Laupāhoehoe	1,780	3995	22.2	0.2
Pāhoa	14,765	4,685	31.5	1.9
Waiākea	19,765	5,775	29.2	2.4
West Hawai'i	*62,345*	*17,250*	*27.7*	*7.2*
Honoka'a	14,255	4,405	30.9	1.8
Kealakehe	31,340	7,655	24.4	3.2
Kohala	6,040	1,885	31.2	0.8
Konawaena	10,710	3,305	30.9	1.4
Kaua'i County	58,465	13,515	23.1	5.6
Kaua'i	*58,305*	*13,385*	*23.0*	*5.6*
Kapa'a	24,875	6,375	25.6	2.7
Kaua'i	22,745	4,095	18.0	1.7
Waimea	10,685	2,915	27.3	1.2
Ni'ihau	*160*	*130*	*81.3*	*0.1*
Ni'ihau	160	130	81.3	0.1
Maui County	128,090	29,955	23.4	12.5
Maui	*117,640*	*24,880*	*21.1*	*10.4*
Baldwin	22,780	6,890	30.2	2.9
Hāna	1,855	1,165	62.8	0.5
Kekaulike	33,405	7,450	22.3	3.1
Lahainaluna	17,965	2,660	14.8	1.1
Maui	41,635	6,715	16.1	2.8
Moloka'i	*7,255*	*4,440*	*61.2*	*1.9*
Moloka'i	7,255	4,440	61.2	1.9
Lāna'i	*3,195*	*635*	*19.9*	*0.3*
Lāna'i	3,195	635	19.9	0.3
Honolulu County	876,150	153,125	17.5	63.9
Central District	*207,305*	*26,175*	*12.6*	*10.9*
'Aiea	41,275	5,765	14.0	2.4
Leilehua	41,610	4,830	11.6	2.0
Mililani	45,125	7,205	16.0	3.0
Moanalua	37,315	4,115	11.0	1.7
Radford	29,545	1,405	4.8	0.6
Waialua	12,435	2,855	23.0	1.2
Honolulu District	*321,585*	*39,140*	*12.2*	*16.3*
Farrington	46,535	6,645	14.3	2.8
Kaimukī	77,755	9,045	11.6	3.8
Kaiser	30,670	3,580	11.7	1.5
Kalani	36,575	3,960	10.8	1.7
McKinley	69,345	7,690	11.1	3.2
Roosevelt	60,705	8,220	13.5	3.4
Leeward District	*211,390*	*50,545*	*23.9*	*21.1*
Campbell	43,635	7,685	17.6	3.2
Kapolei	25,180	5,295	21.0	2.2
Nānākuli	11,425	7,905	69.2	3.3
Pearl City	48,860	7,525	15.4	3.1
Wai'anae	30,830	15,640	50.7	6.5
Waipahu	51,460	6,495	12.6	2.7
Windward District	*135,870*	*37,265*	*27.4*	*15.5*
Castle	52,150	15,690	30.1	6.5
Kahuku	17,875	5,735	32.1	2.4
Kailua	28,395	10,130	35.7	4.2
Kalāheo	37,450	5,710	15.2	2.4

Data source: Kamehameha Schools, Aloha Counts 2003.
[1] Native Hawaiians as a percentage of the area's total population
[2] Native Hawaiians in the area as a percentage of state's total Native Hawaiian population

FIGURE 1.4 Native Hawaiian population as a percentage of total high school complex population, with markers of high poverty concentration among Native Hawaiian children [by high school complex, state of Hawai'i, 2000]

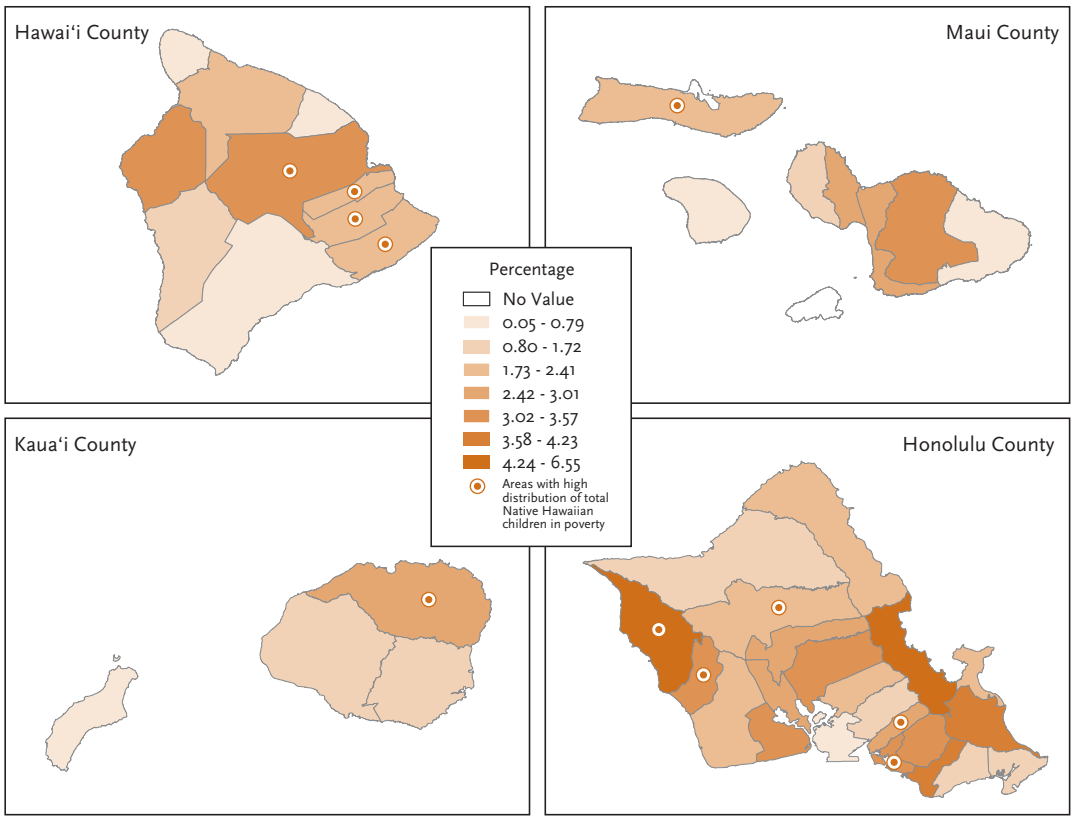


Data sources: Kamehameha Schools, Aloha Counts 2003; National Center for Education Statistics 2000.
Note: High-poverty areas include those where 30 percent or more of Native Hawaiian children in that area are poor (below 185 percent of poverty threshold).

Many of the areas where Native Hawaiians are most highly concentrated have limited access to social and economic resources. Figure 1.4 and Figure 1.5 show the regional concentrations and distributions of the Native Hawaiian population in the state with markers denoting those areas with high levels of children in poverty.[4] Many of the darkest regions in both sets of figures match the locations of the child poverty markers, indicating that where Native Hawaiian populations are most dense, poverty levels are highest. For example, the island of Moloka'i, the leeward coast of O'ahu, and the southeast region of Hawai'i Island all reflect high concentrations of Native Hawaiians, accompanied by similarly high rates of child poverty. Although socioeconomic issues such as poverty are addressed in subsequent chapters, these maps highlight the fact that the distribution of Native Hawaiians often mirrors the distribution of economic depression.

4. Because poverty thresholds are set so low, it is common practice to use a multiple of the poverty threshold to identify individuals and families with financial need. For example, many public assistance programs use 185 percent of the federal government's poverty guidelines—which are based on the U.S. Census Bureau's poverty thresholds—to define financial need. Throughout this report, we show poverty rates that are based on either 100 percent or 185 percent of the U.S. Census Bureau's poverty threshold. Since the poverty threshold is not adjusted for Hawai'i's high cost of living, these statistics offer a very conservative estimate of need within the state.

FIGURE 1.5 Native Hawaiian population as a percentage of statewide Native Hawaiian population, with markers of high poverty distribution among Native Hawaiian children [by high school complex, state of Hawai'i, 2000]



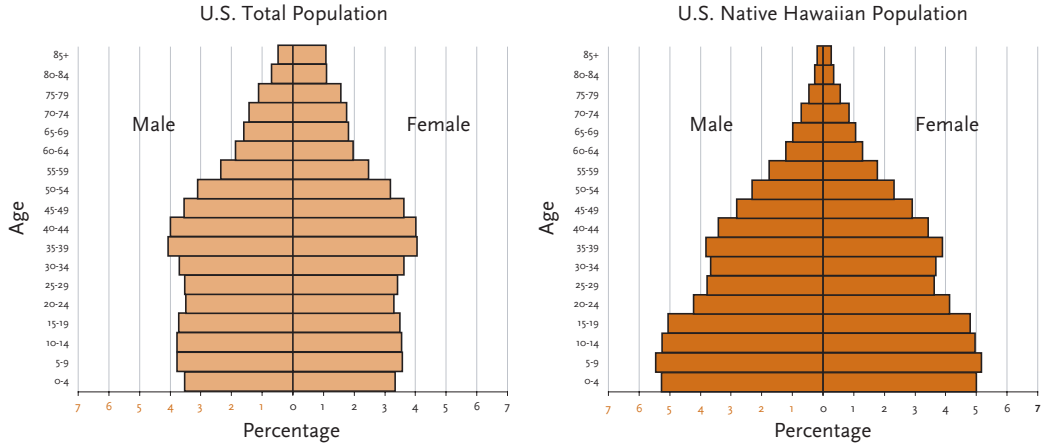
Data source: Kamehameha Schools, Aloha Counts 2003.
Note: Areas of high distribution of children in poverty include those containing at least 3 percent of all poor (below 185 percent of poverty threshold) Native Hawaiian children in the state.

Today's Native Hawaiian population is demographically unique. For example, several features differentiate the Native Hawaiian age structure from that of the general U.S. population. In the population pyramids depicted in Figure 1.6, each horizontal bar represents the population in a specific five-year age group stemming from a vertical axis that separates males from females.[5] The resulting shape of the graph provides a snapshot of the demographic characteristics of a population. Three broad demographic forces can affect the shape of a population pyramid: fertility (the rate of births within the population), mortality (the rate of deaths within the population), and migration (the combined effects of new arrivals to and departees from the population).

Figure 1.6 illustrates the salient demographic differences between the age structure of Native Hawaiians and that of the broader U.S. population.[6] The wider base in the Native Hawaiian pyramid, combined with its narrower crown, indicates that the Native Hawaiian population is comparatively young, with children ages nineteen and younger constituting a much larger proportion of the population and people ages sixty and older a much smaller proportion.[7] These patterns among Native Hawaiians likely reflect high fertility among women, high mortality among *kūpuna* (elders), or a combination of both trends.

5. Early applications of this analytic technique resulted in pyramid-shaped graphs that led to the name "population pyramid," although the graphs can take many forms (rectangles, hour glasses, etc.).
6. Refer to Appendix B for additional data points and comparisons of Native Hawaiians in the national policy context.
7. Appendix C provides detailed Native Hawaiian population counts and forecasts for specific age groups.

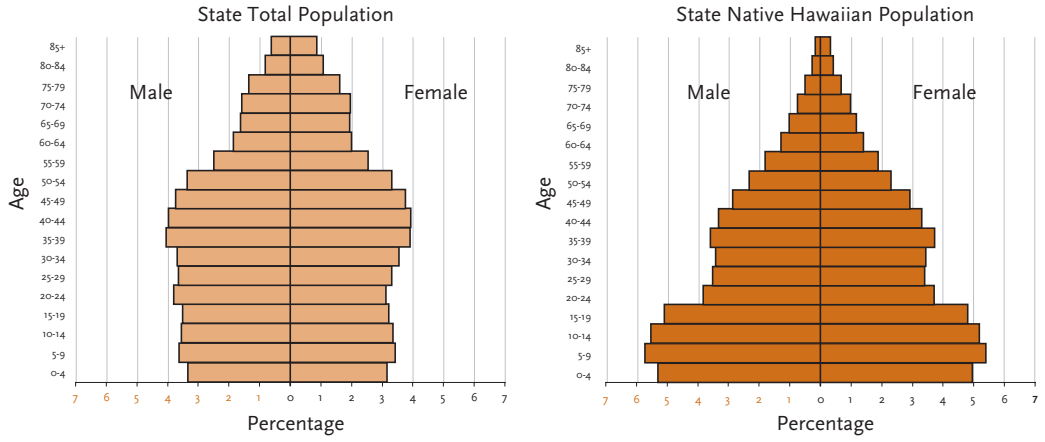
FIGURE 1.6 Population age structure, United States [total population and Native Hawaiian population, United States, 2000]



Source: Malone 2005.

A similar set of pyramids compares the total population in the state of Hawai'i with that of Native Hawaiians residing in the state. Like the U.S. figures, the graphs in Figure 1.7 suggest that, compared with the general population in the state, the Native Hawaiian population is characterized by higher fertility among women or higher mortality at older ages. Further, because interstate travel is more common than international travel among Native Hawaiians, there are slight differences between the national and state Native Hawaiian populations among middle-range age groups, especially among young adults who may depart Hawai'i for the continent to pursue educational, occupational, or marital opportunities. At higher ages, there appears to be little difference with national figures: Native Hawaiians continue to occupy a smaller percentage than that of the general population.

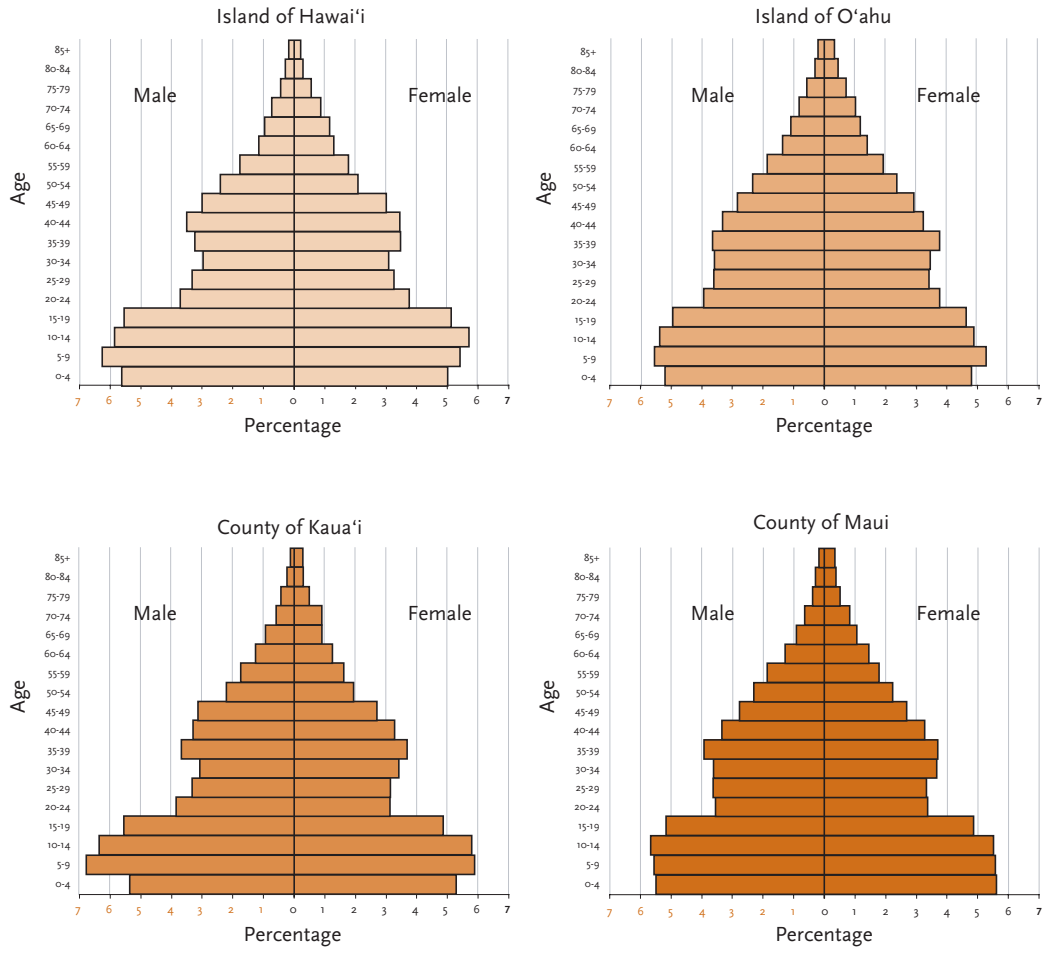
FIGURE 1.7 Population age structure, Hawai'i [total population and Native Hawaiian population, state of Hawai'i, 2000]



Source: Malone 2005.

Within the state of Hawai‘i, the Native Hawaiian population is dispersed across seven major islands, each of which has a unique culture and composition. Figure 1.8 presents population pyramids of the Native Hawaiian populations residing in four major areas of the state: O‘ahu, Hawai‘i Island, Maui County, and Kaua‘i County. Points of note include the seeming decline in the percentage of children ages four and younger on Hawai‘i Island and in Kaua‘i County, compared with earlier cohorts. Overall, the O‘ahu pyramid suggests the greatest stability across age groups.

FIGURE 1.8 Population age structure, Native Hawaiians [by area, state of Hawai‘i, 2000]

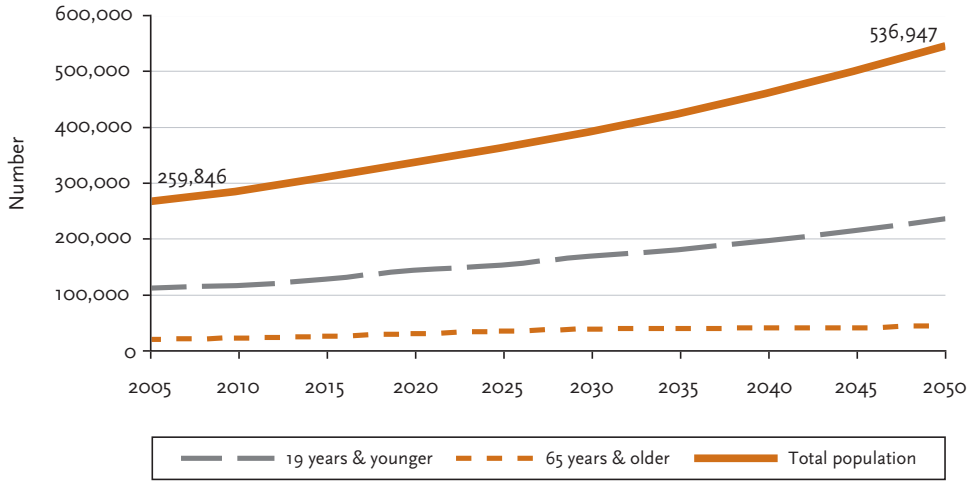


Source: Malone 2005.

Population Forecasts

Figure 1.9 shows the projected Native Hawaiian population in the state of Hawai‘i between 2005 and 2050. According to these estimates, the Native Hawaiian population in the state will increase by more than 275,000 over the next fifty years (solid brown line). This population increase will be associated with increases in the size of the child population (dashed gray line) as well as the elderly population (dotted brown line).

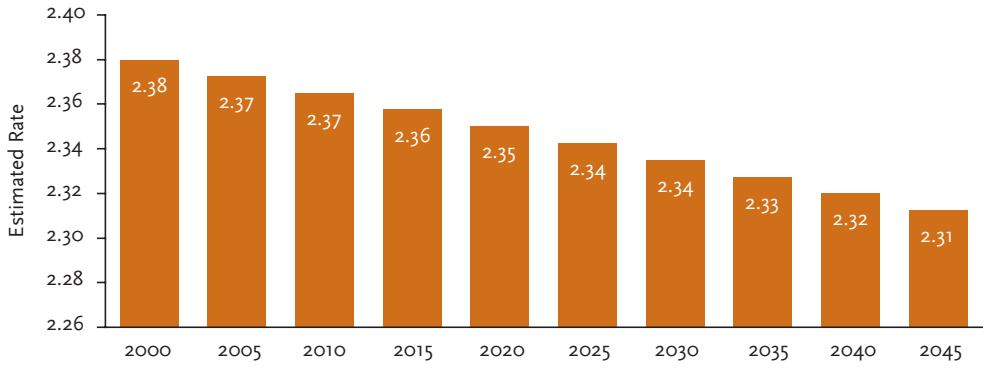
FIGURE 1.9 Population forecasts for Native Hawaiian generations [by age group, state of Hawai'i, 2005 to 2050]



Source: Malone 2005.
Note: Refer to Figure 6.2 for similar forecasts with specific population estimates for selected age groups.

Fertility rates are an important aspect of population forecasts. One measure of fertility is the total fertility rate (TFR), which represents the average number of children a woman of child-bearing age can expect to deliver during her reproductive years. Figure 1.10 shows that the TFR of Native Hawaiian women will decline slightly over the next half-century (from 2.38 in 2000 to 2.31 in 2045). The TFR for Native Hawaiian women is higher than the national rate (approximately 2.1 in 1998) but well below the global average (not shown) of 2.8 in 2000 (McDevitt 1999).

FIGURE 1.10 Total fertility rates for Native Hawaiians [based on population forecasts, state of Hawai'i, 2000 to 2045]

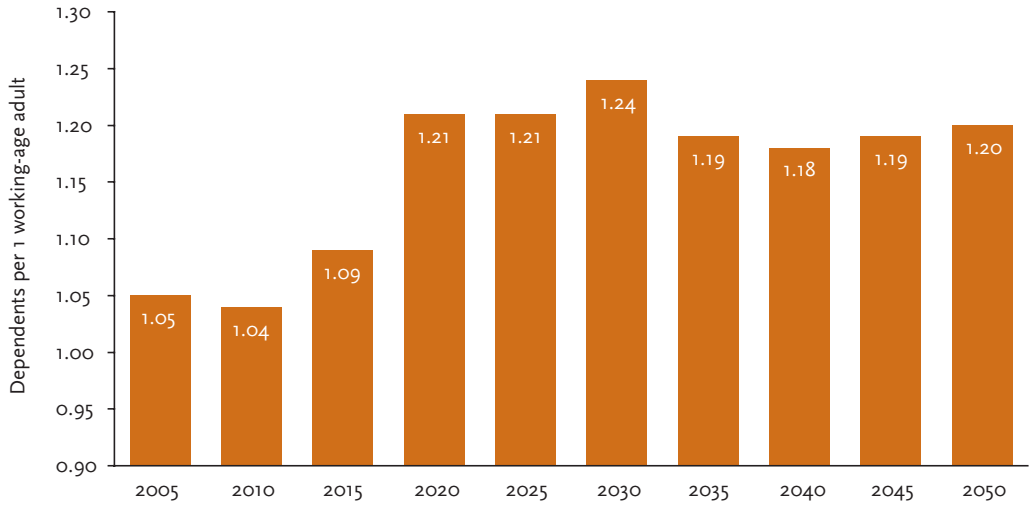


Source: Malone 2005.

The population pyramids and projections in this discussion underscore trends in the growth of the child population in the state and in the elderly Native Hawaiian population. One way to measure the implications of such a population is by means of a dependency ratio. A dependency ratio compares the number of children ages fourteen and younger, combined with the number of adults ages sixty-five and older, with the remaining population between the ages of fifteen and sixty-four. The higher the dependency ratio, the heavier the burden on the working-age population to contribute to a community's productivity while attending to the needs of its dependents.

Figure 1.11 shows the estimated dependency ratios for the Native Hawaiian population in the state of Hawai'i from 2005 to 2050. The graph shows a sharp increase in dependency ratios within the next fifteen years, reaching a high of 1.24 to 1 in 2030. The trend then stabilizes in the following years at about 1.19 to 1. This ratio suggests there will be roughly 119 nonworking-age Native Hawaiians for every 100 working-age Hawaiians in the period spanning 2035 to 2050.

FIGURE 1.11 Dependency ratios for Native Hawaiians [based on population forecasts, number of dependents per 1 working-age adult, state of Hawai'i, 2005 to 2050]



Source: Malone 2005.

TRENDS IN EDUCATION

The Hawai'i Department of Education faces an increasingly diverse student population, a steady stream of immigrant students for whom English is a foreign language, and a geographically dispersed constituency spanning seven islands. To date, Hawai'i remains the only state in the nation that administers its public schools within a single district.

Presently, the Hawai'i Department of Education serves more than 180,000 students in kindergarten through Grade 12, with roughly 13,000 teachers in 285 schools (Hawai'i Department of Education 2004; Hawai'i Educational Policy Center 2003). According to the Department of Education, Native Hawaiians account for more than 25 percent of students in the public school population, making them the largest racial/ethnic group in the system, followed by Filipinos, who constitute 20 percent of all students. Despite their high numbers, Native Hawaiian children in the public school system have, as a group, struggled.

Two historical processes shed light on the disparity between Native Hawaiian children and their peers in school. First, the evolution of education in Hawai'i—from the place-based transmission of traditional knowledge to a system of Western instruction characterized by standardized tests, curricula, and content—has alienated many Native Hawaiian children whose cultural roots suggest an inclination toward experiential learning in authentic environments (Kawakami 2004). Second, marginalization and socioeconomic adversity have likely spilled over into the classroom, leaving some Native Hawaiian children disengaged and distrustful of social institutions such as school.

Since statehood in 1959, the federal government has become increasingly willing to fund potential remedies for the educational challenges facing the Native Hawaiian population in Hawai'i. For example, the Native Hawaiian Programs Act of 1974 directed financial assistance to Native Hawaiians through various agencies, and a variety of subsequent appropriation acts earmarked funds for the betterment of Native Hawaiian education, health, and welfare.

In 1980, the first advisory council on Native Hawaiian education was convened under the Education Amendments of 1980. The council's mandate was to examine the effectiveness of state and federal education programs for Native Hawaiians. The resulting report—the Native Hawaiian Educational Assessment of 1983—documented a number of inequities, including the fact that Native Hawaiian students scored disproportionately lower than their non-Hawaiian peers on standardized tests of reading and math achievement (Kamehameha Schools/Bernice Pauahi Bishop Estate 1983). As a result, the Elementary and Secondary Education Act of 1988 set aside funds to provide supplemental educational programs for elementary and secondary Native Hawaiian students. Other funds were also appropriated for Native Hawaiian education under the Supplemental Appropriations Act of 1982 and the Department of Education Appropriation Acts of 1984, 1985, and 1990 to 1999.

The Native Hawaiian Education Act of 1988 triggered a surge of activity in the mid-1990s. This act and subsequent components included, among other initiatives, the authorization of funds to (1) address the needs of gifted and talented students, (2) develop educational and vocational curricula that incorporate Hawaiian knowledge, (3) develop community-based learning centers to serve preschoolers and afterschool students, and (4) research and evaluate the educational status and needs of Native Hawaiians, a purpose for which no federal monies have been released to date (Native Hawaiian Education Act 2002).

The Native Hawaiian Education Act defined Native Hawaiians as a "distinct and unique indigenous people with a historical continuity to the original inhabitants of the Hawaiian archipelago." The findings further outlined the debilitating impact of the influx of nonindigenous people into Hawai'i, the overthrow of the sovereign government, and the ultimate deprivation of Native Hawaiian rights. The act was meant to reaffirm the cultural, historical, and land-based ties of Native Hawaiian people and to establish for Native Hawaiians the same political status awarded to American Indians and Alaska Natives.

In 1994, the Improving America's Schools Act supplemented the Native Hawaiian Education Act through the implementation of the Native Hawaiian Educational Council, which would coordinate, assess, and make recommendations for the improvement of educational services and programs for Native Hawaiian students. In 2001, the Native Hawaiian Education Act was reauthorized by Congress for an additional five years, citing findings from Kamehameha Schools' 1993 Native Hawaiian Educational Assessment Project, which showed that, despite prior legislation, persistent gaps distinguish Native Hawaiian children from their peers in measures of school readiness and academic achievement. To address these ongoing disparities, the act provides for continued efforts to enhance the educational outcomes of Native Hawaiians (including the study of Hawaiian language, culture, and history) while also contributing to the knowledge base about Native Hawaiian education through research and data collection.

The year 2001 marked the passage of the No Child Left Behind (NCLB) Act, which reauthorized the Elementary and Secondary Education Act while imposing new regulatory requirements on schools to promote greater accountability. Under NCLB, schools are required to establish baseline measures of achievement and organizational quality, as well as timelines for advancing students to acceptable standards and, eventually, to full and universal proficiency in both reading and math. Schools must demonstrate "adequate yearly progress" (AYP) toward their goals or face escalating consequences that may ultimately result in restructuring[8] of the school or loss of federal funding. Further, as part of AYP, schools are required to report student outcomes by (1) racial and ethnic category, (2) socioeconomic status, (3) disability status, and (4) English language proficiency.

Title V Part D.12 and Title VII of NCLB specifically address Native Hawaiian education. The first gives educational, cultural, apprenticeship, and exchange opportunities to Alaska Natives, Native Hawaiians, and other children linked to the history and indigenous traditions of Alaska and Hawai'i. In recognition of Native Hawaiians' lagging school readiness, educational achievement, and overrepresentation in special education, Title VII provides for "innovative educational programs to assist Native Hawaiians." Its purpose is to focus resources on the education of Native Hawaiians while also monitoring progress through periodic assessment and data collection.

NCLB has been heavily criticized in the press and among indigenous constituencies. Most notably, critics argue that NCLB's emphasis on standardized testing will penalize innovative culture-based programs, many of which serve highly disadvantaged populations and promote areas of child development that may not be captured by test scores. Indeed, some of the state's most promising innovations in education have arisen not from federal action, but from within the Native Hawaiian community itself in an effort to reconnect with traditional forms of Native Hawaiian education and culture.

8. Restructuring of a school occurs if a school does not meet AYP for five consecutive years. Restructuring may include reopening the school as a charter school, replacing all or most of the school staff, or turning over school operations to either the state or a private company with a demonstrated record of effectiveness.

The Hawaiian language immersion movement is one of the most successful examples of Native Hawaiians asserting control over the learning process while implementing educational models adapted to meet children's needs and to build on the community's strengths. The use of Hawaiian language as the medium of instruction began with the establishment of the privately run *Pūnana Leo* (language nest) preschools. The first was opened in 1983 by a group of parents and college instructors who were inspired by the efforts of Māori activists to revive their indigenous language and culture through the government school system in New Zealand. Kame'eleihiwa (1992a) reports that, until 1989, the Pūnana Leo preschools were entirely supported by parent contributions and community organizations (e.g., local churches) and received no funds from either the state or federal government. The origins of Hawaiian immersion within the public school system were similarly driven by grassroots efforts within the Native Hawaiian community. Kame'eleihiwa attributes the opening of the first two immersion kindergarten classes in the Hawai'i Department of Education—and subsequent expansion of the Hawaiian immersion program, Papahana Kaiapuni—to the lobbying efforts of Pūnana Leo parents. As of school year 2003–04, more than 1,700 students from kindergarten through Grade 12 were enrolled in Hawaiian immersion programs on five of the seven populated Hawaiian Islands (Wilson 2003).

Hawaiian-focused charter schools similarly emerged from within Native Hawaiian communities. Frustrated by the challenges of conventional public school classrooms in meeting the needs of Native Hawaiian students, several Native Hawaiian communities seized opportunities for independence and autonomy offered by the charter school movement. Of the twenty-three start-up charter schools in the state of Hawai'i, about half are Hawaiian focused. Although each school is developing its own particular model of Hawaiian education, all "reflect, respect, and embrace Hawaiian cultural values, philosophies, and ideologies," and many are tied together by Nā Lei Na'auao, an alliance of Hawaiian-focused charter schools that provides a forum to share ideas and successes and to pursue legislation collaboratively (Nā Lei Na'auao n.d.).

As discussed later in this report, preliminary assessments suggest that students in culture-based Hawaiian charter schools experience positive outcomes compared with Native Hawaiian students in traditional public schools. Furthermore, Hawaiian immersion students are showing progress, and the future of Native Hawaiian education is increasingly determined by the Native Hawaiian community itself. As part of this self-determination, kānaka maoli are drawing from cultural expertise and traditional learning approaches.

Today's Native Hawaiian population is growing, both in sheer numbers (with a 146 percent increase in the United States over the next fifty years) and in terms of the amplification of the native voice, which carries the wisdom of thousands of years and many generations. The following analyses detail the challenges facing Native Hawaiian learners and offer insights into Native Hawaiian educational prospects and well-being in the years to come.

‘O ka makua ke ko‘o o ka hale e pa‘a ai

‘ELUA | PART TWO

Characteristics of Native Hawaiian Adults, Families, and Communities

[THE PARENT IS THE SUPPORT THAT HOLDS THE HOUSEHOLD TOGETHER]

2

PART TWO INTRODUCTION

Hawaiian *ʻōlelo* (sayings) link the health and well-being of children to the environment in which they are raised and the people who surround them. For example, *ʻo ka makua ke koʻo o ka hale e paʻa ai* translates as "the parent is the support that holds the household together" (Pukui 1983). These traditional beliefs are consistent with well-established research showing that parents, families, and communities all play a role in the growth and development of children. Children absorb the values, beliefs, and habits of the people within their circles of social interaction. Parents and family form the inner layer of support and are perhaps the most critical to children's development. Parenting practices, family interactions, and stressors in the home all affect how children grow (Conger, Patterson, and Ge 1995; Conger, Rueter, and Conger 2000; Ge et al. 1996; McLoyd 1990; Raviv, Kessenich, and Morrison 2004; Steinberg et al. 1994; Yeung, Linver, and Brooks-Gunn 2002).[1]

Beyond the immediate family, neighborhoods and local communities also play a major role in determining what children are exposed to, their social relationships and trust in others, their role models, and their perceptions of security and confidence (Brewster, Billy, and Grady 1993; Brody et al. 2003; Brooks-Gunn et al. 1993; Cook et al. 2002; Cook and Murphy 1999; Kohen et al. 2002; Wilson 1987).

The purpose of Part Two is to provide a better understanding of the current status of Native Hawaiian communities, families, and adults who care for our *keiki* (children). We highlight the context within which children's education takes place: the communities in which Native Hawaiian children are raised, the families that support them, and the guardians who nurture their growth. We also specifically examine the educational experiences of Native Hawaiian adults[2] and explore the effects of parental outcomes on the educational development of children.

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1. For more information on how the home environment affects children's development, see the following additional references: Barlow, Parsons, and Stewart-Brown 2005; Bunting 2004; Collins et al. 2000; Conger et al. 1992; Finkenauer, Engels, and Baumeister 2005; Ispa et al. 2004; Jackson et al. 2000; Jacobvitz and Bush 1996; Keller et al. 2004; Laible et al. 2004; McLoyd 1989; Parke et al. 2004; Pike et al. 1996; Purdie, Carroll, and Roche 2004; Shears and Robinson 2005; Tamis-LeMonda et al. 2004; Taylor 1996.
2. The definition of "adult" varies throughout Part Two (e.g., twenty years or older, eighteen years or older, etc.) because of differences in the way adults are defined by various sources of data.

Most of the data in Part Two come from the U.S. Census, statewide surveys and studies administered by the Hawai'i Department of Health (e.g., the Hawai'i Health Survey, Behavioral Risk Factor Surveillance System, etc.), and the Kamehameha Schools' Hawaiian Community Survey. The discussion on educational well-being within the Native Hawaiian community and the educational attainment of Native Hawaiian adults is, in part, based on data from the University of Hawai'i system, which is the predominant postsecondary choice of young adults in Hawai'i. Where feasible, Native Hawaiian indicators are compared with those of other major ethnic groups in the state to highlight trends and differences. Our analyses draw from several data sources with varying racial/ethnic classifications and definitions. (For a more complete discussion of differences in race and ethnic group reporting, see Appendix A.)

A significant limitation of these data is the lack of traditional, indigenous indicators of well-being such as cultural identity, spirituality, and connections to the *'āina* (land). Given this limitation, Part Two relies primarily on governmental data sources to examine Native Hawaiian well-being. Although this method leaves some of the story untold, the resulting discussion offers important insights into the status of the Native Hawaiian community as a whole and the context within which Native Hawaiian education takes place. Where statewide data are unavailable, our analysis is supplemented by findings from more limited samples, such as graduates of Kamehameha Schools. In such instances, the data may not be representative of the larger Native Hawaiian population, and we note this caveat within the text.

The organization of Part Two is based on the holistic conceptual model of well-being described in the introduction of this report. Accordingly, we first present a brief review of Native Hawaiian population and demographic trends, followed by an analysis of the five key areas of well-being that contribute to the overall growth and development of children, families, and communities: specifically, social and cultural well-being, material and economic well-being, physical well-being, emotional well-being, and educational well-being.

Throughout our discussion of social well-being, culture plays a critical role, as reflected in the composition of Native Hawaiian families, the strength of community ties, the prevalence of cultural practices, and the ways in which many Native Hawaiian families cope with social problems such as substance abuse, domestic abuse, and incarceration. For material and economic well-being, which is closely tied to the characteristics of Native Hawaiian families, we look at measures of socioeconomic status such as earnings, income, poverty rates, and public assistance usage, as well as indicators of the causes underlying material disparities such as unemployment rates and occupational status. Socioeconomic issues are also integral in our discussion of physical well-being, which includes standard measures of life expectancy, health risk factors, and chronic and terminal illnesses, as well as access to and utilization of health care. For emotional well-being, we include suicide risks as a measure of mental health and emotional support systems that offer protection to individuals and families. Cultural values may also have a positive influence on the emotional resources that Native Hawaiians draw on for strength. In our discussion of educational well-being, we focus on postsecondary school and parental educational attainment. Specifically, we examine postsecondary enrollment and completion rates and explore possible explanations for ongoing educational disparities. We find that the educational attainment of Native Hawaiian college students may be affected by family obligations, financial constraints, and concurrent employment, all of which may reflect cultural values such as *'ohana* (family) and *kuleana* (responsibility).

Overall, our results suggest that Native Hawaiian families and communities have a foundation of social and emotional strength. However, the data also reveal significant challenges that may hinder the post-secondary educational pursuits of Native Hawaiian adults and threaten the growth and development of Native Hawaiian children. Together, these findings point to the need to draw on strengths found in Native Hawaiian communities—such as traditional values, cultural heritage, and strong family bonds—to optimize one of our greatest resources: education.

POPULATION CHARACTERISTICS

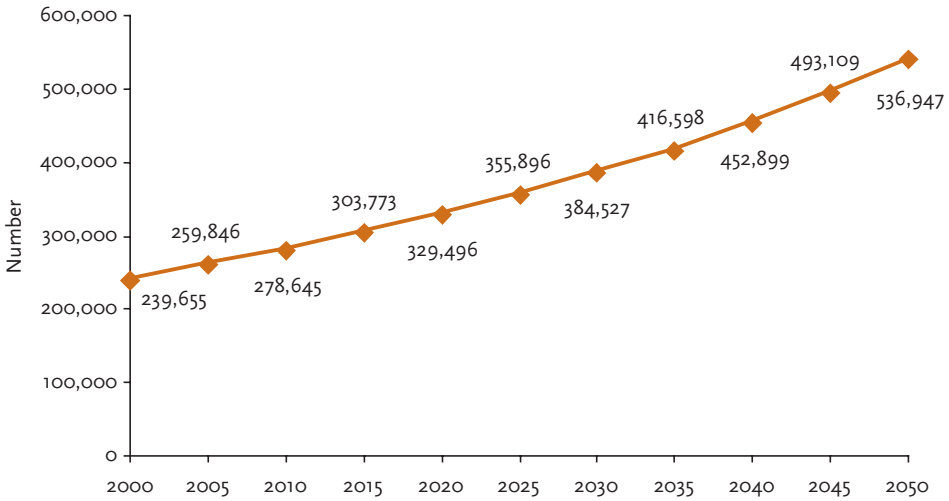
The Native Hawaiian population is expected to increase substantially in the coming years. This anticipated growth has important implications for the development of adequate infrastructure, services, and opportunities—educational and otherwise—to meet the present and future needs of the Native Hawaiian population. The demographic information in this section implies that current directions in Native Hawaiian education must plan for future increases in the population.

Population Forecasts

The population of Native Hawaiians is expected to grow substantially and steadily over the next fifty years (Figure 2.1; also see Figure 1.9).

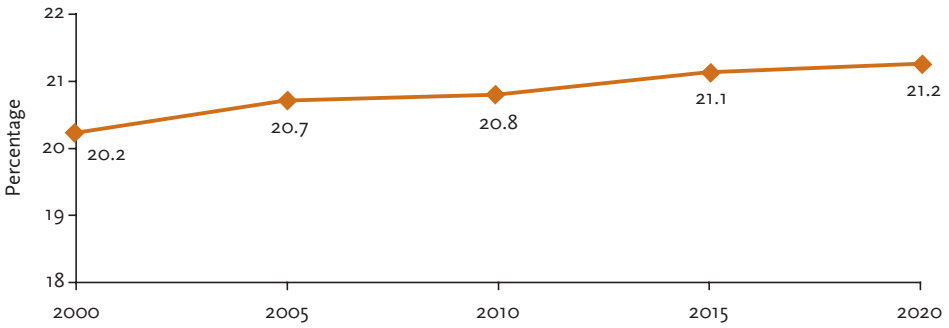
- The Native Hawaiian population in the state of Hawai'i will more than double in the next fifty years, increasing from 239,655 in 2000 to 536,947 in 2050.
- Projections indicate that, on average, the Native Hawaiian population will grow by 8.4 percent every five years for the next fifty years.
- The adult population will increase at a slower rate than that of the overall Native Hawaiian population (not shown). As discussed in Part Three of this report, Native Hawaiian population growth will be dominated by increases among young children.

FIGURE 2.1 Population forecasts for Native Hawaiians [state of Hawai'i, 2000 to 2050]



Source: Malone 2005.

FIGURE 2.2 Native Hawaiians as a percentage of total state population [based on population forecasts, state of Hawai'i, 2000 to 2020]



Source: Malone 2005.

Although population projections suggest substantial growth in the number of Native Hawaiians in upcoming decades, Native Hawaiian representation within the larger state population is expected to increase only slightly over the next twenty years (Figure 2.2).

- In 2000, Native Hawaiians numbered 239,655 (Figure 2.1) and constituted 20.2 percent of individuals residing in the state (Figure 2.2).
- By 2020, the Native Hawaiian population is expected to increase by 37.5 percent to 329,496 (Figure 2.1); at that time Native Hawaiians will account for 21.2 percent of the total state population (Figure 2.2).

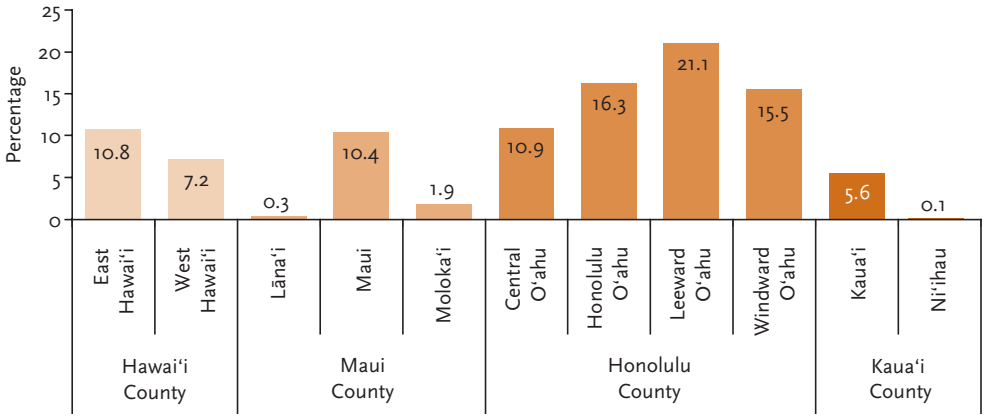
Together, these figures suggest that the growth of the Native Hawaiian population will slightly outpace overall increases in the state population.

Population Distribution

The distribution of a population often mirrors the regional concentration of resources such as jobs, housing, and public services. However, for some Native Hawaiians, among whom cultural ties to the land and sea are often strong, rural areas may provide social and spiritual benefits that extend beyond the practical, economic advantages associated with urban life. Figure 2.3 shows the distribution of the Native Hawaiian population across different regions of the state.

- Of the state's total population of Native Hawaiians, the majority (about 63.9 percent) reside on the island of O'ahu. Because it is the most urban of the Hawaiian Islands and serves as the home of the state's capitol (Honolulu), O'ahu has historically been the center of the state's labor market, development, and population growth.
- More than one in five Native Hawaiians in the state reside in the Leeward district of O'ahu.
- Although residents of rural areas such as the islands of Moloka'i and Ni'ihau are predominantly Native Hawaiian, these sparsely populated regions account for a small fraction of the state's total Native Hawaiian population (1.9 percent and 0.1 percent, respectively).

FIGURE 2.3 Geographic distribution of the Native Hawaiian population [by geographic region, state of Hawai'i, 2000]



Data source: Kamehameha Schools, Aloha Counts 2003.

SOCIAL AND CULTURAL WELL-BEING

Social well-being—the nature of relationships within families, communities, and the larger society—is deeply connected to the educational status of the Native Hawaiian population as a whole, particularly the educational development of Native Hawaiian children. The social strengths that tie Native Hawaiians to one another form a network of emotional and pragmatic support that sustains adults and children in their life pursuits, educational and otherwise.

At the same time, issues in the home and community—such as poverty and financial stress (Duncan et al. 1998; Smith, Brooks-Gunn, and Klebanov 1997), dysfunctional family relationships (Raviv, Kessenich, and Morrison 2004; Yeung, Linver, and Brooks-Gunn 2002), neighborhood poverty (Cook et al. 2002), and dangerous streets (Cook and Murphy 1999)—often negatively affect the educational development and outcomes of Native Hawaiian children. The demands of day-to-day living in the state also limit post-secondary education for many Hawaiian adults (Connor et al. 2001; Osborne, Marks, and Turner 2004; Sanderson et al. 1996). This section examines the substantial social challenges among Native Hawaiians and the strong social forces and relationships that hold the Hawaiian community together.

Data throughout this and later sections show that stressors such as single-parent households, unemployment, financial insecurity, and chronic illness are more prevalent within the Native Hawaiian community than they are among other ethnic groups, suggesting systematic inequalities within the structure and institutions of society. Socioeconomic disparities mean many Native Hawaiian families face poor wage conditions, food insecurity, and a lack of affordable housing. These inequalities are exacerbated by the limited resources available in many predominantly Native Hawaiian communities, a number of which are highly disconnected from the state's job and industry center, subject to high rates of crime and safety problems, and served by overburdened schools. In addition, the Native Hawaiian people as a whole contend with issues of self-determination and recognition. These struggles have been intensified by legal challenges to programs and organizations that seek to remediate the historically rooted social disadvantages experienced by many Native Hawaiians. The weight and breadth of these stressors are evident in antisocial and self-destructive behaviors, including drug use, violence, and criminal activities. Such misdirected frustration and anxiety, along with inequalities and biases within governing social institutions, result in disproportionately high rates of arrest, incarceration, and domestic abuse among Native Hawaiians.

In the face of such problems, Native Hawaiian traditions and cultural values have helped many in the Hawaiian community cope with social challenges and unite around a collective identity. Data in this section indicate that Native Hawaiians feel strong ties to Hawaiian cultural traditions and actively incorporate elements of that heritage in daily routines. Our findings suggest that the cultural heritage of Native Hawaiians can be a critically important resource for coping with symptoms of social stress and protecting keiki within the Hawaiian community.

For example, the Hawaiian value of ʻohana, which promotes a broad concept of kinship ties and extends a circle of intimacy and obligation beyond the nuclear family (Pukui, Haertig, and Lee 1972; Pukui et al. 1972), has resulted in a high prevalence of multigenerational households within the Native Hawaiian community and high levels of grandparent involvement in the raising of Native Hawaiian children (Pukui, Haertig, and Lee 1972; Pukui et al. 1972; U.S. Census Bureau 2000). Such arrangements may offer relief for single parents or other household heads who need help with financial and caregiving responsibilities for their children.

Another closely related Hawaiian tradition is child fostering, in which children are raised by adults other than their parents. Our analysis indicates that arrangements of nonparental caregiving are common among Native Hawaiians. The prevalence of Hawaiian foster relationships reflects the high value placed on children in both traditional and modern Hawaiian society (Howard et al. 1970; Pukui et al. 1972) and illustrates the strong community ties and sense of shared responsibility among Native Hawaiians. Thus, long-standing cultural traditions and values play a part in helping Native Hawaiian families cope with modern-day social stressors.

Research suggests that much of the strength in Native Hawaiian families may be traced to the culture that binds together members of the ʻohana and unites families into a tight-knit community. For example, Native Hawaiian families are more likely than families of other ethnic backgrounds to share cultural values and beliefs, such as inclusive notions of ʻohana and a sense of obligation to the larger community (Stern, Yuen, and Hartsock 2004). Given the close relationship between Hawaiian families and communities, it is not surprising that many Native Hawaiians are active community participants. The analysis here shows that Native Hawaiians often participate in multiple community organizations and activities over the course of several years and frequently assume leadership positions. These findings are consistent with prior research suggesting that Native Hawaiians exhibit strong ties to their ancestral land (Kanaʻiaupuni and Liebler 2005; Oneha 2001). Those who leave Hawaiʻi do so primarily for pragmatic reasons—to pursue educational and economic opportunities or to escape from high housing costs and limited job prospects. Those who return are usually motivated by personal and family ties, and frequently return with greater socioeconomic resources that allow them to establish more permanent and stable roots in the islands (Malone 2004).

Overall, the results suggest countervailing forces in the social well-being of Native Hawaiians. Much of the existing data indicate that Native Hawaiians disproportionately experience social and economic hardships; nevertheless, Native Hawaiians are fortified by the strength and cohesion of culture, families, and community. This cohesive force is consistent throughout the shifting social landscape and is fundamental to the resilience of Native Hawaiian families and communities, providing a buffer against ongoing challenges and social stressors. In the face of adversity, Native Hawaiians continue to draw on traditional cultural values to strengthen the social systems that serve as a primary source of support and sustenance—family and community.

Family Characteristics

'Ohana is the foundation of Native Hawaiian social well-being. Strong and healthy families provide positive support, wisdom, and a sense of unity and belonging, all of which may significantly affect educational well-being. Research shows that the quality of family relationships has a significant effect on the development and educational outcomes of children. Parenting styles and practices have been shown to influence children's academic achievement, as well as their attitudes and efforts in school (Marjoribank 1996; Schickendanz 1995). Family structure, which may strengthen or hinder a household's resources and relationships, may also exert an indirect effect on children's development.

The availability of resources in a household is directly related to the number of people in the household. Native Hawaiian households tend to be slightly larger than most households in the state (Figure 2.4).

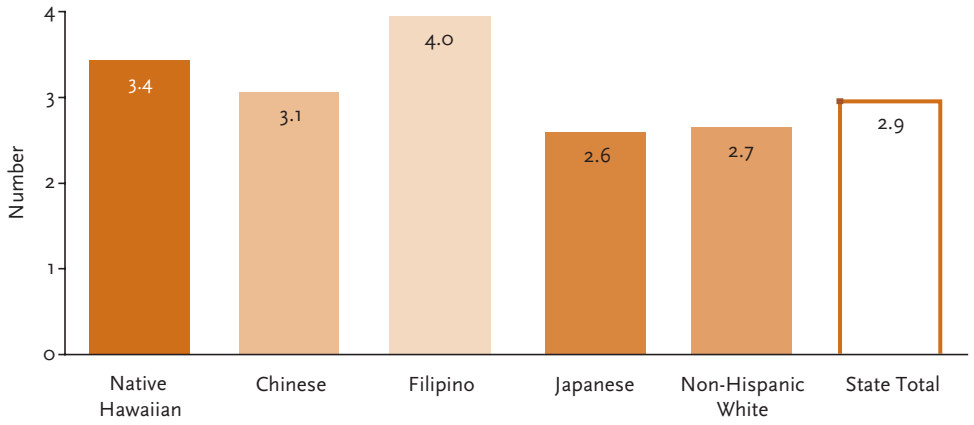
- In 2000, the average number of individuals in households headed by Native Hawaiians was 3.4, compared with a statewide average of 2.9.
- Filipinos were the only major ethnic group in the state with a larger average household size (4.0 persons) than that of Native Hawaiians. The high averages for both of these populations reflect the prevalence of family households with children (Figure 2.5).

Statistics show that the structure of Native Hawaiian families is diverse and often defies the makeup of conventional nuclear households. Data from Census 2000 indicate that Native Hawaiian households are more likely than non-Hawaiian households to be family-based and to include minor children (younger than eighteen years of age). Figure 2.5 provides a breakdown of household types by the race/ethnicity of the household head.

- In 2000, families constituted 78.8 percent of Native Hawaiian households and 71.2 percent of all households in the state.
- Among Native Hawaiian households, 43.0 percent included minor children, compared with the statewide rate of 32.1 percent.
- The prevalence of single-parent families with minor children was highest among Native Hawaiian households (15.8 percent versus 8.1 percent statewide).

Research suggests that families headed by a single parent face greater challenges than do conventional married-couple families. Typically, single parents must function as the sole breadwinner and caregiver, and the weight of this responsibility may strain relationships in the family and leave the household vulnerable to poverty. Research confirms the impact of such stressors, showing that single-parent households are associated with less favorable outcomes for children (Bank et al. 1993; Bateman and Kennedy 1997; Berger 2004; Biblarz and Raferty 1999; Demuth and Brown 2004; Jackson et al. 2000; Jackson and Scheines 2005; Krein and Beller 1988; McLanahan and Sandefur 1994; Milkie et al. 2004; Milne et al. 1986; Pong 1997; Smith, Brooks-Gunn, and Klebanov 1997).

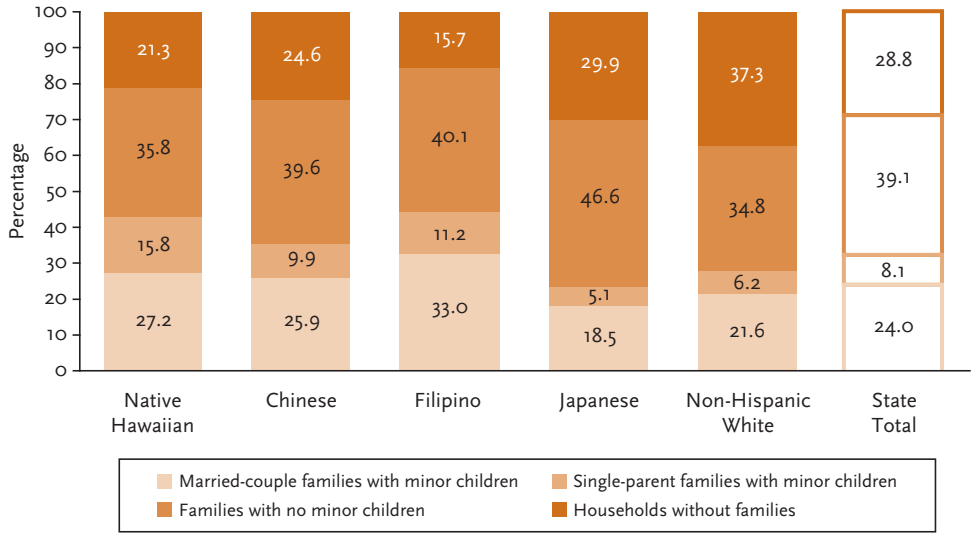
FIGURE 2.4 Average number of residents within households [by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 2.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

FIGURE 2.5 Distribution of Native Hawaiian population according to household type [total population, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 2.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Among single-parent families with school-age children, female household heads far outnumber male household heads (not shown). Figure 2.6 highlights changes over the past decade in the prevalence of single-mother families with minor children.[3] Since 1990, single-mother families with school-age children have become more common in the state; however, the percentage increase among Native Hawaiians is smaller than increases experienced by most other major ethnic groups.

- In both 1990 and 2000, single-mother families with minor children were more common among Native Hawaiian families than among families of other major ethnicities in the state.
- Between 1990 and 2000, the percentage of single-mother Native Hawaiian families with minor children increased from 22.5 percent to 27.1 percent. The statewide rate increased from 13.3 percent to 18.3 percent.
- Other than non-Hispanic Whites, Native Hawaiians exhibited the smallest increase (4.6 percentage points) in the percentage of families with children headed by a single mother.

Birth data from the Hawai'i Department of Health support the findings from Census 2000, showing an increase in single-mother families. During the past decade, the prevalence of births to unmarried mothers has increased steadily among both Native Hawaiians and the larger state population (Figure 2.7).

- In 2002, nonmarital births accounted for more than half (56.8 percent) of all Native Hawaiian live births, compared with one-third (34.0 percent) of all live births statewide.
- The prevalence of nonmarital births among Native Hawaiians increased from 45.4 percent of all live births in 1989 to 56.8 percent in 2002. Among all live births in the state, nonmarital births have grown from 23.9 percent in 1989 to 34.0 percent in 2002.

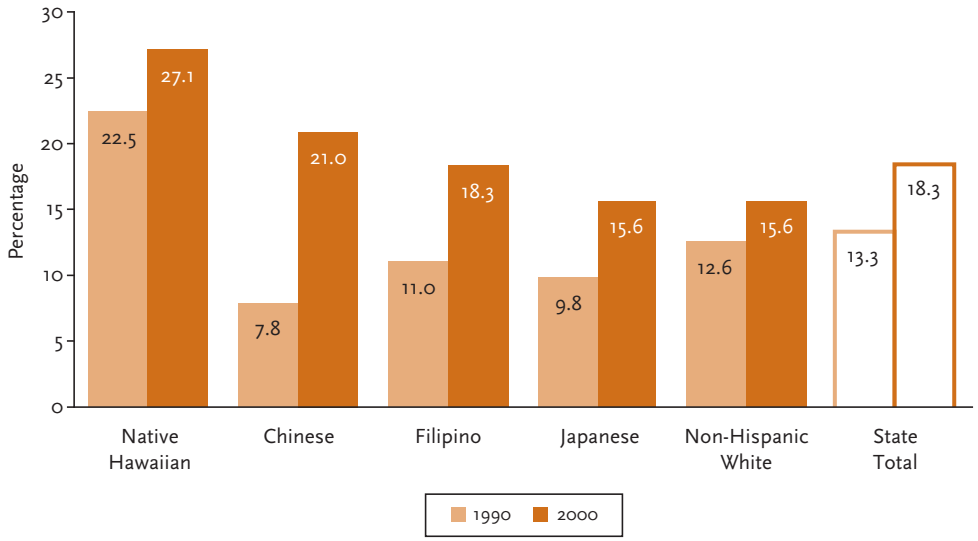
With the growing prevalence of single-parent households, *kūpuna* (grandparents) play an increasingly critical role in caring for minor children. In multigenerational households, where grandparents reside with both their children and their grandchildren, grandparents may mitigate family stressors by sharing some of the household's financial and caregiving responsibilities. In instances where a child's parent is absent, grandparents may step in as the sole caregiver for the child. The beneficial effect of kūpuna in children's lives is well established in the Native Hawaiian community and is consistent with traditional cultural values emphasizing the importance of 'ohana. For Native Hawaiian children, kūpuna act as caregivers, protectors, and sources of wisdom and represent a critical link to one's ancestors.

Figure 2.8 shows that households in which grandparents live with their grandchildren were common in Hawai'i in 2000, particularly among Native Hawaiian, Chinese, and Filipino families. However, in such households, Native Hawaiian grandparents were much more likely to assume responsibility for the care of these children.

- Among Native Hawaiian households with children, about one in four (25.7 percent) had live-in grandparents. The Native Hawaiian rate was slightly higher than the statewide rate (22.5 percent).
- Grandparents in Native Hawaiian households were more often responsible for taking care of their grandchildren. In more than one in three Native Hawaiian households where grandparents and grandchildren lived together, grandparents assumed some caregiving responsibilities for their grandchildren.

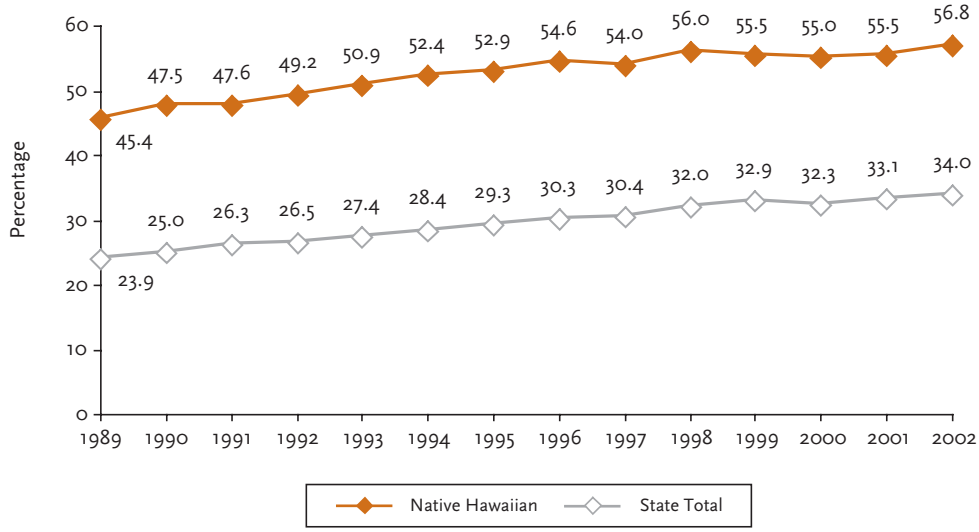
3. For the sake of brevity, families headed by a single female with no husband present are generalized as "single-mother families," and families headed by a single male with no wife present are referred to as "single-father families." However, the individuals or couples who head these families are not necessarily the biological parents of the children in these families.

FIGURE 2.6 Trends in single-mother families as a percentage of all families with children [families with children under 18, by race/ethnicity, state of Hawai'i, 1990 and 2000]



Data source: U.S. Census 2000, Summary File 2.
Note: For the sake of brevity, families headed by a single female with no husband present are referred to as "single-mother families." However, the individuals who head these families are not necessarily the biological mothers of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

FIGURE 2.7 Trends in nonmarital births as a percentage of all live births [by Native Hawaiian and state total, state of Hawai'i, 1989 to 2002]



Data source: Hawai'i Department of Health, Vital Statistics Reports 1989 to 2002.

- At the individual level, almost one-quarter (23.6 percent) of Native Hawaiian adults in homes with children were live-in grandparents (not shown). Among these Native Hawaiian grandparents, more than half (51.2 percent) served as caregivers for their grandchildren, compared with the statewide rate of 21.2 percent (not shown).

Another Native Hawaiian tradition that is particularly important in shaping the diversity of contemporary Native Hawaiian families is the custom of children being cared for by adults other than their parents. We refer to this practice of child fosterage as *ho'okahu keiki* (nonparental caregiving).[4] The concept of ho'okahu keiki is rooted in traditional Native Hawaiian values that emphasize the importance of children, the centrality of family, the shared responsibility for a child's upbringing, and the broadly defined notion of 'ohana that often extends beyond blood relations (Howard et al. 1970). Among Native Hawaiians, it is not uncommon for children to live with and be cared for by their grandparents while their parents reside elsewhere, or for an orphan to reside with an aunt and uncle or with a close friend of the child's deceased parents (Howard et al. 1970).

Although this practice has been an important Native Hawaiian custom, ho'okahu keiki arrangements present inherent difficulties in data collecting and interpretation. Because Census 2000 did not explicitly ask about ho'okahu keiki arrangements, we attempt to indirectly capture a lower-bound estimate of ho'okahu keiki families by looking at households with (1) adopted children, (2) foster children, (3) children who were the nieces/nephews of the household head, (4) children who were the grandchildren of the household head, and (5) children who were not related by blood to the household head.

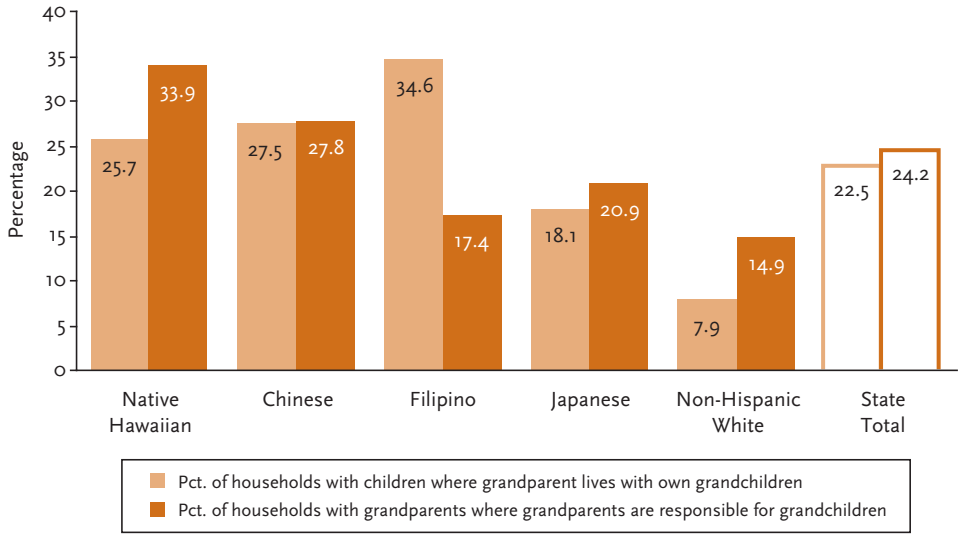
The first two groups—adopted children and foster children—are by definition assumed to be part of ho'okahu keiki families, with primary caregivers who are not the children's biological parents. Determining a ho'okahu keiki arrangement for the latter three groups (nieces/nephews, grandchildren, and unrelated children) is more difficult. The prevalence within Hawai'i—and within the Native Hawaiian community in particular—of multigenerational households (e.g., child, parent, and grandparent all live together) and multifamily households (e.g., child, parent, parent's sibling, and child of parent's sibling all live together) means that many Native Hawaiian children may reside with distant relatives while still being cared for by their parents. For the purposes of this analysis, we include children other than adopted or foster children only if their parents are not present.

Using this definition, we find that ho'okahu keiki families in 2000 accounted for 7.5 percent of children (not shown) and 3.4 percent of households in the state of Hawai'i. Figure 2.9 shows that ho'okahu keiki arrangements were more common among Native Hawaiian households than among households headed by members of other ethnic groups.

- In 2000, more than one in twenty Native Hawaiian households with children (5.7 percent) involved a ho'okahu keiki arrangement.
- Although the rate of ho'okahu keiki arrangements in Native Hawaiian households was higher than the statewide rate (3.4 percent), the practice was also common in Chinese and Filipino households (4.9 percent and 5.2 percent, respectively).
- Fully 8.2 percent of Native Hawaiian children had ho'okahu keiki caregivers, a figure that was slightly higher than the statewide rate of 7.5 percent (not shown).

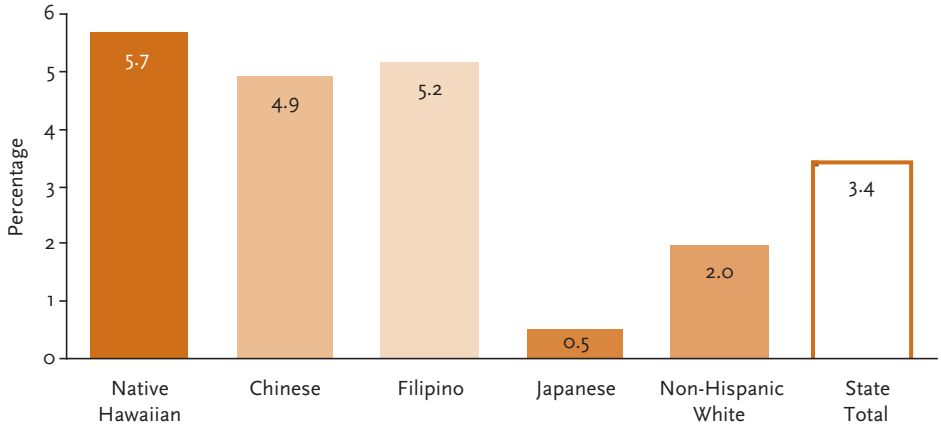
4. Although the practice of ho'okahu keiki may sometimes include what is commonly referred to as hānai, there are important distinctions between the two terms. For more information on traditional hānai practices and definitions, see the "Hānai Workshop" presentation and memo from the 'Ilio'ulaokalani Coalition (2004).

FIGURE 2.8 Presence of grandparents and caregiving by grandparents in households with children [households with children under 18, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

FIGURE 2.9 Nonparental caregiving households as a percentage of all households with children [households with children under 18, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Family Strengths

Strong family ties and relationships support children through their growth and education. Conversely, recent neuropsychological research shows that disruptive experiences and family instability can hinder child development (Noble, Tottenham, and Casey 2005). Various studies have identified common traits that characterize a strong family (DeFrain 1999; Stern, Yuen, and Hartsock 2004; Stinnett and DeFrain 1985). One of these, the Hawai'i Family Touchstone project, assessed the strength of families in Hawai'i based on the following behaviors:

1. Express commitment
2. Spend time together
3. Show appreciation
4. Communicate
5. Share values and beliefs
6. Cope with stress

The data were then combined to form the Strong Families Index, which measures the strength of families based on the degree of engagement in the six positive behaviors of a family (Figure 2.10).

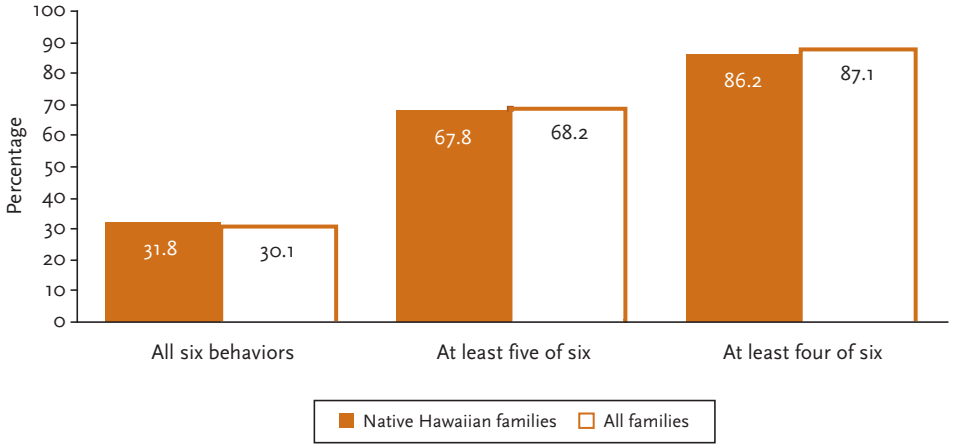
- Nearly one-third of Native Hawaiian families (31.8 percent) indicated that they practice all six behaviors of strong families—a rate that is roughly comparable with the statewide figure of 30.1 percent.
- Among both Native Hawaiians and the statewide population, more than eight out of ten families practiced at least four of the six behaviors.

In a general sense, these results suggest similar levels of family strength among Native Hawaiians and the statewide population. However, a more detailed analysis highlights areas of particular strengths and challenges for Native Hawaiian families.

To measure "shared values and beliefs," researchers at the Hawai'i Family Touchstone project used four indicators: whether the family regularly engages in cultural practices, attends religious services, participates in community events, or volunteers in the community. Results, shown in Figure 2.11, suggest that Native Hawaiian families are distinguished by a strong sense of shared values and beliefs.

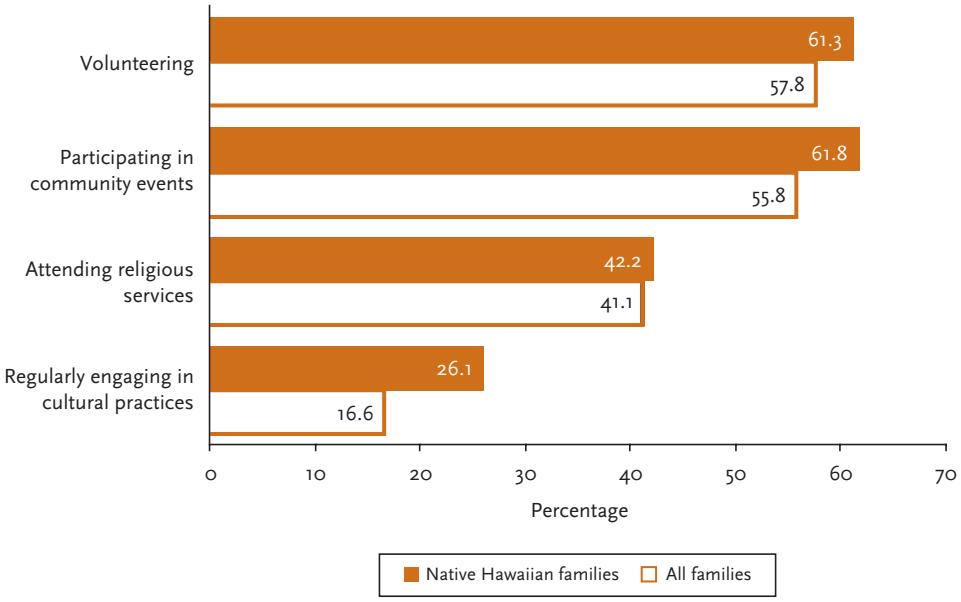
- Among Native Hawaiian families, 26.1 percent regularly engaged in cultural practices or activities relating to their family's heritage, compared with just 16.6 percent of all families in the state.
- Native Hawaiian families were more likely than other families to participate in community events such as neighborhood celebrations, block parties, and cultural events (61.8 percent of Native Hawaiian families versus 55.8 percent among all families in the state).
- Native Hawaiian families were also more likely than other families to be engaged in volunteer work for church, charity, or community groups (61.3 percent of Native Hawaiian families versus 57.8 percent among all families in the state).

FIGURE 2.10 Families reporting selected positive family behaviors as a percentage of all responding families [by number of behaviors, by Native Hawaiian families and all families, state of Hawai'i, 2002]



Source: Stern, Yuen, and Hartsock 2004.

FIGURE 2.11 Families reporting selected indicators of shared values and beliefs as a percentage of all responding families [by indicator, by Native Hawaiian families and all families, state of Hawai'i, 2002]



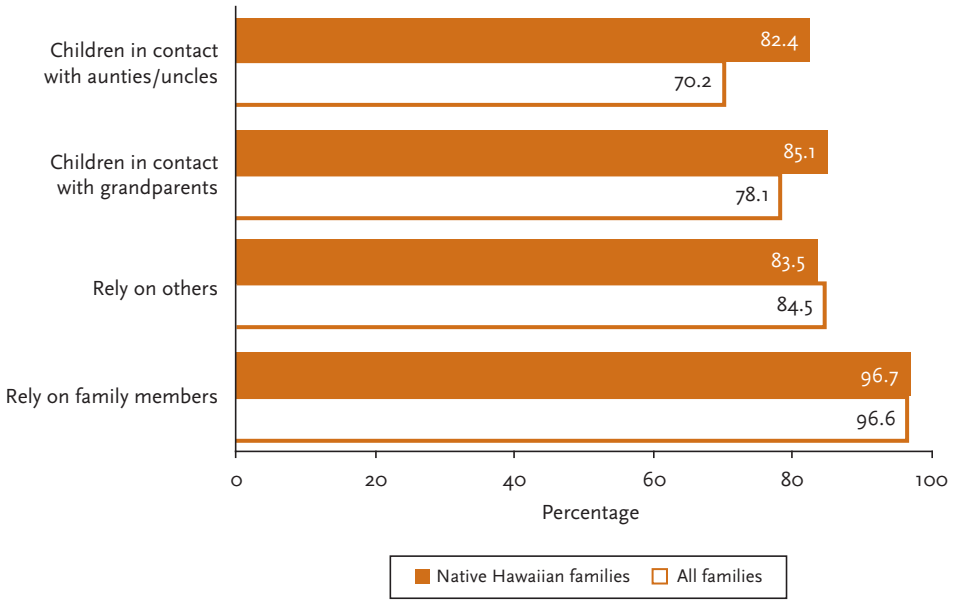
Source: Stern, Yuen, and Hartsock 2004.

Similarly, Native Hawaiian families appear to be more able to cope with stress than are other families. Researchers at the Hawai'i Family Touchstone project identified four indicators of a family's ability to handle stress: reliance on family members, reliance on others, children who are in contact with grandparents, and children who are in contact with aunties and uncles. As shown in Figure 2.12, Native Hawaiian families were significantly more likely to have extended family networks to help cope with stress.

- Native Hawaiian families were significantly more likely than other families to have contact between children and their grandparents (85.1 percent among Native Hawaiian families versus 78.1 percent among all families in the state).
- Children in Native Hawaiian families were also much more likely to maintain contact with their aunties and uncles (82.4 percent among Native Hawaiian families versus 70.2 percent among all families in the state).

However, Native Hawaiian families reported lower levels of healthy communication. Approximately 69.7 percent of Native Hawaiian respondents indicated that they talk and listen in their families without criticizing or insulting each other, compared with 81.2 percent of all respondents throughout the state (not shown). Good communication skills are crucial to the quality of family interactions. Poor family communications, however, may be one of multiple factors contributing to greater chaos—and sometimes violence—in the home environment.

FIGURE 2.12 Families reporting selected indicators of ability to cope with stress as a percentage of all responding families [by indicator, by Native Hawaiian families and all families, state of Hawai'i, 2002]



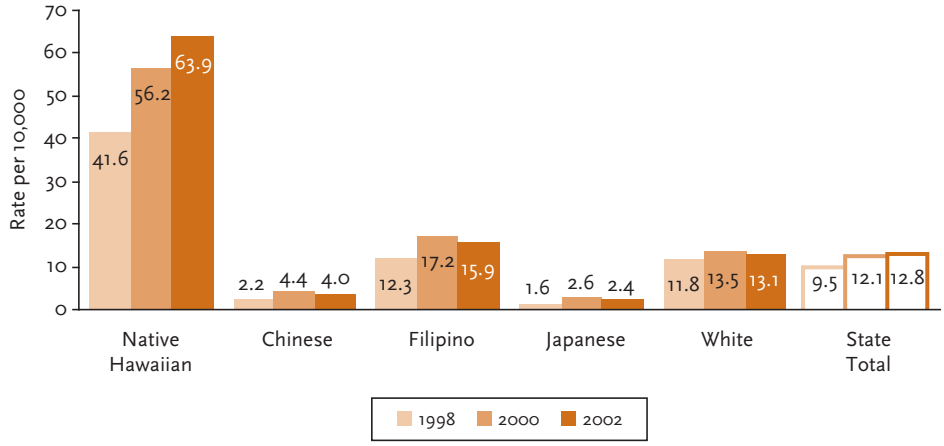
Source: Stern, Yuen, and Hartsock 2004.

Family Challenges

Despite the strength and cohesiveness of the ʻohana, the multiple stressors faced by many Native Hawaiian families sometimes lead to conflict and physical violence. Domestic abuse has devastating effects on children's development, whether the acts of violence are directed at the children themselves or toward other members of the family. Figure 2.13 shows the rate of child abuse and neglect cases reported to and confirmed by the Hawaiʻi Department of Human Services for every ten thousand individuals in a population.[5] The data are presented as rates (defined as the number of confirmed child abuse cases per ten thousand individuals in that ethnic group's local population) and averaged across three years to account for changes in the population size and random fluctuations from year to year. Although most children do not experience violence at home, data on child abuse and neglect suggest that Native Hawaiians have some of the highest reported rates and that the incidence of abuse and neglect in Native Hawaiian families is on the rise.

- Since 1998, the rate of confirmed child abuse and neglect among Native Hawaiians has consistently been more than twice the rates of other major ethnic groups. In recent years, the Native Hawaiian rate has been three or four times the rates of the other major ethnic groups in the state.
- The prevalence of confirmed child abuse and neglect among Native Hawaiians has been steadily increasing, from a three-year average of 41.6 cases per ten thousand in 1998 to 63.9 cases in 2002.

FIGURE 2.13 Trends in rates of confirmed child abuse and neglect cases [three-year averages, by race/ethnicity, state of Hawaiʻi, selected years]



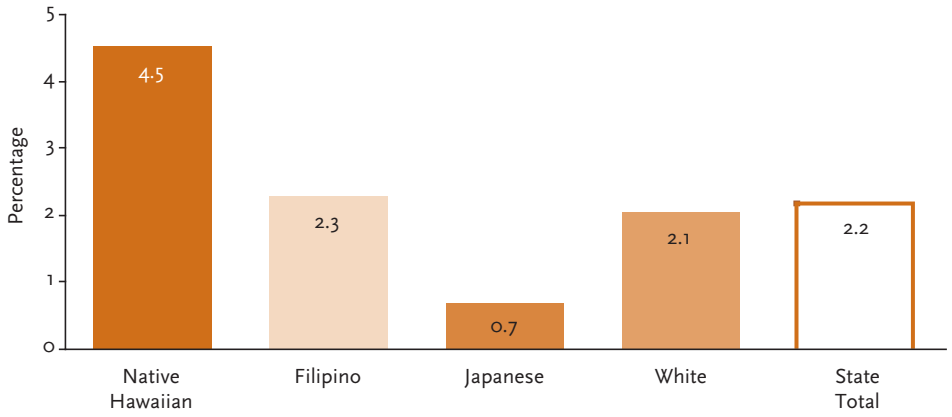
Source: Hawaiʻi Department of Human Services 2003.
Data source: Hawaiʻi Department of Business, Economic Development, and Tourism 1997 to 2003.

5. Population estimates and ethnic breakdowns are based on those provided in the State of Hawaiʻi Data Book series published by the Hawaiʻi Department of Business, Economic Development, and Tourism. Because data for 1997 were not published, the population figure for this year was estimated (based on the assumption of linear population growth). In other words, we split the difference between figures published for 1996 and 1998 and added that amount to the 1996 figure. The resulting 1997 estimate was therefore equally spaced between the 1996 and 1998 figures.

Spousal abuse or the abuse of an intimate partner is also more common among Native Hawaiians than among other major ethnic groups. Figure 2.14 shows that, in a statewide survey of adults, Native Hawaiians were most likely to report physical, sexual, or emotional abuse by their partners.

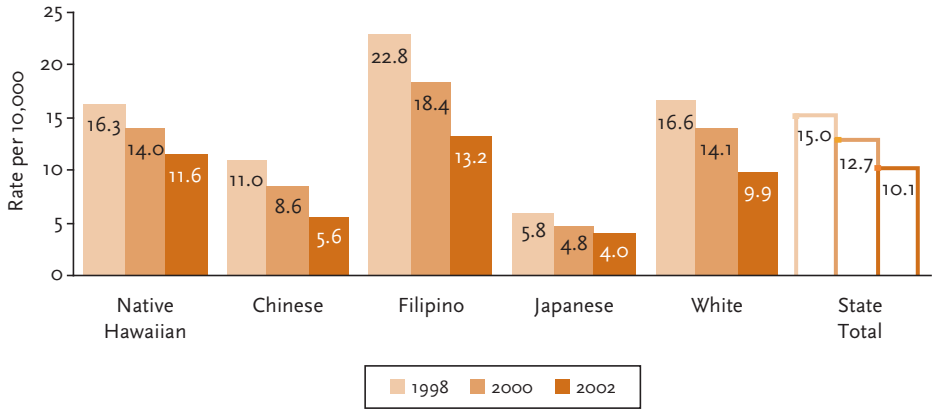
- Almost one in twenty Native Hawaiians (4.5 percent) reported having been abused by an intimate partner.
- The frequency of partner abuse among Native Hawaiians is roughly double the statewide rate of 2.2 percent.

FIGURE 2.14 Individuals reporting physical, sexual, or emotional abuse by an intimate partner as a percentage of all adults [adults ages 18 and older, by race/ethnicity, state of Hawai'i, 2002 and 2003 (combined)]



Data source: Hawai'i Department of Health, BRFSS 2002, 2003.
Note: Data for the Chinese population are not available.

FIGURE 2.15 Trends in rates of offenses against family and/or children [three-year averages, by race/ethnicity, state of Hawai'i, selected years]



Data sources: Hawai'i Department of the Attorney General 1997 to 2003; Hawai'i Department of Business, Economic Development, and Tourism 1997 to 2003.

Criminal offenses against family or children include not only domestic violence incidents, such as spousal battery, but also cases of nonsupport (e.g., failure to submit child support or alimony payments). Figure 2.15 shows arrest rates for offenses against family members or children, averaged across three-year intervals. Despite the prevalence of reported domestic violence among Native Hawaiian families, the Native Hawaiian rate of arrests for offenses against family members or children has been roughly comparable with statewide rates and consistently lower than the rates among Filipinos.

- The rates of family offense arrests among Native Hawaiians were only slightly higher than statewide rates. Three-year averages for 1998 through 2002 show Filipinos with the highest rates of arrest for family offenses and Japanese with the lowest rates.
- Since 1998, the prevalence of arrests for family offenses has steadily declined across all major ethnic groups in the state. Among Native Hawaiians, three-year averaged rates decreased from 16.3 arrests per ten thousand in 1998 to 11.6 arrests per ten thousand in 2002.

Some have suggested that Native Hawaiians may be reluctant to report abuse to officials and may prefer to resolve family issues within the family (Management Sciences for Health n.d.). Accordingly, several social services programs incorporate culturally based interventions and traditional Hawaiian methods for resolving family issues, such as *hoʻoponopono* (literally "to set right"; Mokuau 1990). Part Five discusses other such culturally appropriate strategies in greater detail.

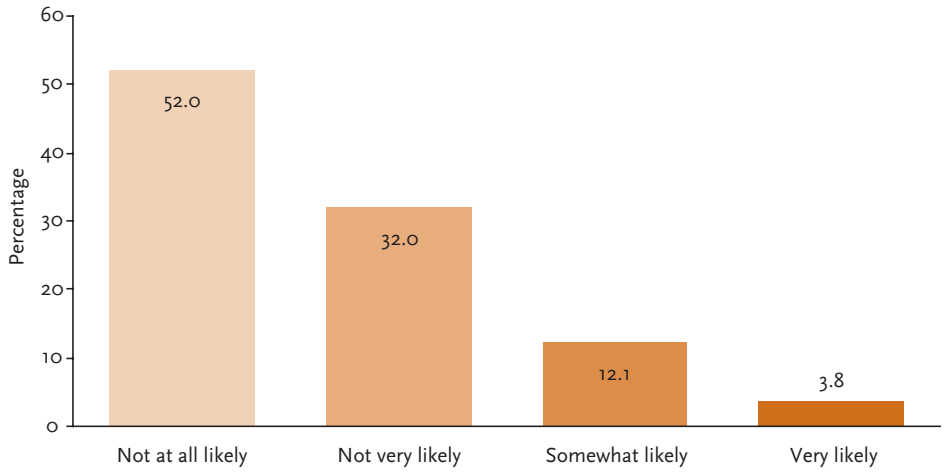
Ties to Community and Ancestral Home

For Native Hawaiians, land and sea are imbued with cultural and spiritual significance that transcend physical and geographical traits. This belief is particularly apparent in the strong ties Native Hawaiians feel for the Hawaiian Islands, ancestral home to *kānaka maoli* (indigenous people). Scholars point out that the land and sea of Hawaiʻi are tied genealogically to Native Hawaiians and are an integral part of spiritual beliefs and cultural practices (Kameʻeleihiwa 1992b; Kanahele 1986). As a result, connections to the *ʻāina* (land) solidify Native Hawaiian identity through genealogical, spiritual, and physical practices and beliefs (Kanaʻiaupuni and Liebler 2005).

Connections to people are just as important as spiritual connections to the land. Traditional Hawaiian values promote the importance of social relationships and the collective group (Kanahele 1986; Mokuau 1990). Interdependence and shared obligations are encouraged, and the greater good of the community is placed above individual interests. The kinship and aloha within the Native Hawaiian community merge with the spiritual significance of place, drawing many Native Hawaiians to remain among—or return to—the ʻāina and the people of the islands. Studies of Native Hawaiians relate how economic forces led many to leave, but only physically, as they remain loyal to the collective and strongly bonded by ancestral and community ties to the homeland (Halualani 2002; Kanaʻiaupuni and Liebler 2005; Kauanui 1998, 2002; Oneha 2001).

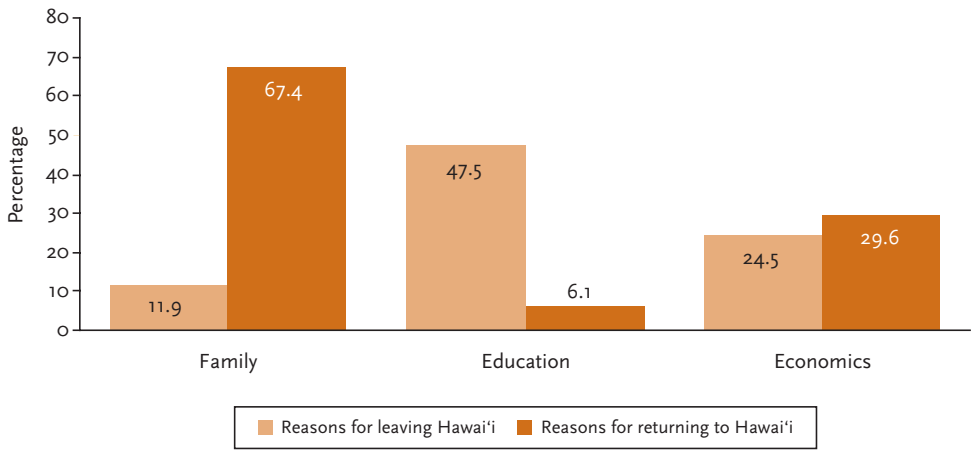
Evidence confirming the strong ties Native Hawaiians feel for the islands of Hawaiʻi is found in a variety of sources. For example, recent studies show that the role of place is critical to Native Hawaiian families in the continental United States and in the islands (Oneha 2001) and that ties to place increase the intergenerational transmission of Native Hawaiian identity in multiracial and multiethnic families (Kanaʻiaupuni and Liebler 2005). Another recent survey of a sample of Native Hawaiians found strong perceived ties to Hawaiʻi and a preference to stay in the islands to live and raise families (Kamehameha Schools 2002).

FIGURE 2.16 Likelihood of leaving the state of Hawai'i among Kamehameha Schools alumni [percentage distribution, current residents of state of Hawai'i, 2002]



Data source: Kamehameha Schools, Kamehameha Schools Alumni Survey 2002.

FIGURE 2.17 Selected reasons for leaving and returning to Hawai'i among Kamehameha Schools alumni [by primary reasons, United States, 2002]



Data source: Kamehameha Schools, Kamehameha Schools Alumni Survey 2002.
Note: Economic reasons include both employment and housing considerations.

- Figure 2.16 shows that 84.0 percent of survey respondents currently residing in Hawai'i indicated that they were not at all likely (52.0 percent) or not very likely (32.0 percent) to leave the islands.
- Among those who reported that they were likely to leave Hawai'i, nearly half (48.6 percent) cited economic reasons such as jobs or housing (not shown).

Figure 2.17 summarizes the main reasons Native Hawaiians migrate from the state of Hawai'i. Survey participants who currently reside or previously resided outside Hawai'i were asked why they left. Those who had left and subsequently returned to Hawai'i were asked their reasons for returning. Results indicate that economic conditions and the pursuit of educational opportunities play a significant role in the migration of Kamehameha Schools (KS) alumni to the continental United States.

- Nearly half of all respondents who either currently or previously lived outside Hawai'i (47.5 percent) left the state to attend college.
- Approximately one of every four Native Hawaiians who migrated to the continental United States (24.5 percent) was driven by economic reasons such as jobs or housing.
- Family was the predominant reason cited for returning to Hawai'i. Of the respondents who had temporarily left Hawai'i and later returned, more than two out of three (67.4 percent) were drawn back for family.

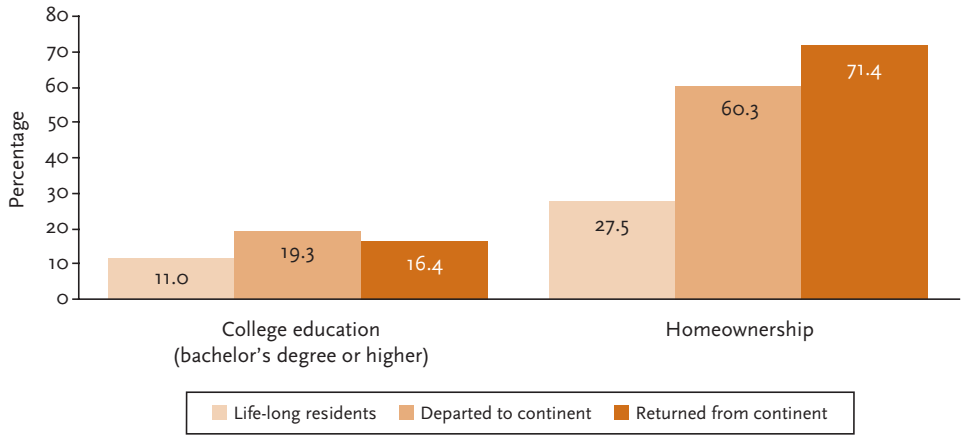
Halualani (2002) confirms the economic motives driving Native Hawaiian migration trends: "On the mainland, economic and material pressures are mitigated by a wider range and availability of jobs and, in some areas, a more manageable cost of living. And if [Native Hawaiians] could not regain their 'āina, the mainland offered some economic solace" (p. 240).

Some research also suggests a "brain drain"—a common concern about the migration of Hawai'i's most academically skilled residents to the continental United States for educational and economic opportunities, where they presumably stay and raise their families. Although little is known about this phenomenon among Native Hawaiians, a recent study by Malone (2004) uses Census 2000 public data files to analyze the brain drain effect among Native Hawaiians, based on patterns of migration to and from the islands.

Figure 2.18 shows descriptive statistics highlighting differences in educational attainment and homeownership rates among three groups of Native Hawaiians: those who have lived in Hawai'i all their lives, those who left Hawai'i at some time after their birth to reside on the continent, and those who returned to Hawai'i after residing on the continent for some period of time.

- Native Hawaiians who migrated from Hawai'i—both those who remained in the continental United States and those who left and eventually returned—were more likely to have earned a bachelor's degree than were Native Hawaiians who were lifelong residents of the islands.
- The homeownership rate among lifelong Hawai'i residents (27.5 percent) was less than half that of Native Hawaiians who migrated from the islands. Native Hawaiians who returned to Hawai'i from the continent were even more likely to own a home than were their counterparts on the continental United States (71.4 percent versus 60.3 percent).

FIGURE 2.18 College education and homeownership among migrant and nonmigrant Native Hawaiians [adults ages 25 and older, by migrant status, United States, 2000]



Source: Malone 2004.

Although these descriptive data suggest significant differences between the three groups, they fail to account for other factors that may affect these outcomes, such as demographic traits, labor force participation, and occupational industry. Multivariate regression analyses revealed that, holding other factors constant, Native Hawaiians who leave for the continental United States are significantly more likely to have higher educational attainment, suggesting a brain drain. However, further analysis reveals that Native Hawaiians who return to Hawai'i are significantly more likely to own their own home. Overall, these analyses suggest that Native Hawaiians who leave Hawai'i to pursue educational and economic opportunities on the continental United States may return to the islands with greater resources—savings, financial assets, and postsecondary degrees—that allow them to purchase a home and thereby establish more permanent and secure roots in their ancestral land.

Community Service and Servant Leadership

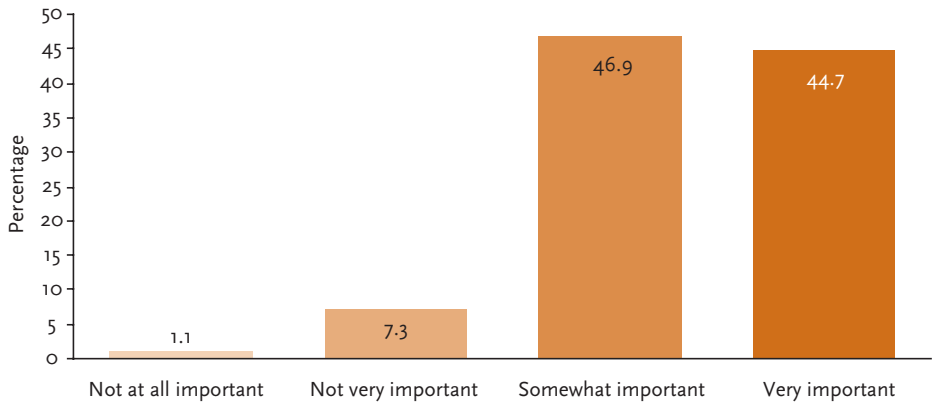
The traditional Hawaiian values that strengthen community ties and promote interdependence and shared obligation also suggest the importance of community service and involvement. Service-oriented activism offers benefits to both the volunteer and the larger public. While the individual directly benefits from personal satisfaction and growth, new social networks, and even improved health, the community as a whole thrives in several ways under the contributions of its active members (Greiner et al. 2004; Harlow and Cantor 1996; Kawachi, Kennedy, and Glass 1999; Krause, Herzog, and Baker 1992; Ramirez-Valles 2002; Rogers 1996; Wilson 2000; Yip and Cross 2004).

Currently, large numbers of Native Hawaiians are involved in community-oriented occupational sectors, such as education and social work (University of Hawai'i 1997 to 2001). To assess community involvement outside of the job market, we use two additional data sources on community involvement: the 2002 Kamehameha Schools Alumni Survey and the 2003 Hawaiian Community Survey (HCS). Although the Alumni Survey is based on a more limited population, together these data offer insights into community outreach, servant leadership, service, and volunteerism within the Native Hawaiian community.

Respondents to the KS Alumni Survey exhibited service-oriented attitudes and expressed a sense of kuleana to the community (Figure 2.19).

- Fully 91.6 percent of survey respondents believed that community service work is somewhat to very important.
- Just 8.4 percent of respondents indicated that involvement in the community is not important.

FIGURE 2.19 Perceived importance of community involvement among Kamehameha Schools alumni
[percentage distribution, by level of importance, United States, 2002]

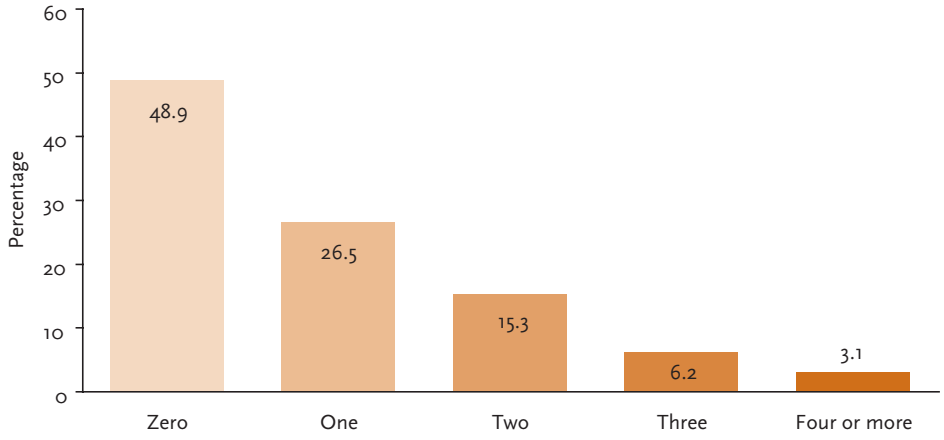


Data source: Kamehameha Schools, Kamehameha Schools Alumni Survey 2002.
Note: Respondents were asked, "How important is it for alumni such as you to support and participate in community events and activities that contribute to improving the well-being of the Native Hawaiian community?"

This propensity for community involvement among KS alumni is consistent with results from the Hawaiian Community Survey, which indicated that Native Hawaiian families were highly involved in community organizations and activities (Figure 2.20).

- About half (51.1 percent) of the survey respondents indicated that they had participated in community organizations or activities within the last three years.
- Roughly one-quarter (24.6 percent) of respondents reported taking part in two or more organizations or activities.

FIGURE 2.20 Number of community activities or organization memberships among Native Hawaiian adult respondents
[percentage distribution, adults 18 and older, by number of activities or organizations in prior three years, state of Hawai'i, 2003]



Data source: Kamehameha Schools, Hawaiian Community Survey 2003.

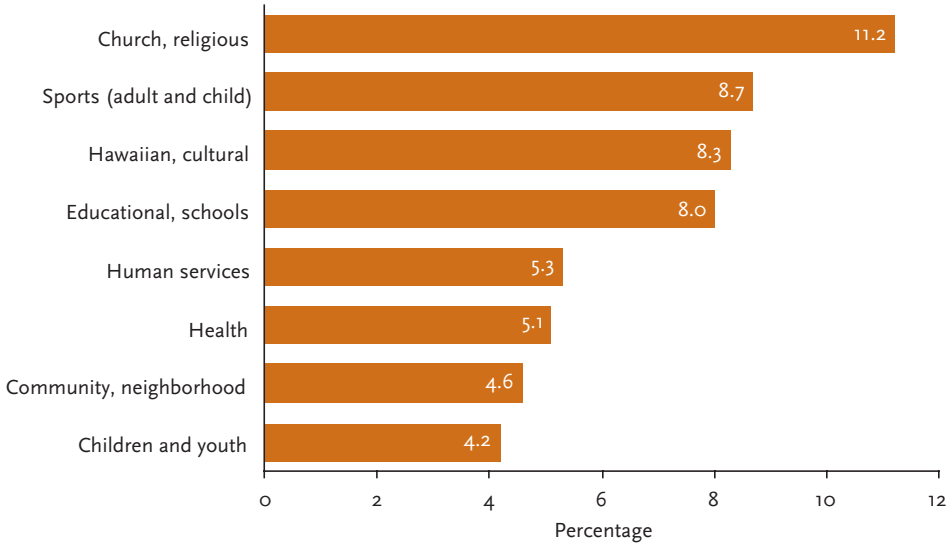
Figure 2.21 shows that community respondents were especially active in religious organizations, Hawaiian organizations, and sports.

- More than one in ten Native Hawaiian respondents (11.2 percent) were involved in religious activities or organizations.
- Hawaiian organizations and activities (e.g., civic clubs, hula hālau, paddling clubs, etc.) drew participation from 8.3 percent of respondents. Among these cultural activities, paddling clubs were the most frequently cited (not shown).

Community respondents also reported high intensity of activity in their service activities. Figure 2.22 shows how respondents rated the intensity of their participation (high or low) in each of their organizations and activities, as well as the role or position in which they served.

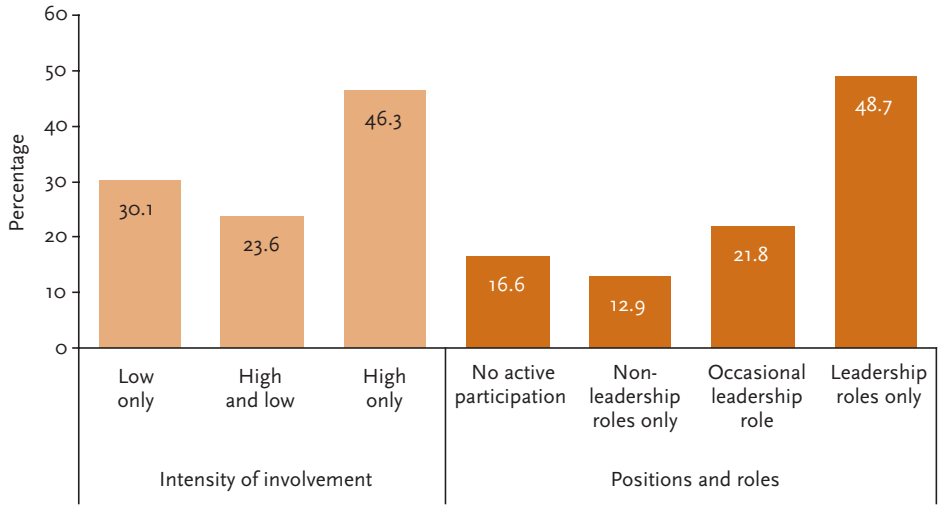
- More than two out of three respondents (69.9 percent) reported high involvement in at least one of their community organizations or activities.
- Almost half (46.3 percent) of survey respondents were highly involved in all of the organizations and activities they participated in.
- About 70.5 percent of survey respondents had assumed a leadership position (e.g., teacher, coach, leader, coleader, board member, director, or officer) in at least one of the organizations or activities they contributed to.
- Roughly half of all respondents (48.7 percent) reported acting in a leadership capacity in all of their community organizations and activities.

FIGURE 2.21 Selected types of community involvement among Native Hawaiian adult respondents [adults 18 and older, participation during the previous three years, by type of organization, state of Hawai'i, 2003]



Data source: Kamehameha Schools, Hawaiian Community Survey 2003.

FIGURE 2.22 Participation levels in community organizations among Native Hawaiian adult respondents [percentage distribution, adults 18 and older who have been involved in at least one community activity or organization in the past three years, by intensity of participation and positions or roles, state of Hawai'i, 2003]



Data source: Kamehameha Schools, Hawaiian Community Survey 2003.

Cultural Awareness and Pride

The colonization of Hawai'i and efforts to ensure the "assimilation" of its native people into the Western way of life resulted in historical suppression and erosion of Native Hawaiian cultural practices (see Part One of this report). The loss of traditional ways uprooted ancestral ties and cultural sources of Native Hawaiian identity.

However, a growing resistance to cultural loss within the Native Hawaiian community—as well as a concerted effort to reconnect with Hawaiian traditions—has resulted in a period of sustained cultural revitalization, marked by the reemergence of *hula* (Hawaiian dance), *lua* (Hawaiian martial arts), and other arts; the reclamation of Kaho'olawe Island; the development of the Hawaiian sovereignty movement; and the successful voyages of the *Hōkūle'a* (a traditional, double-hulled Hawaiian voyaging canoe). Most recently, Hawaiian cultural revitalization has given rise to culture-based educational initiatives, aspiring to support new generations of strong, culturally aware Native Hawaiians through the school system.

Research suggests that racial/ethnic identity is an important factor in the personal development and growth of disadvantaged minority children. A strong identification with and pride in one's ethnic and cultural roots increase self-esteem and brace the child against social and economic obstacles (Phinney 1995; Phinney and Alpuria 1990; Phinney, Cantu, and Kurtz 1997; Phinney and Chavira 1992). Among Native Hawaiians, Yuen et al. (2000) find that strong cultural identification in adolescents may be associated with an increased risk of attempted suicide. However, McCubbin (2003) argues that Yuen et al.'s results may reflect the high levels of acculturative stress in Native Hawaiian adolescents who feel strong ties to their cultural heritage while living in a predominantly Western society. After accounting for the effect of such stress, McCubbin finds that a strong sense of ethnic identity can help protect adolescents from depression and anxiety and can boost levels of self-acceptance.

Ethnic and cultural identity are particularly important among Native Hawaiian adults, who are the guardians of the next generation of Hawaiians. Parents and caregivers who instill in their children an understanding of—and interest in—their cultural heritage ensure the perpetuation of Hawaiian customs. Individual cultural awareness, multiplied thousands of times within the Native Hawaiian community, has far-reaching social impacts with the potential to counter the loss of cultural memory and traditions. However, the reality of decades of cultural suppression has affected generations of Native Hawaiians who grew up without a strong sense of Native Hawaiian identity. Contradictory feelings linger, as described by Osorio (2001):

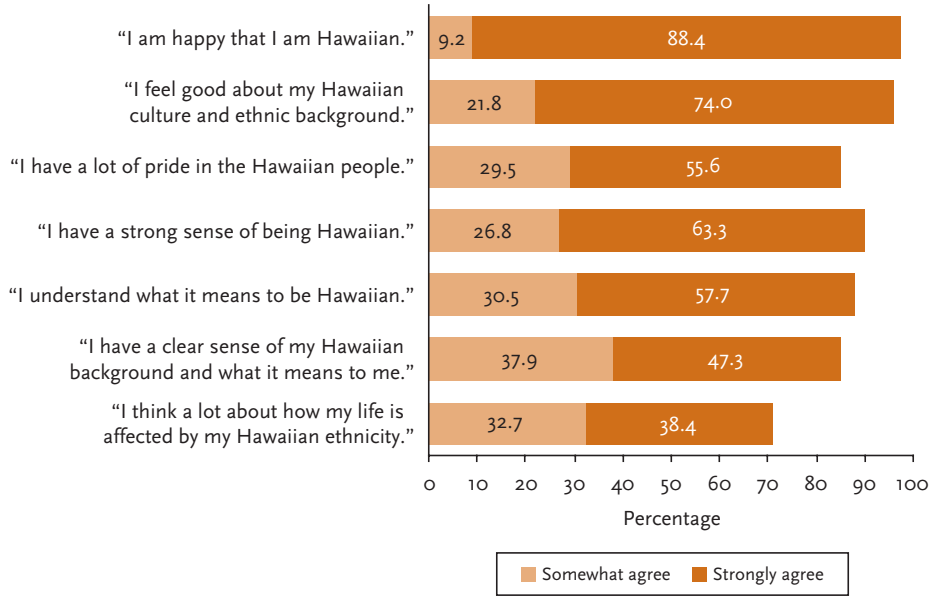
> How do we protect our lāhui, our kinship with one another? Do we conform our responses to the framework of the American political system, hoping that we might bring new benefits to our children thereby, or do we insist on clinging to every tradition that we can recover, insisting on our separateness, our distinctness, from a society that seemingly regards much distinction as anachronistic and dangerous? Some of us fear that the second option marginalizes us, and that fear itself is troubling. It is as though we have come to believe that we are the ones living on the edges of American life, the center of which contains the true and legitimate criteria for our existence. (p. 373)

Few studies have measured cultural knowledge and awareness among Native Hawaiians (Andrade et al. 2000; Crabbe 2002; Hishinuma et al. 2000; Rezentes 1993). Data collected by the KS Alumni Survey, though not entirely representative of the larger Native Hawaiian population, shed light on the strength of cultural affiliation. Survey results suggest a strong cultural identity, active engagement in traditional Hawaiian practices, and ongoing interest in learning about cultural heritage.

An overwhelming majority of KS alumni reported being proud of their cultural heritage (Figure 2.23).

- Fully 97.6 percent of respondents agreed that they are happy to be Native Hawaiian, 88.4 percent of whom strongly agreed with the statement.
- Another 95.8 percent reported that they feel good about their Native Hawaiian culture and ethnic background.
- Fewer respondents indicated that they have a lot of pride in the Hawaiian people (85.1 percent) or that they understand what it means to be Hawaiian (88.2 percent).

FIGURE 2.23 Selected indicators of cultural identity and pride among Kamehameha Schools alumni [by indicator, by level of agreement with statement, United States, 2002]

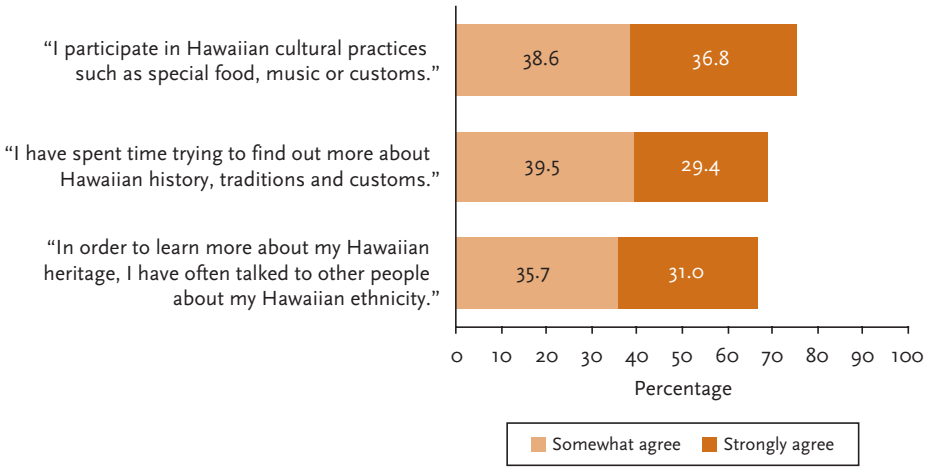


Data source: Kamehameha Schools, Kamehameha Schools Alumni Survey 2002.

A large number of respondents also reported participating in traditional cultural activities as a way of practicing and learning more about Native Hawaiian culture (Figure 2.24).

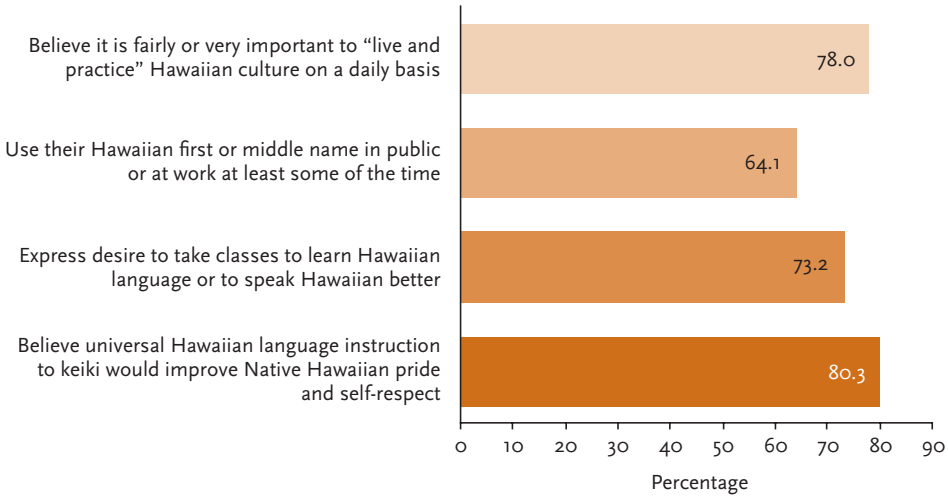
- More than two-thirds of KS alumni (68.9 percent) have spent time learning about Native Hawaiian culture.
- Approximately three of every four respondents (75.4 percent) reported taking part in Native Hawaiian cultural practices, suggesting that KS alumni actively incorporate their Native Hawaiian heritage into daily living.
- Oral transmission of knowledge continues to be a common means of perpetuating Native Hawaiian culture: 66.7 percent of KS alumni indicated they have talked with others to learn more about their ethnicity.

FIGURE 2.24 Selected indicators of cultural traditions, practices, and knowledge of Hawaiian history among Kamehameha Schools alumni [by indicator, by level of agreement with statement, United States, 2002]



Data source: Kamehameha Schools, Kamehameha Schools Alumni Survey 2002.

FIGURE 2.25 Individuals who strongly agree with statements concerning Hawaiian customs, names, and language as a percentage of all Native Hawaiian adult respondents [adults 18 and older, state of Hawai'i, 2004]



Data source: Kamehameha Schools, Hawaiian Community Survey 2004.

The strong affiliation of Native Hawaiians with cultural practices, tradition, and identity is also reflected in broader community survey findings. Figure 2.25 presents selected findings from a survey that queried a representative sample of randomly selected Native Hawaiian households about their levels of Hawaiian cultural affiliation, frequency of traditional practices, and desire for greater cultural resources.

- Nearly 80 percent of Native Hawaiian respondents felt it is important to "live and practice" Hawaiian culture daily. Among the examples offered by respondents, cultural practices that involved traditional and ancient customs such as food preparation for *lūʻau* (large feasts), and Hawaiian values were most frequently cited (20.9 percent), followed by group functions surrounding family and community (16.4 percent) and place-based activities ranging from recreation to learning opportunities (not shown).
- Almost two-thirds of respondents with Hawaiian first or middle names (64.1 percent) used their Hawaiian name in public or at work. Overall, 61.8 percent of respondents reported having a Hawaiian first or middle name (not shown), most of whom (88.9 percent) knew the name's meaning.
- Roughly three-quarters of Native Hawaiian families expressed a desire for Hawaiian language courses. Very few reported Hawaiian as their primary spoken language (not shown), although many reported some use of the language (52.8 percent) and exposure to some Hawaiian language in their youth (45.3 percent).
- Four out of five respondents believed that universal Hawaiian language instruction for Native Hawaiian keiki in the state would considerably help overall Native Hawaiian pride and self-respect. Slightly more (81.8 percent) believed it would considerably help the preservation of Hawaiian culture, and 56.7 percent reported it would substantially help with Native Hawaiian political influence in the state (not shown).

Crime and Social Justice

Thus far, the discussion of Native Hawaiian social well-being has highlighted some of the community's greatest strengths: the inclusive nature of ʻohana, the cohesive power of communities, and the growing sense of cultural identity. However, the multiple stressors and social imbalances within the Native Hawaiian community have led to troubling outcomes—antisocial, self-destructive, and criminal behavior—that are amplified by an enforcement and justice system in which inequality is an ongoing reality (Conference of State Court Administrators 2001; Leiber and Blowers 2003; MacDonald 2003; Zatz 2000). The analysis below shows, for example, that the rates of arrest and incarceration for Native Hawaiians are among the highest of all major ethnic groups in the state.

The disproportionately high number of young Native Hawaiian men and women in the state's correctional system has profound implications for Native Hawaiian education. Not only are educational and other opportunities severely limited for incarcerated adults, but Native Hawaiian children of inmates are also at increased risk of growing up without a parent to support them through critical stages of growth and development. Moreover, the deviant activities that lead to arrests and incarceration—such as crime and drug use—directly influence the safety and stability of communities, which may further hinder the educational prospects for Native Hawaiian children and adults.

Arrest Rates

The following figures show changes in the frequency of Native Hawaiian arrests over a ten-year period. The data are presented as rates (defined as the number of arrests per ten thousand individuals in that ethnic group's local population) and averaged across three years to account for changes in the population size and random fluctuations from year to year.[6] On the whole, the violent crime arrest rate for Native Hawaiians has gradually declined since 1996. The decrease among Native Hawaiians is consistent with an overall downward trend across all ethnic groups in the state (Figure 2.26).

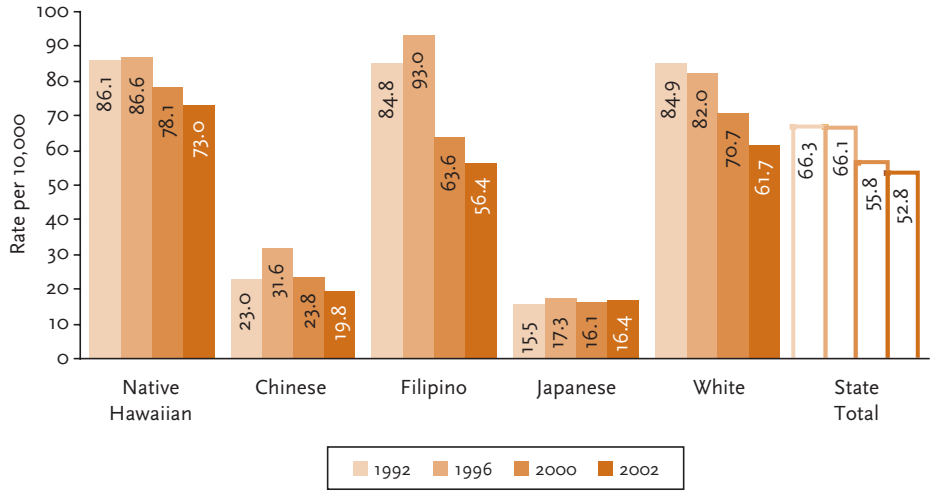
- From 1992 to 2002, Native Hawaiian arrests for violent crimes decreased by 15.2 percent, from 86.1 arrests per ten thousand Hawaiians in 1992 to 73.0 per ten thousand in 2002.
- Statewide, total arrests for violent crimes dropped by 20.4 percent, from 66.3 arrests per ten thousand in 1992 to 52.8 per ten thousand in 2002.
- Despite the improvement in recent years, Native Hawaiians are still more likely to be arrested for violent crimes than are members of other major ethnic groups. In 2002, the Native Hawaiian rate of arrests for violent crimes was 38.3 percent higher than the statewide rate and more than three and a half times the rate among the Japanese and Chinese populations.

Although the arrest rate for violent crimes among Native Hawaiians has declined in recent years, the prevalence of arrests for aggravated assault has increased since 1992. Figure 2.27 shows rates of arrest for aggravated assault, averaged across three-year intervals.

- In the past decade, the three-year averaged rate of aggravated assault arrests among Native Hawaiians increased by 25.0 percent, from 6.8 arrests per ten thousand Hawaiians in 1992 to 8.5 arrests per ten thousand in 2002. By contrast, the statewide rates increased by half as much between 1992 and 2002.
- In the early 1990s, the aggravated assault arrest rate among Native Hawaiians was lower than that of Filipinos and, at times, Whites. However, since 1997 (not shown), Native Hawaiians fairly consistently have had the highest rates of aggravated assault arrests compared with other major ethnic groups in the state.

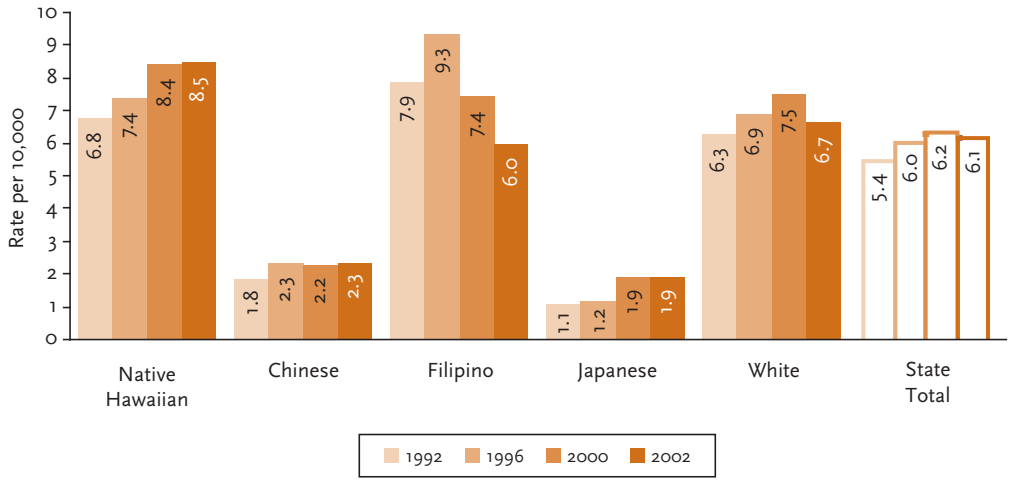
6. Population estimates and ethnic breakdowns are based on those provided in the State of Hawai'i Data Book series published by the Hawai'i Department of Business, Economic Development, and Tourism. Data for the years for which no population figures were published (i.e., 1991, 1993, 1994, 1995, and 1997) were estimated based on the assumption of linear population growth. For example, to estimate the 1991 population, we split the difference between figures published for 1990 and 1992 and added that amount to the 1990 figure. The resulting 1991 estimate was therefore equally spaced between the 1990 and 1992 figures.

FIGURE 2.26 Combined juvenile and adult rates of arrest for violent crimes [three-year averages, by race/ethnicity, state of Hawai'i, selected years]



Data sources: Hawai'i Department of the Attorney General 1991 to 2003; Hawai'i Department of Business, Economic Development, and Tourism 1991 to 2003.

FIGURE 2.27 Combined juvenile and adult rates of arrest for aggravated assault [three-year averages, by race/ethnicity, state of Hawai'i, selected years]



Data sources: Hawai'i Department of the Attorney General 1991 to 2003; Hawai'i Department of Business, Economic Development, and Tourism 1991 to 2003.

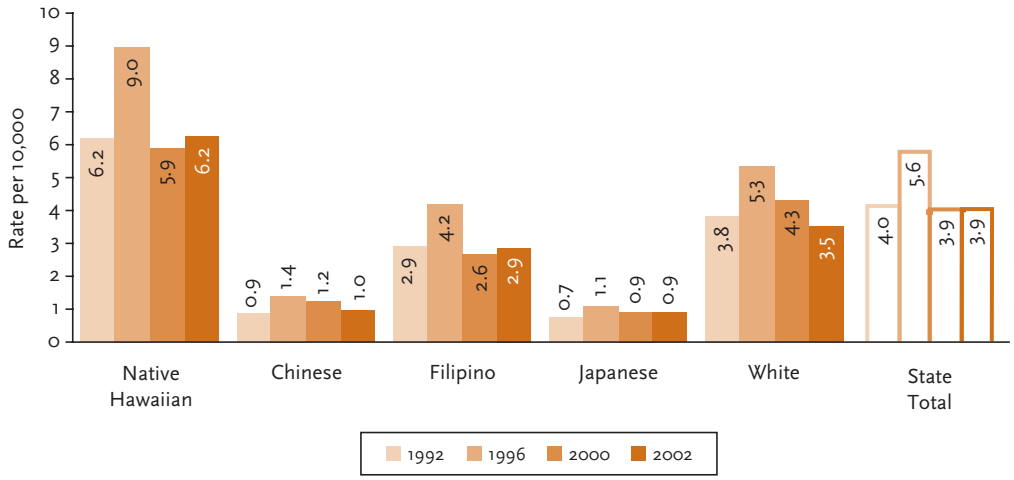
Between 1992 and 1996, the robbery arrest rate among Native Hawaiians increased by almost 50 percent. Since 1996 the rate, based on three-year averages, has decreased significantly. However, robbery arrest rates among Native Hawaiians were still consistently higher than those of all other major ethnic groups in the state (Figure 2.28).

- In the early to mid-1990s, robbery arrest rates among Native Hawaiian increased from a three-year average of 6.2 per ten thousand Hawaiians in 1992 to 9.0 per ten thousand in 1996. This growth was mirrored over the same period by smaller but marked increases among Whites and Filipinos.
- Compared with other major ethnic groups, Native Hawaiians have consistently had the highest rates of robbery arrests in the state. In 1996, Native Hawaiian robbery arrest rates exceeded statewide rates by more than 60 percent.
- Most recently (2002), the robbery arrest rate among Native Hawaiians was 59.0 percent higher than the statewide rate (6.2 arrests per ten thousand compared with 3.9 arrests per ten thousand, respectively).

In recent years the crystal methamphetamine ("ice") problem has commanded public attention and significant public resources. Consistent with statewide trends, the Native Hawaiian arrest rate for drug manufacturing or sales, averaged across three years, has declined slightly since a surge in the mid-1990s (Figure 2.29).

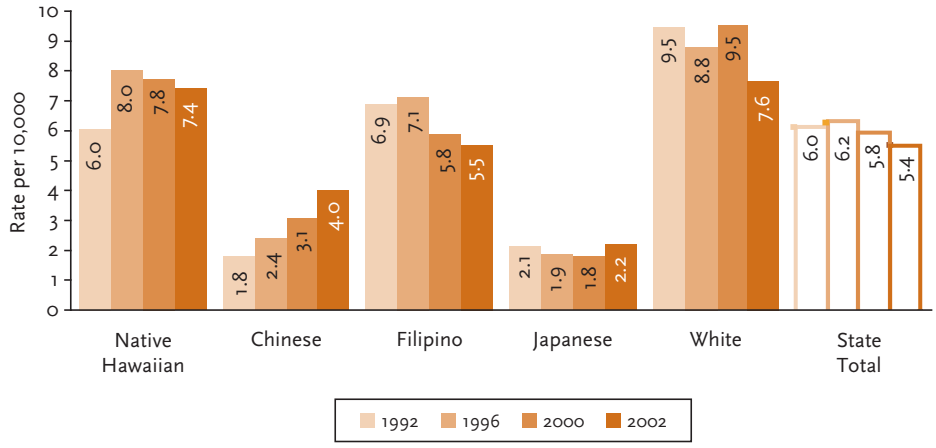
- In the mid-1990s, the prevalence of drug manufacturing/sales arrests among Native Hawaiians increased by 33.3 percent, from a three-year average of 6.0 per ten thousand Hawaiians in 1992 to 8.0 per ten thousand in 1996.
- Since the mid-1990s, arrest rates among Native Hawaiians for drug manufacturing and sales decreased by 7.5 percent from 8.0 arrests per ten thousand Hawaiians in 1996 to 7.4 arrests per ten thousand in 2002. Over the same period, the statewide rate decreased by 12.9 percent, from 6.2 to 5.4 per ten thousand.
- In 2002, the three-year averaged arrest rate for drug manufacturing or sales among Native Hawaiians was 7.4 per ten thousand—37.0 percent higher than the statewide rate of 5.4 per ten thousand.
- Throughout the ten-year period between 1992 and 2002, Whites have consistently had the highest rates of arrest for drug manufacturing/sales among the major ethnic groups in the state. However, Kassebaum (1981, 1994) reports that Whites arrested for criminal offenses are less likely to be incarcerated for their crimes than are their Native Hawaiian counterparts.

FIGURE 2.28 Combined juvenile and adult rates of arrest for robbery [three-year averages, by race/ethnicity, state of Hawai'i, selected years]



Data sources: Hawai'i Department of the Attorney General 1991 to 2003; Hawai'i Department of Business, Economic Development, and Tourism 1991 to 2003.

FIGURE 2.29 Combined juvenile and adult rates of arrest for drug manufacturing or sales [three-year averages, by race/ethnicity, state of Hawai'i, selected years]



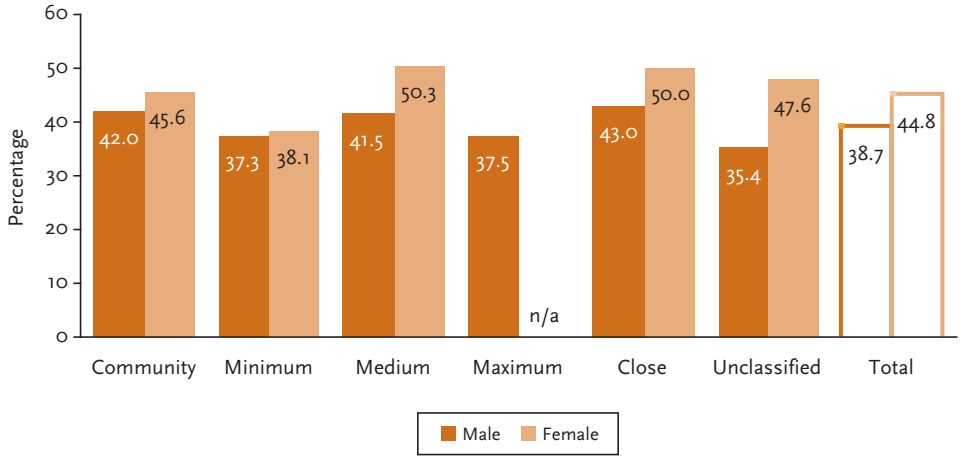
Data sources: Hawai'i Department of the Attorney General 1991 to 2003; Hawai'i Department of Business, Economic Development, and Tourism 1991 to 2003.

Incarceration

Native Hawaiians constitute the largest share of the state's adult incarcerated population. The overrepresentation of Native Hawaiians in the state's prison system is consistent across both genders and all levels of security classification (Figure 2.30).

- In 2002, Native Hawaiian men constituted between 35.4 percent and 43.0 percent of each security class.
- Among female inmates, Native Hawaiians constituted between 38.1 percent and 50.3 percent of each security class.

FIGURE 2.30 Native Hawaiians as a percentage of all state prison inmates [by security classification, by sex, state of Hawai'i, 2002]



Data source: Hawai'i Department of Public Safety 2002.

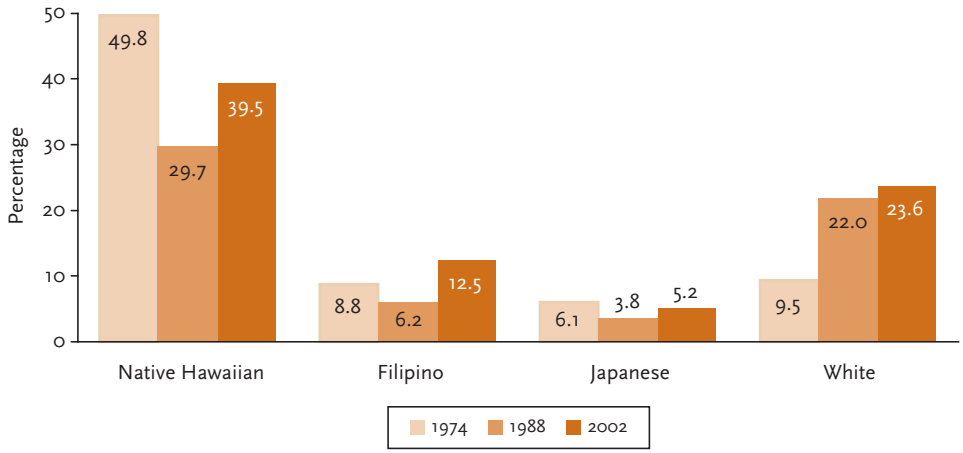
In 2002, fully 39.5 percent of both male and female inmates identified themselves as Native Hawaiian (Figure 2.31), compared with approximately 20 percent in the state population. Whites, the second-largest group in Hawai'i's correctional facilities, accounted for just 23.6 percent of the incarcerated population—roughly proportionate to their representation in the general population (22.9 percent).[7]

Over the past thirty years, Native Hawaiians have made some progress with regard to representation in correctional facilities.

- In 2002, Native Hawaiians accounted for almost four of every ten inmates (39.5 percent) in the state's incarcerated population.
- Although the current representation of Native Hawaiians in correctional facilities indicates an increase from the late 1980s (39.5 percent versus 29.7 percent), it is still significantly lower than figures from the mid-1970s (49.8 percent).

7. This estimate of the White population is based on the number of individuals in Census 2000 who identified themselves as non-Hispanic and claimed White as their only race or ethnicity.

FIGURE 2.31 Racial/ethnic distribution of the incarcerated population [by race/ethnicity, state of Hawai'i, selected years]



Sources: Hawai'i Department of Corrections 1988; Hawai'i State Intake Service Centers 1975.
Data source: Hawai'i Department of Public Safety 2002.
Note: Data on Chinese inmates are not available.

MATERIAL AND ECONOMIC WELL-BEING

Economic factors and financial capabilities have a significant effect on the educational outcomes of children (Chevalier and Lanot 2002; Duncan et al. 1998; Yeung, Linver, and Brooks-Gunn 2002) and the postsecondary educational choices of young adults (Beattie 2002; Conley 2001). Limited family income may hinder children's access to critical learning resources (e.g., books and computers) and stimulating materials and activities (e.g., visits to the museum or aquarium). Financial hardships may also have an indirect impact on children because of the strained parental interactions that often accompany economic distress and the decrease in quality family time necessitated by many low-income parents' long work hours (Conger et al. 1992; Conger, Rueter, and Conger 2000; Jackson et al. 2000; McLoyd 1989, 1990; Yeung, Linver, and Brooks-Gunn 2002).

Financial constraints are also closely related to educational prospects for adults. Increasingly high tuition fees and opportunity costs (e.g., income foregone in favor of class time) may put postsecondary opportunities beyond the reach of otherwise capable students. For young adults, economic constraints appear to play a significant role in postsecondary decisions, as evidenced by the positive effect of financial aid on the postsecondary outcomes of Native Hawaiian students (Hagedorn et al. 2004; Makuakane-Drechsel and Hagedorn 2000). For economically disadvantaged populations, the investment of time and money may be too great, making the pursuit of postsecondary education unfeasible.

Educational difficulties associated with financial constraints may be especially poignant in the state of Hawai'i, where the high cost of living undermines the buying power of a family's income (Honolulu 4th in cost of living 2005; Navy Region Hawai'i n.d.; State of Hawai'i, Executive Office on Aging n.d.).

Judging by Western measures, the socioeconomic status of the Native Hawaiian population as a whole is well below state averages, with high rates of poverty, unemployment, and public assistance usage, as well as low earnings and low rates of homeownership. However, the growing success of Native Hawaiian educational initiatives (see Part Five later in this report) suggests the potential for greater economic gains among future generations of Native Hawaiians.

This section demonstrates that while current income may affect the postsecondary educational opportunities available to Native Hawaiian adults, the decision to pursue a postsecondary education has a significant effect on an individual's future earnings potential. In fact, data presented in the following section show that, within the state of Hawai'i, the earnings benefit associated with a college education is higher among Native Hawaiians than it is among other major ethnic groups. These findings highlight the cyclical and mutually dependent relationship between educational and material well-being, suggesting that economic forecasts for the Native Hawaiian population are closely tied to its educational future.

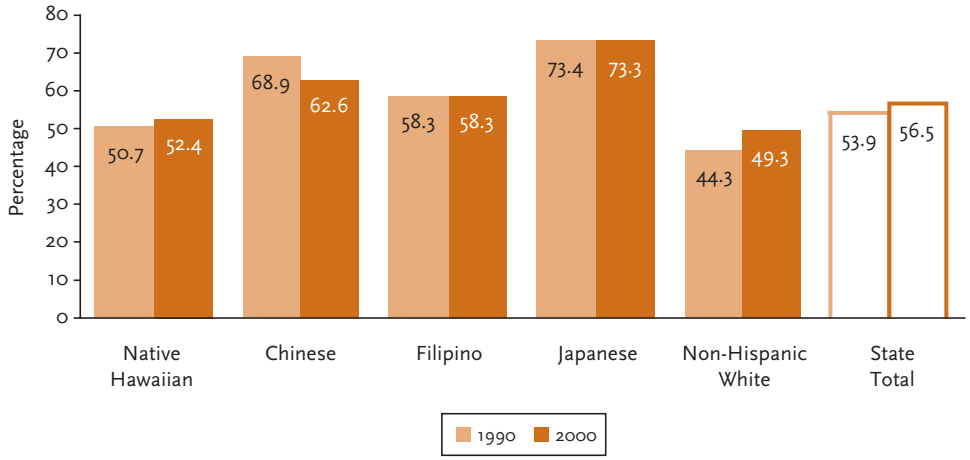
Homeownership

Home and landownership are common indicators of material well-being that represent current financial status as well as future investment potential. On the whole, the homeownership rate among Native Hawaiians is lower than the state rate (Figure 2.32).

- In both 1990 and 2000, slightly more than half of all housing units headed by Native Hawaiians were owned by an individual residing in the household (50.7 percent and 52.4 percent, respectively).
- Although the homeownership rate among Native Hawaiians has increased slightly since 1990, Native Hawaiians still had the lowest rate of homeownership among the state's major ethnic groups in 2000 (with the exception of non-Hispanic Whites, a disproportionately high number of whom are transitional military families).

The comparatively low rates of homeownership throughout the state reflect the limited supply and high cost of housing in Hawai'i. The rental market, too, is characterized by inflated prices and low availability (Housing and Community Development Corporation of Hawai'i 2003). The result is that many Native Hawaiians are financially unable to either buy or rent a home within the ancestral homeland.

FIGURE 2.32 Trends in owner-occupied residences as a percentage of all occupied housing units [by race/ethnicity, state of Hawai'i, 1990 and 2000]



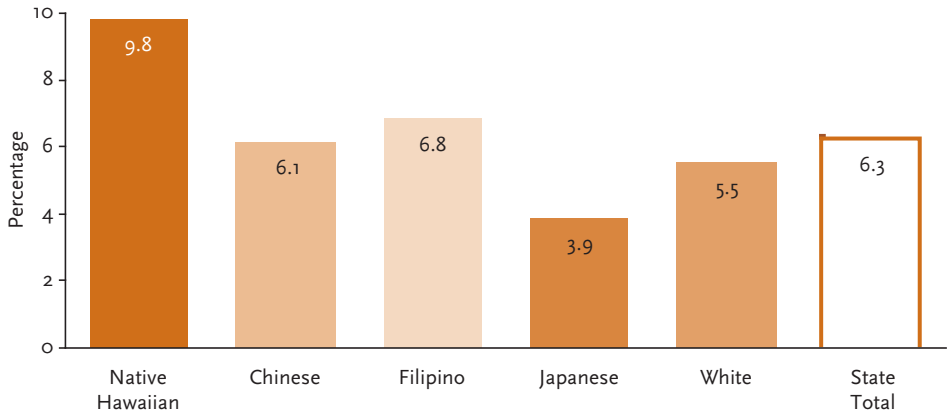
Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 2.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Employment and Occupation

Employment is a basic measure of material and economic well-being. For the vast majority of families, jobs are the primary source of income and financial support. Socioeconomic data from Census 2000 show that Native Hawaiians had the highest rate of unemployment among the major ethnic groups in the state (Figure 2.33).

- Approximately one in ten Native Hawaiians (9.8 percent) was unemployed, compared with a statewide rate of 6.3 percent.
- Native Hawaiian males were more likely to be unemployed than were Native Hawaiian females (10.7 percent versus 8.8 percent), but both groups had higher unemployment rates than did their non-Hawaiian counterparts (not shown). The statewide unemployment rate was 6.8 percent for males and 5.6 percent for females.

FIGURE 2.33 Unemployment rates* [individuals ages 16 and older in the civilian labor force, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 4.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

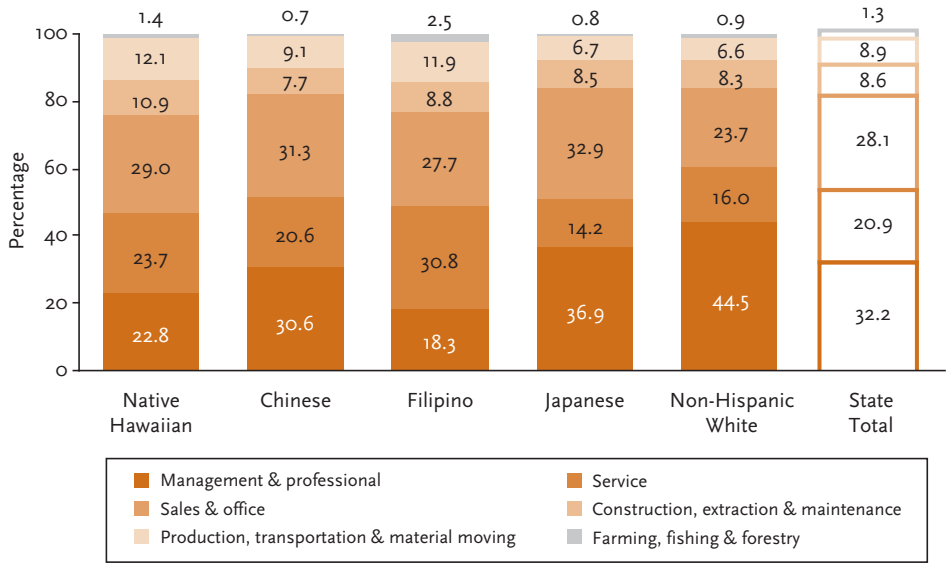
* The unemployment rate is the percentage of the civilian labor force that is currently unemployed. Those who are "unemployed" are individuals who are jobless but actively seeking employment. Individuals who do not work and are not looking for work (retirees, students, homemakers, etc.) are considered "not in the labor force" and therefore are excluded from unemployment rate calculations.

Occupation types are another indicator of economic well-being. Figure 2.34 shows that in 2000, Native Hawaiians were underrepresented in managerial and professional occupations and overrepresented in construction/transportation/manufacturing job categories.

It is important to note that while postsecondary degrees and managerial or professional positions are correlated with higher earnings and occupational prestige (Bills 2003; Day and Newburger 2002; Kerckhoff 2001; Kerckhoff, Campbell, and Trott 1982; Perna 2003; Sewell, Haller, and Hauster 1972; Sewell, Haller, and Ohlendorf 1970; Sewell, Haller, and Portes 1969), many skilled laborers—such as electricians and stevedores—earn relatively high wages and experience high levels of job security. However, most jobs in these sectors are entry-level positions with low wages.

- Native Hawaiians were half as likely to be employed in a managerial or professional position as were non-Hispanic Whites (22.8 percent versus 44.5 percent).
- Among the major ethnic groups, only Filipinos were less likely than Native Hawaiians to work in a managerial or professional capacity (18.3 percent versus 22.8 percent).
- Compared with other major ethnic groups, Native Hawaiians were most likely to be employed in construction, extraction, and maintenance positions and in production, transportation, and material-moving occupations.

FIGURE 2.34 Occupational distribution of the civilian labor force [percentage distribution, by race/ethnicity, by type of occupation, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Income

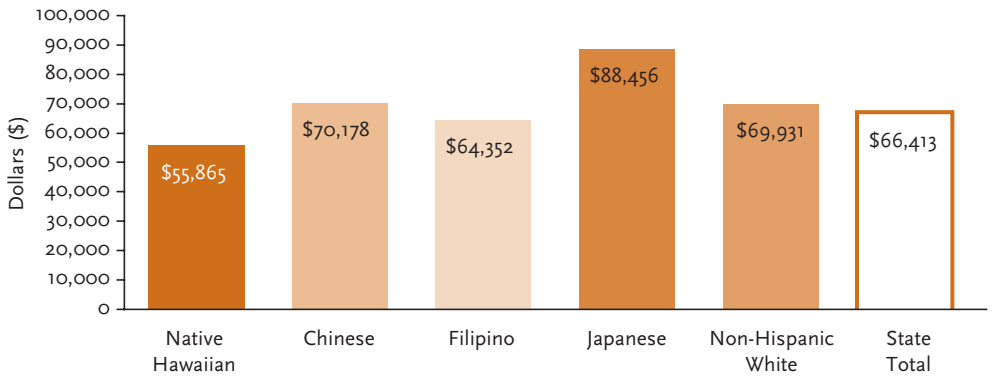
Not surprisingly, high unemployment rates and low-paying occupations among Native Hawaiians in the workforce contribute to socioeconomic inequities and financial hardship in Native Hawaiian homes and communities. Figure 2.35 shows that Native Hawaiians had the lowest mean family income of all major ethnic groups in the state.

- The mean income of $55,865 for Native Hawaiian families with minor children was 15.9 percent lower than the statewide average of $66,413.
- The mean income among Japanese families with children ($88,456) exceeded the Native Hawaiian mean income by 58.3 percent.
- Owing to the slightly larger average family size among Native Hawaiians, differences in per capita income were more salient. The per capita income for Native Hawaiians ($14,199) was the lowest among the major ethnic groups in the state—less than half that of non-Hispanic Whites ($30,199) and almost 35 percent lower than the statewide figure ($21,525).[8]

Low levels of income in the Native Hawaiian population underscore the challenges associated with earning a living wage, especially for working families with children.

8. Per capita income statistics for the other major ethnic groups in the state are as follows: $18,534 among Chinese; $14,313 among Filipinos; and $24,123 among Japanese.

FIGURE 2.35 Mean family income of families with children [families with children under 18, by race/ethnicity, state of Hawai'i, 1999]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Poverty

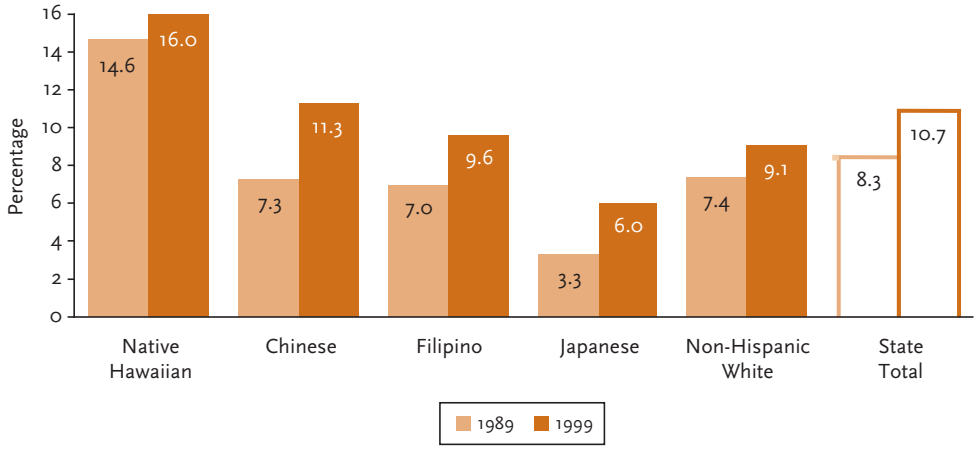
Each year the U.S. Census Bureau issues poverty thresholds that specify the minimum income levels needed to sustain families of different sizes. In principle, individuals and families with incomes below their respective poverty threshold are financially incapable of providing for their own basic needs. In fact, because poverty thresholds are set so low, it is common practice to use a multiple of the poverty threshold to identify individuals and families with financial need. For example, many public assistance programs use 185 percent of the federal government's poverty guidelines—which are based on the U.S. Census Bureau's poverty thresholds—to define financial need. This means that simple poverty rates tend to underestimate the level of need in a population, particularly in areas like the state of Hawai'i, where the cost of living is disproportionately high (Honolulu 4th in cost of living 2005; Navy Region Hawai'i n.d.; State of Hawai'i, Executive Office on Aging n.d.). Although the federal government adjusts its own poverty guidelines for Hawai'i to reflect the higher cost of living island residents face, Census 2000 poverty rates for Hawai'i are based on the unadjusted poverty thresholds for the continental United States and therefore underestimate actual need.[9]

Based on the conservative Census 2000 definition, Native Hawaiians had the highest percentage of individuals living below the poverty threshold, compared with other major ethnic groups in Hawai'i (Figure 2.36).

- As of 1999, more than one of every six Native Hawaiians (16.0 percent) had incomes below the poverty line, compared with 10.7 percent of the total state population.
- Over a ten-year span, the proportion of Native Hawaiians in poverty increased 1.4 percentage points, from 14.6 percent in 1989 to 16.0 percent in 1999.

9. For a family of four, the U.S. Census Bureau's poverty threshold in 2000 was approximately $17,500, while the Hawai'i-specific poverty guideline was about $19,500. The common standard for public assistance eligibility—185 percent of the federal poverty guidelines—was approximately $36,000 for Hawai'i.

FIGURE 2.36 Trends in individuals living in poverty as a percentage of all individuals [by race/ethnicity, state of Hawai'i, 1989 and 1999]

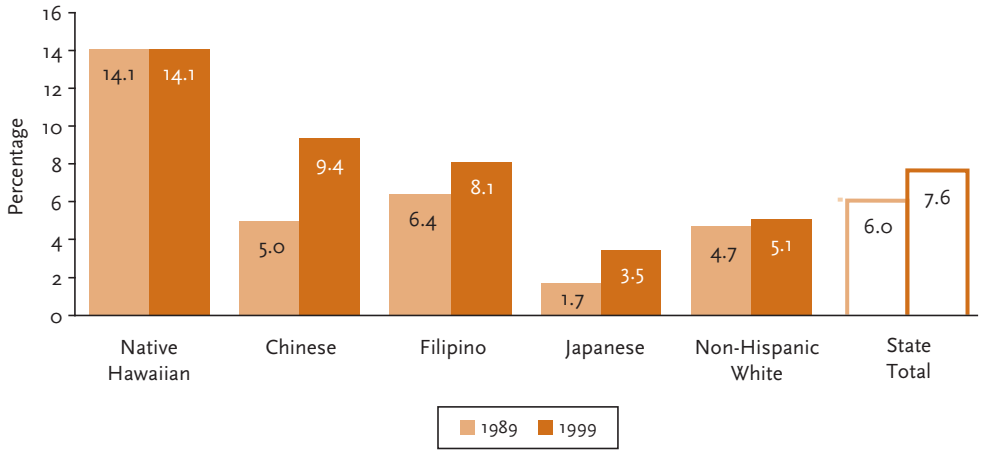


Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Trend data on family poverty rates follow similar patterns. In both 1989 and 1999, Native Hawaiians had the highest family poverty rates among the state's major ethnic groups (Figure 2.37).

- Roughly one in seven Native Hawaiian families (14.1 percent) lived in poverty.
- The family poverty rate among Native Hawaiians was more than double the statewide rate in 1989 and more than 85 percent higher than the statewide rate in 1999.

FIGURE 2.37 Trends in families living in poverty as a percentage of all families [by race/ethnicity, state of Hawai'i, 1989 and 1999]

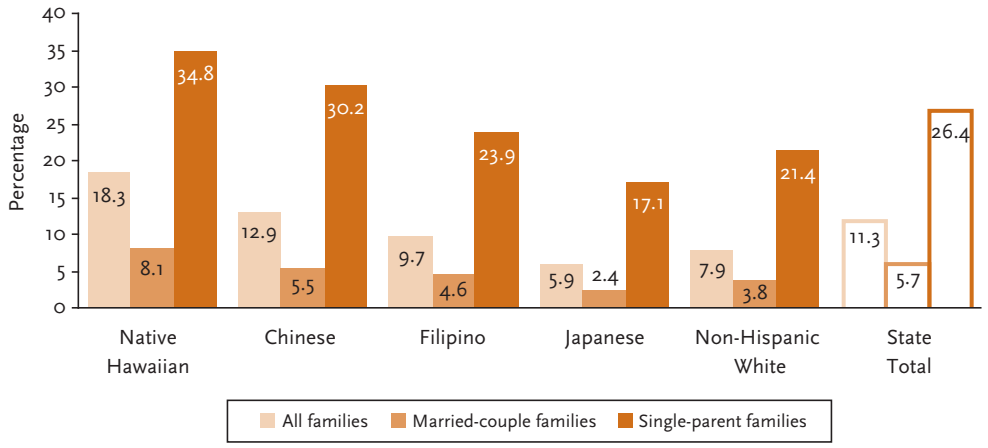


Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

The financial challenges among Native Hawaiian families are not entirely a product of labor market inequities. Figure 2.38 highlights the effect of household structure on the financial circumstances of families with children and illustrates the close relationship between social well-being and material well-being. For example, poverty is far more common among single-parent households, regardless of ethnicity.

- More than one in three families headed by a Native Hawaiian single parent (34.8 percent) fell below the poverty threshold. Statewide, the same held true for more than one in four single-parent families (26.4 percent).
- Among Native Hawaiians, single-parent families were more than four times as likely to live in poverty as were married-couple families.

FIGURE 2.38 Families living in poverty as a percentage of all families with children, selected family types [families with children younger than 18, by family type, by race/ethnicity, state of Hawai'i, 1999]



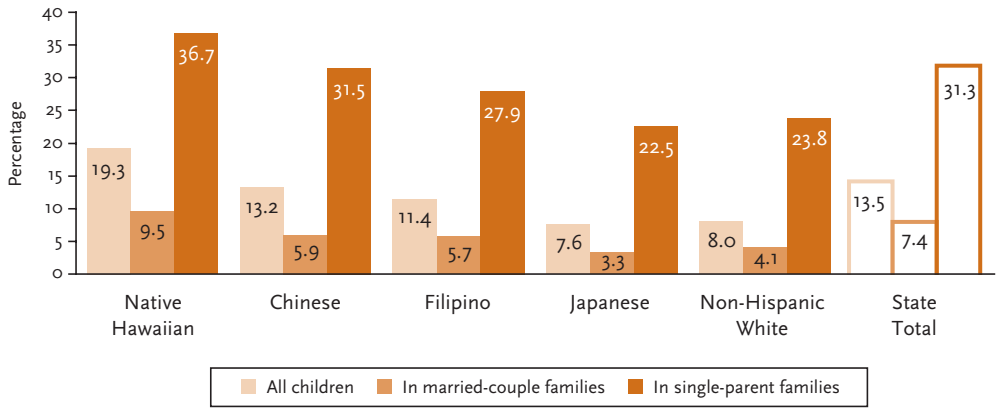
Data source: U.S. Census 2000, Summary File 4.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Figure 2.39 illustrates the effect of family poverty on children, showing that children in single-parent homes bear a disproportionately high burden.

- About one of every three Native Hawaiian children in single-parent families (36.7 percent) fell below the poverty threshold. This stands in sharp contrast to single-parent children in Japanese and non-Hispanic White households, where fewer than one of every four children lived in a family whose income was below the poverty threshold.
- Compared with children in married-couple families, Native Hawaiian children in single-parent families were almost four times more likely to fall below the poverty line.

FIGURE 2.39 Children living in poverty as a percentage of all children in selected family types [children younger than 18, by family type, by race/ethnicity, state of Hawai'i, 1999]



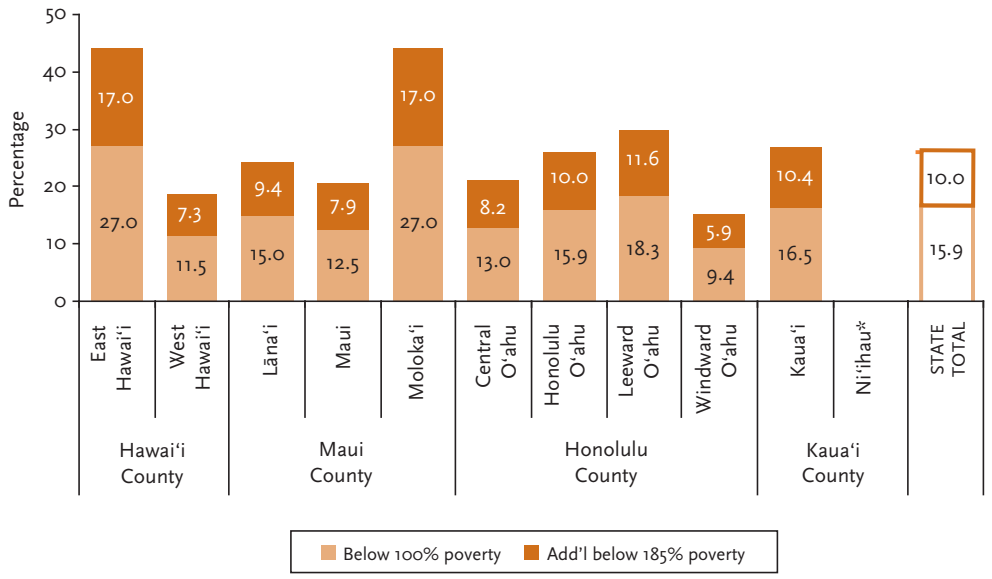
Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Another factor that may affect poverty rates in Hawai'i is the region of residence. The population of Hawai'i is widely dispersed across a chain of physically, demographically, and socioeconomically distinct islands, each with a diverse mix of communities. The areas where families reside affect access to jobs and industries, the cost of housing, transportation, and the availability of support services, all of which may, in turn, influence the family's financial situation and prospects.

Figure 2.40 illustrates the regional concentration of poverty among Native Hawaiians.[10] Because poverty thresholds are an overly conservative estimate of need, the figure shows the percentage of Native Hawaiians in 2000 who fell below 100 percent of the poverty threshold as well as those who fell below 185 percent of the poverty threshold.[11]

- In 1999, roughly one in six Native Hawaiians in the state (15.9 percent) lived in poverty.
- About one in four Native Hawaiians (25.9 percent) had incomes below 185 percent of the poverty threshold.
- Poverty among Native Hawaiians was highest on the island of Moloka'i and in the eastern half of Hawai'i Island. In both regions, more than one in four Native Hawaiians (27.0 percent) were living in poverty, and more than two in five (44.0 percent) had incomes below 185 percent of the poverty threshold.
- Native Hawaiian poverty rates were lowest in Windward O'ahu, where 9.4 percent of Native Hawaiians lived below poverty and 15.3 percent lived below the 185 percent poverty threshold.

FIGURE 2.40 Native Hawaiian individuals living in poverty as a percentage of total Native Hawaiian population
[by poverty threshold, by geographic regions, state of Hawai'i, 1999]



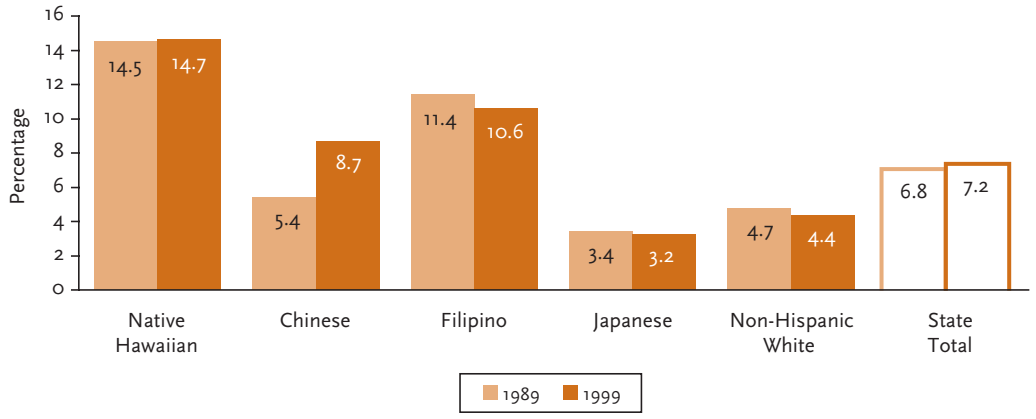
Data source: Kamehameha Schools, Aloha Counts 2003.
Note: Poverty statistics presented here are estimates based on rounded sample data and may differ slightly from poverty statistics cited directly from Census products.
* Data for Ni'ihau are not available.

10. For population sizes within each geographic area, refer to Table 1.3.
11. Because the cost of living is so high in Hawai'i, even a standard such as 185 percent of the poverty threshold may be inadequate for capturing the full extent of need within the state. In 2000, income levels for a family of four at 185 percent of the Hawai'i-specific poverty guidelines exceeded comparable figures at 185 percent of the poverty threshold by more than 10 percent.

Government programs that provide assistance to low-income individuals and families, such as Temporary Assistance to Needy Families (TANF) and the federal food stamps program, form an important network of social support for vulnerable members of society. Figure 2.41 shows the disproportionately high need for public assistance among Native Hawaiian families.

- In both 1989 and 1999, the rates of public assistance use among Native Hawaiian households were twice the statewide rates.
- Although more than 25 percent of Native Hawaiians in the state qualified for low-income assistance programs in 1999 (see State Total column in Figure 2.40), just 14.7 percent of Native Hawaiian households reported receiving public assistance.

FIGURE 2.41 Trends in households receiving public assistance as a percentage of all households [by race/ethnicity, state of Hawai'i, 1989 and 1999]



Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

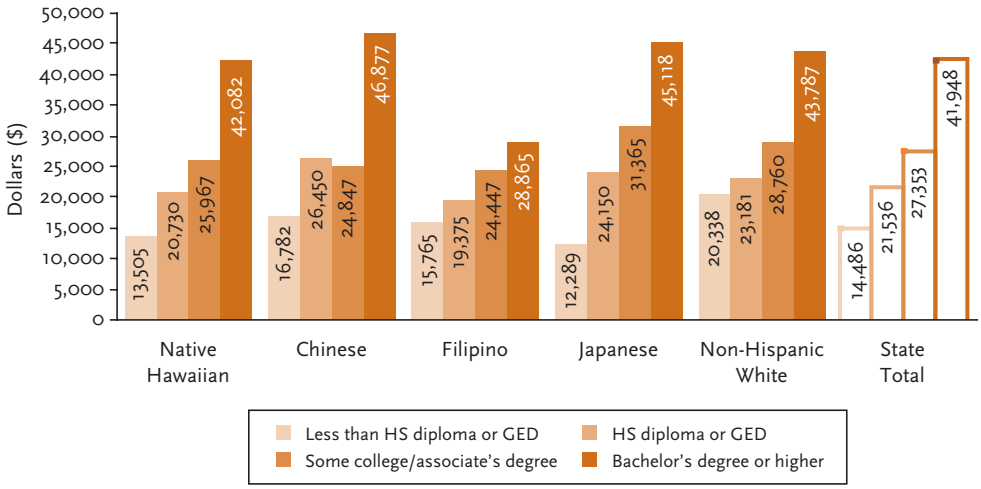
Earnings and Educational Attainment

The discussion of material and economic well-being among Native Hawaiians has thus far depicted ongoing hardships and inequities in terms of homeownership, employment, and income. Perhaps the greatest prospect for improving material and economic conditions for Native Hawaiian families and keiki lies in the realm of education. Higher educational attainment vastly improves a person's occupational and income profiles. A recent report issued by the U.S. Census Bureau found that both the annual and lifetime earnings of full-time workers increased substantially with each additional degree earned, with the exception of a doctorate (Day and Newburger 2002).

Figure 2.42 shows that earnings increase with higher levels of educational attainment across all major ethnic groups in the state.

- For Native Hawaiians living in the state of Hawai'i in 2000, the value of a college degree over a high school degree was $21,352.
- Native Hawaiian college graduates earned slightly more, on average, than the average college graduate statewide ($42,082 versus $41,948).
- The earnings benefit of a college education over a high school education is highest among Native Hawaiians. Native Hawaiians with a bachelor's degree or higher earn, on average, more than twice as much (103.0 percent) as do Native Hawaiians with a high school diploma.

FIGURE 2.42 Average annual earnings for selected educational attainment levels [adults 25 and older, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

PHYSICAL WELL-BEING

Physical well-being has a significant impact on educational opportunities and outcomes. For example, terminal illness or death in a home may affect the quality of family interactions and may distract children from their own growth and learning. Research shows that children who have suffered the loss of a family member are more anxious and perform more poorly in school compared with their peers (Abdelnoor and Hollins 2004; Bedell 1972; Van Eerdewegh et al. 1982). Among adults who suffer from health problems, postsecondary studies may not be feasible because of chronic illness, the costs associated with medical care, and limits on time and energy.

The Native Hawaiian community has disproportionately high rates of mortality, terminal disease, and chronic illness. Among the major ethnic groups in the state, Native Hawaiians have the highest mortality rates for heart disease, cancer, and diabetes, and the lowest life expectancy (Blaisdell 1993a; Look and Braun 1995).

Behavioral risk factors may contribute to poor health outcomes within the Native Hawaiian population. Among the major ethnic groups in the state, Native Hawaiians have the highest rates of obesity and smoking. Although these conditions are largely preventable through lifestyle choices, both obesity and smoking greatly increase the risk of chronic and terminal illness (National Institutes of Health, National Heart, Lung, and Blood Institute 1998; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention 2002, 2004). Further, unhealthy habits such as smoking and poor diet may be passed from parent to child, resulting in an intergenerational cycle of suboptimal physical well-being.

External factors such as access to and utilization of health care also play a critical role in Native Hawaiian health. The analysis in this section shows that over the past decade, the percentage of Native Hawaiians without health insurance has been among the highest in the state. And Native Hawaiians are more likely than non-Hawaiians to rely on government programs (e.g., Medicaid) for medical coverage. These findings reflect a troubling reality about the availability of health care to Native Hawaiians and the choices that Native Hawaiian families must make under such constraints. Native Hawaiians are less likely than non-Hawaiians to receive routine health checkups and more likely to defer medical treatment for financial reasons. The implications of limited health care access are grave: For many diseases, early diagnosis may mean the difference between life and death.

A growing number of federal and local programs are targeting racial and ethnic disparities in physical health and seeking to address their underlying causes (Institute of Medicine of the National Academies 2002; U.S. General Accounting Office 2003). To date, socioeconomic status has been found to be the most robust predictor of health status. Socioeconomically disadvantaged individuals are less likely to be covered by health insurance and more likely to engage in behaviors that put their health at risk (Brunner et al. 1999; Lantz et al. 1998; Osler 1993; Paavola, Vartiainen, and Haukkala 2004). Throughout the world, however, education is recognized as an important means of mitigating health disparities, increasing knowledge about nutrition, preventive care, and healthy lifestyles among disadvantaged populations, and addressing the socioeconomic inequities that otherwise limit access to health services (Lantz et al. 1998; Liu et al. 1982; Wagenknecht et al. 1990; Winkleby, Fortmann, and Barrett 1990). Understanding the connections between physical, economic, and educational well-being, therefore, is an important step toward improved Native Hawaiian health.

Life Expectancy

Native Hawaiians are statistically at greater risk for health problems than are non-Hawaiians and, according to Braun et al. (1996), have the lowest life expectancy among the major ethnic groups in the state. Statistics compiled by the Hawai'i Department of Business, Economic Development, and Tourism (2003) show that Native Hawaiians have had comparatively low life expectancy for at least the past fifty years but that significant improvements have been achieved over time (Figure 2.43).

- Between 1950 and 1990, life expectancy among Native Hawaiians increased from 62.5 years to 74.3 years—a gain of almost twelve years.
- Although Native Hawaiian life expectancy is still the lowest of the major ethnic groups in the state, the gap between Native Hawaiians and the state average has decreased from 7.0 years in 1950 to 4.6 years in 1990.

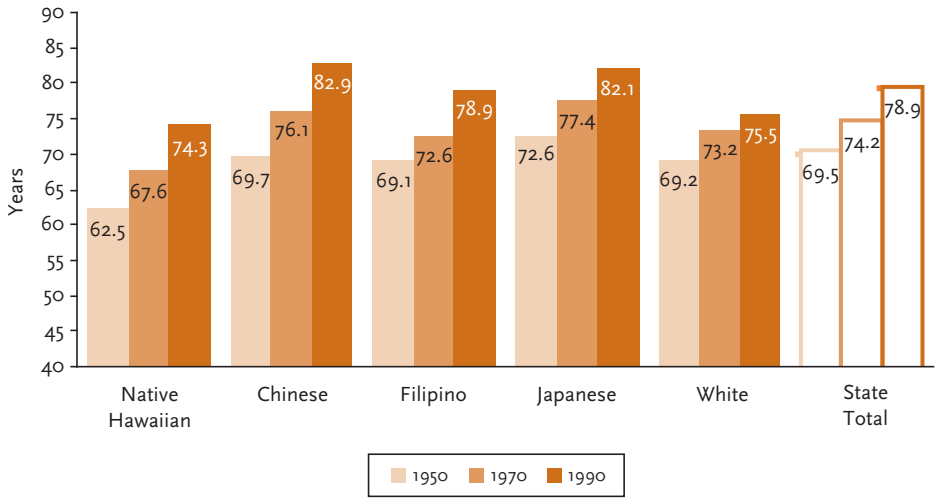
Quality of Life

Quality of life is an important factor to consider alongside longevity. According to Census data, 16.6 percent of the total Native Hawaiian population in 2000 suffered from at least one type of disability (not shown). This rate is comparable with that of other groups and falls below the statewide disability average (18.4 percent). Analysis of these data by age, however, reveals that Native Hawaiians are disproportionately represented among the elderly disabled population (Figure 2.44).

- In 2000, nearly half (46.0 percent) of all Native Hawaiians sixty-five years and older suffered from some form of disability.
- Among the senior population of the state's major ethnic groups, Native Hawaiian kūpuna were the most likely to live with multiple disabilities. Almost one in four (24.8 percent) reported two or more disabilities.

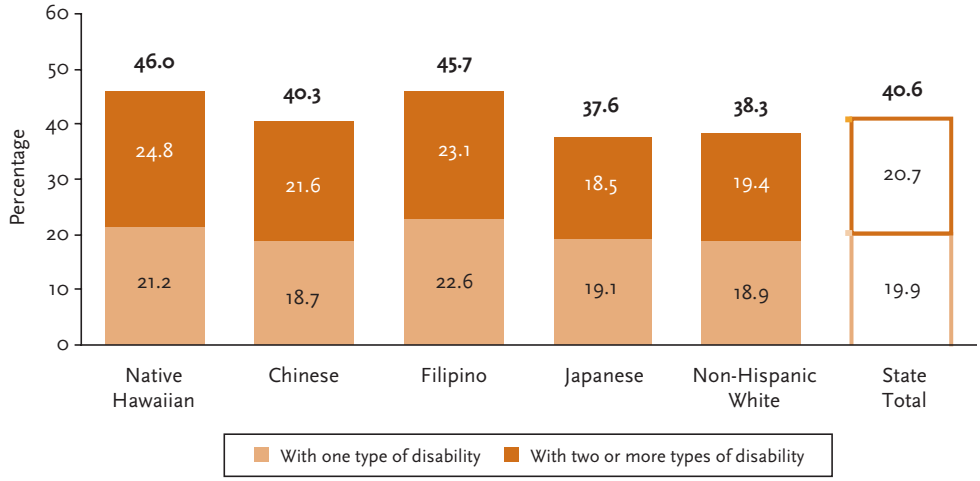
These figures, combined with findings of low life expectancy among Native Hawaiians, suggest the need for ongoing interventions to help improve the quality of life for Native Hawaiian seniors.

FIGURE 2.43 Trends in average life expectancy [by race/ethnicity, state of Hawai'i, selected years]



Data source: Hawai'i Department of Business, Economic Development and Tourism 2003.

FIGURE 2.44 Disabled individuals as a percentage of the elderly population [adults 65 years and older, by race/ethnicity, by number of disabilities, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Risk Factors and Behaviors

The high rates of chronic and terminal diseases among Native Hawaiian adults (see "Mortality and Morbidity" later in this section) may be partly explained by the prevalence of risk factors such as obesity and smoking within the population. Although both conditions largely reflect external behaviors and lifestyle choices, obesity and smoking may aggravate existing health problems and increase the risk of developing life-threatening illnesses such as heart disease, cancer, and diabetes (National Institutes of Health, National Heart, Lung, and Blood Institute 1998; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention 2002, 2004). Furthermore, smoking among adults—as well as the behaviors that contribute to adult weight problems, such as poor diet and lack of exercise—may adversely affect the lifestyle choices adopted by children, meaning that poor health habits are passed on from one generation to the next (Milton, Cook et al. 2004; Vitaro et al. 2004; Wickrama et al. 1999).

Else (2004) argues that the prevalence of obesity and related health problems within the Hawaiian community reflects the disconnection of Native Hawaiians from cultural traditions (e.g., the adoption of an unhealthy Western diet). This research suggests that the problem of health risk behaviors in the Native Hawaiian population must be framed within the context of its social and historical roots.

Weight Problems and Obesity

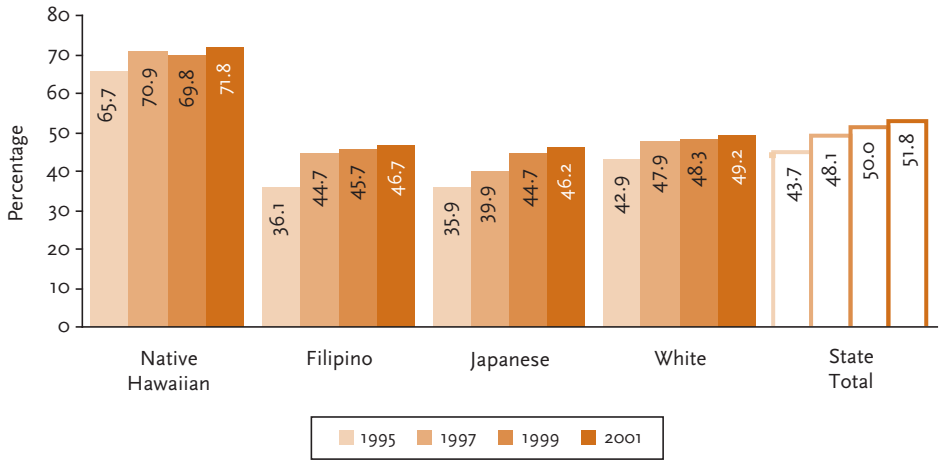
Data from the Hawai'i Department of Health's Behavior Risk Factor Surveillance System (BRFSS) indicate that Native Hawaiians are significantly more likely to be overweight or obese than are other ethnic groups. Figure 2.45 shows rates of overweight and obesity among Native Hawaiian adults, averaged across three-year intervals.

- Between 1995 and 2001, the prevalence of weight problems and obesity among Native Hawaiians, based on three-year averages, was consistently about 20 percentage points higher than the statewide rate.
- In 2001, almost three out of every four Native Hawaiian adults (71.8 percent) were overweight or obese, compared with one in two adults (51.8 percent) in the total population.

Smoking

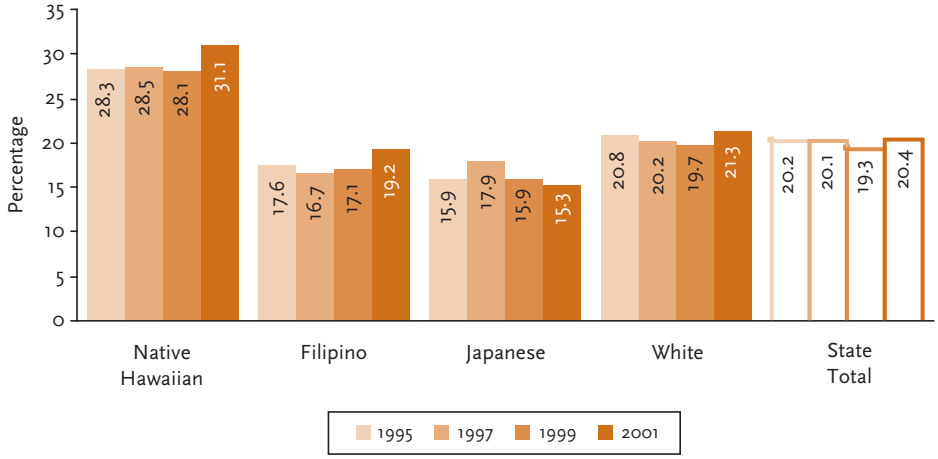
Cigarette smoking is significantly more common among Native Hawaiians than in the general population. Smoking not only involves serious health risks for adults but may also negatively affect children's development and behavior. Children exposed to high levels of secondhand smoke were found to score significantly lower than their peers on standardized measures of math and reading and on two widely used reasoning tests (Yolton et al. 2005). In addition, research shows that children whose parents smoke are significantly more likely to adopt smoking habits themselves (Milton, Cook et al. 2004; Vitaro et al. 2004).

FIGURE 2.45 Trends in individuals who are overweight or obese* as a percentage of all adults [three-year averages, adults 18 years and older, by race/ethnicity, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, BRFSS 1994 to 2002.
Note: Data for the Chinese population are not available.
* Overweight is defined as a body mass index of 25 to 29.9; obese equates to a body mass index of 30 or higher.

FIGURE 2.46 Trends in individuals who smoke as a percentage of all adults [three-year averages, adults 18 years and older, by race/ethnicity, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, BRFSS 1994 to 2002.
Note: Data for the Chinese population are not available.

According to the BRFSS data, the rates of smoking among Native Hawaiians, averaged across three-year intervals, have increased slightly between 1995 and 2001 and have consistently exceeded statewide rates (Figure 2.46).

- In 2001, almost one in three Native Hawaiian adults (31.1 percent, based on three-year averages) reported being a smoker, compared with one in five (20.4 percent) among the total state population.
- Between 1995 and 2001, the rate of smoking among Native Hawaiian adults has consistently been more than 8 percentage points higher than the statewide rate.
- Although estimates of smoking fluctuate substantially, the three-year averaged rate among Native Hawaiian adults appears to be on the rise, increasing from 28.3 percent in 1995 to 31.1 percent in 2001.

Research suggests that disparities in minority risk behaviors may reflect underlying social problems such as poverty and cultural loss. For example, a significant body of research links health risk factors such as obesity and smoking to socioeconomic status, income, and financial hardship (Crampton et al. 2000; Jeffrey and French 1996; Rahkonen, Laaksone, and Karvonen 2005; Robert and Reither 2004). Together, these findings suggest that interventions should address not only the risk factors that contribute to poor Native Hawaiian health but also the underlying causes of such behaviors.

Mortality and Morbidity

Health data show that, compared with other ethnic groups, Native Hawaiians suffer more frequently from serious illnesses and are more likely to die from specific diseases. Chronic and terminal illnesses not only affect the individual but also take an emotional and financial toll on the entire family. The high prevalence of risk factors discussed above predisposes the Native Hawaiian population to a number of life-threatening health problems. For example, several studies have found that Native Hawaiians have the highest mortality rates for heart disease, cerebrovascular disease, diabetes, and cancer (Braun 2002; Braun et al. 1996).

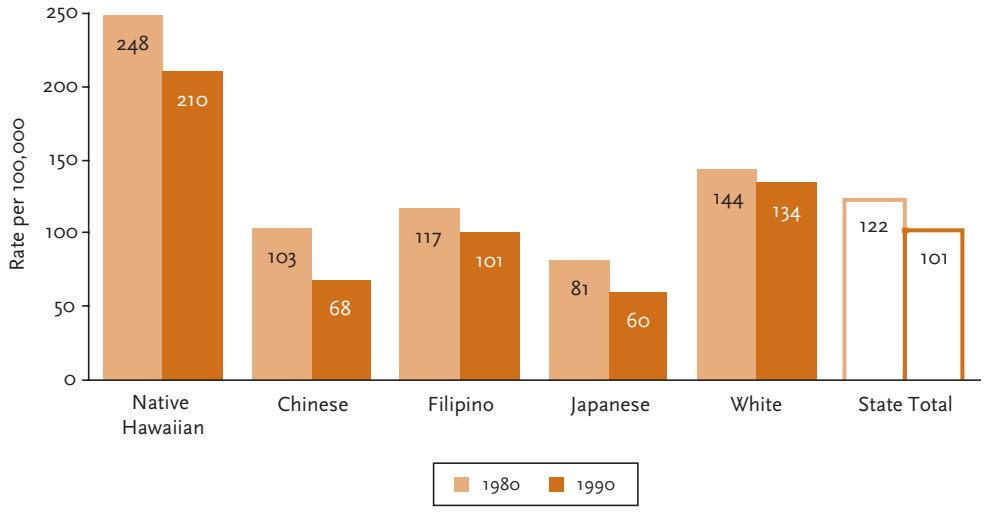
Heart Disease

As shown in Figure 2.47, Native Hawaiians are particularly vulnerable to heart disease. While significant progress in heart disease mortality was achieved in the decade between 1980 and 1990, Native Hawaiian rates remain alarmingly high.[12] These figures suggest an ongoing need to increase public awareness about behavioral factors such as diet and exercise that may reduce the risk of heart disease.

- Over the course of ten years, the heart disease mortality rate among Native Hawaiians decreased by 14.6 percent.
- At 210 deaths per one hundred thousand individuals, the heart disease mortality rate for Native Hawaiians in 1990 was roughly 56 percent greater than that of Whites (the next highest group) and more than twice the statewide rate.

12. Braun and fellow researchers are currently studying mortality rates for the year 2000, but, as of the printing of this report, those findings have not yet been released.

FIGURE 2.47 Trends in heart disease mortality rates [by race/ethnicity, state of Hawai'i, 1980 and 1990]



Source: Braun 2002.

Diabetes

Diabetes, like heart disease, is strongly linked to behavioral factors such as obesity, diet, and exercise (Figure 2.48).

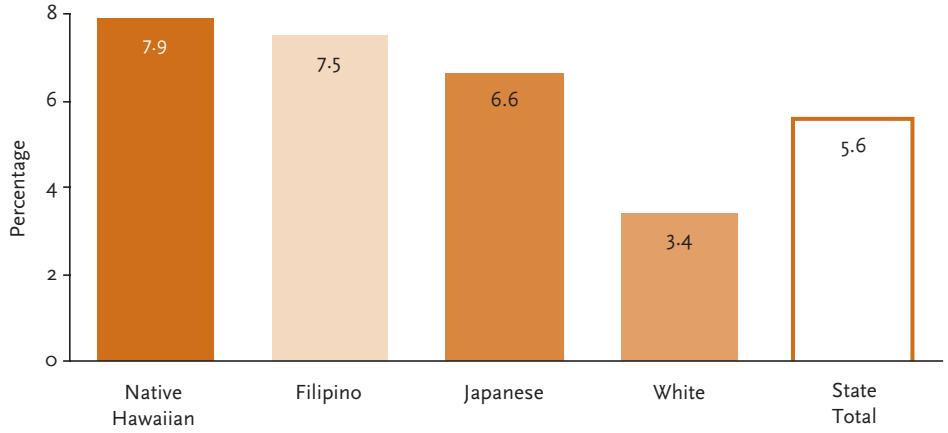
- Between 2000 and 2002, more than one of every thirteen Native Hawaiians (7.9 percent) were diagnosed with diabetes, compared with 5.6 percent of the total state population.
- Native Hawaiians were more than twice as likely as Whites to suffer from diabetes. Prevalence rates among Filipinos and Japanese were also high.

The actual prevalence of diabetes may be significantly higher than the percentage of the population diagnosed with the disease. The U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (2005) estimates that in 2002 more than one-fourth of people who suffered from diabetes were unaware of their illness. Though diabetes can be managed with proper monitoring and care, lack of treatment may aggravate other health conditions and lead to further problems such as blindness and kidney disease.

Health officials distinguish between two types of diabetes-related mortality rates: whether diabetes was the underlying cause of death or if it contributed to the death. Across both measures, Native Hawaiians had the highest mortality rates among the major ethnic groups in the state (Figure 2.49).

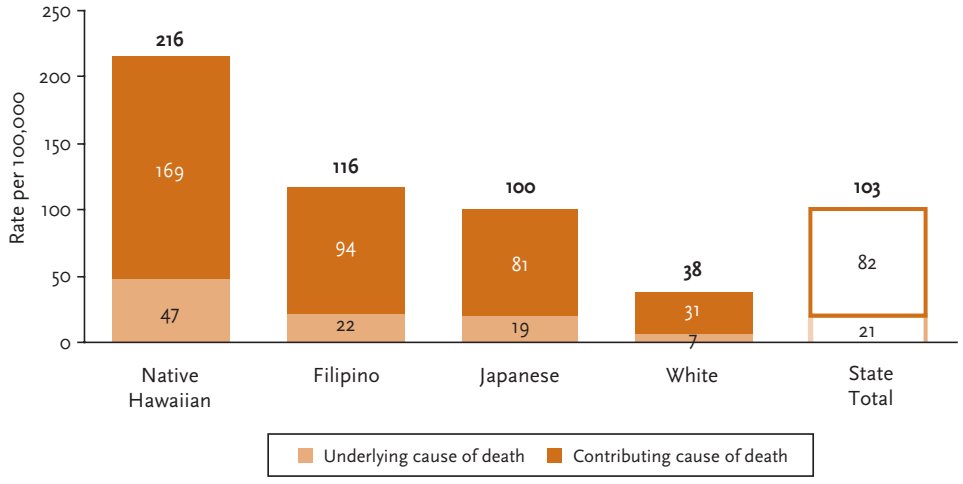
- The diabetes mortality rates among Native Hawaiians (underlying, contributing, and total) were more than twice the statewide rates.
- Mortality rates highlight the severity of the problem among Native Hawaiians. Total diabetes-related deaths and deaths in which diabetes was the underlying cause of death were twice as common among Native Hawaiians as they were among Filipinos or Japanese.

FIGURE 2.48 Individuals diagnosed with diabetes as a percentage of all adults [age-adjusted estimates, adults 18 and older, by race/ethnicity, state of Hawai'i, 2000 to 2002 (combined)]



Source: Hawai'i Department of Health 2004.
Note: Data for the Chinese population are not available.

FIGURE 2.49 Selected diabetes mortality rates [age-adjusted estimates, by race/ethnicity, state of Hawai'i, 2000 to 2002 (combined)]



Source: Hawai'i Department of Health 2004.
Note: Data for the Chinese population are not available.

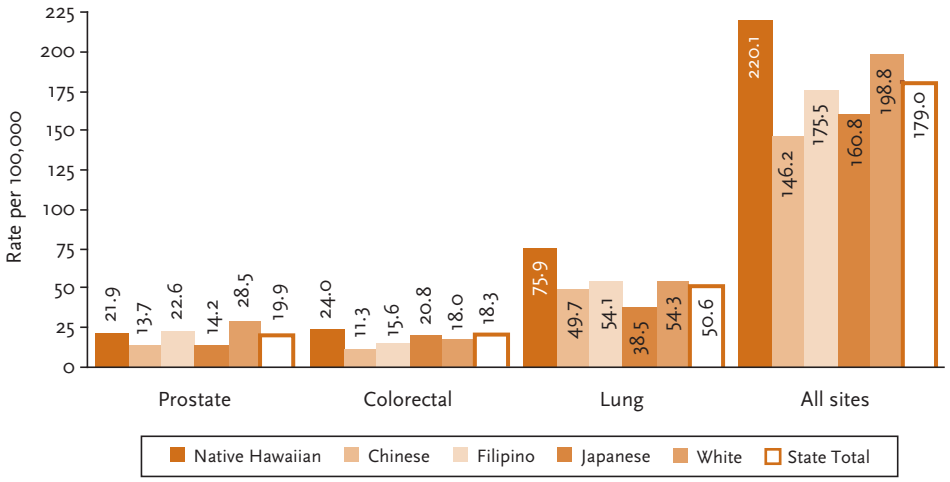
Underlying cause of death is defined as: "the disease/condition that initiated the chain of events leading to death." Contributory cause of death is defined as "conditions that did not initiate the chain of events leading to death, but resulted in death directly or indirectly; or any other significant conditions that unfavorably influenced the course of the morbid process and thus contributed to the fatal outcome" (Hawai'i Department of Health 2004, p.20).

Cancer

Cancer represents a significant health problem for Native Hawaiians. Figure 2.50 and Figure 2.51 present mortality data by gender for the most common types of cancer. Data are presented as rates, defined as the number of cancer-induced deaths per one hundred thousand individuals in that ethnic group's local population. As a whole, these data show significant disparities between Native Hawaiians and the other major ethnic groups in the state.

- Among Native Hawaiian men (Figure 2.50), the mortality rate for all types of cancer was 220.1 per one hundred thousand individuals—23.0 percent higher than the statewide rate.
- Compared with the other major ethnic groups in the state, Native Hawaiian men suffered the highest mortality rates for two of the three most common types of cancer—colorectal and lung cancer.
- The lung cancer and colorectal cancer mortality rates for Native Hawaiian men exceeded statewide rates by 50.0 percent and 31.1 percent, respectively.

FIGURE 2.50 Selected cancer mortality rates among males [age-adjusted estimates, by site of cancer, by race/ethnicity, state of Hawai'i, 1995 to 2000 (combined)]

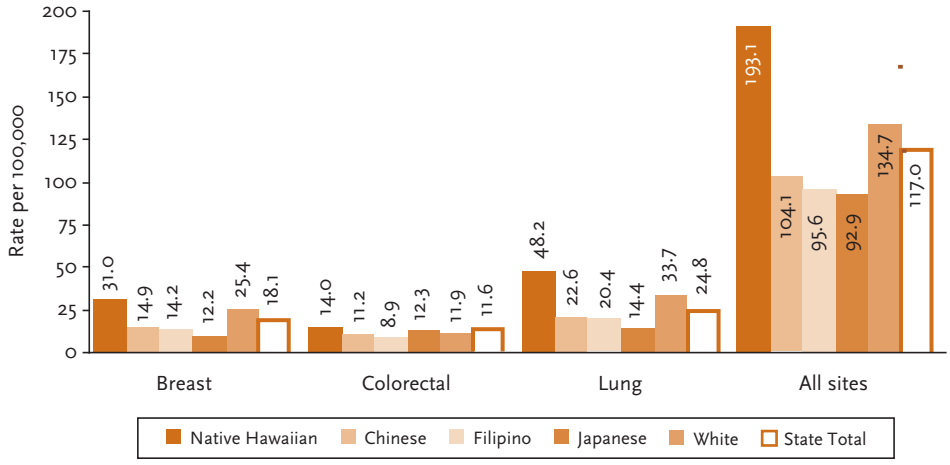


Source: American Cancer Society, Cancer Research Center of Hawai'i, and Hawai'i Department of Health 2003.

Native Hawaiian women followed a similar pattern, with cancer mortality rates that consistently exceeded statewide figures (Figure 2.51).

- Among the major ethnic groups, Native Hawaiian women suffered the highest mortality rates for cancer as a whole and for the three most common types of cancer in women—breast, colorectal, and lung cancer.
- The total cancer mortality rate among Native Hawaiian women exceeded the statewide rate by 65.0 percent.
- Among Native Hawaiian women, the breast cancer mortality rate was 71.3 percent higher than the statewide rate; for lung cancer, the mortality rate among Native Hawaiian women was nearly twice the statewide rate.

FIGURE 2.51 Selected cancer mortality rates among females [age-adjusted estimates, by site of cancer, by race/ethnicity, state of Hawai'i, 1995 to 2000 (combined)]

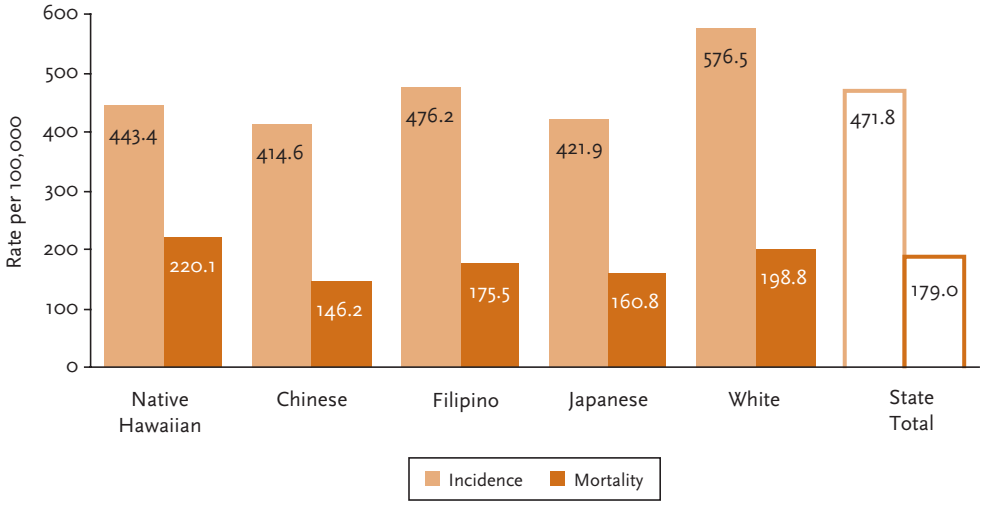


Source: American Cancer Society, Cancer Research Center of Hawai'i, and Hawai'i Department of Health 2003.

Cancer survival rates vary significantly depending on the stage at which the malignancy is detected and treated (Chong 2003). In this sense, cancer mortality rates may reflect not only biological and behavioral health risks within a population but also disparities in access to health care. Figure 2.52 highlights the systematic inconsistencies between cancer mortality and incidence rates among males.

- Over the period from 1995 to 2000, the cancer incidence rate for Native Hawaiian men was approximately 30 percent lower than that of White men; however, the cancer mortality rate for Native Hawaiian men exceeded the rate among White men. In other words, although White men were more likely to be diagnosed with cancer, Native Hawaiian men were more likely to die from the disease.
- Between 1995 and 2000, the ratio of cancer mortality to incidence among Native Hawaiian men was 1 to 2 (0.50). In other words, for every two Native Hawaiian men in the state who were newly diagnosed with cancer, approximately one died from a malignancy. By contrast, the statewide mortality-to-incidence ratio was approximately 1 to 3 (0.38), meaning greater chances of survival.

FIGURE 2.52 Cancer incidence and mortality rates among males [all types of cancer (combined), by race/ethnicity, state of Hawai'i, 1995 to 2000 (combined)]



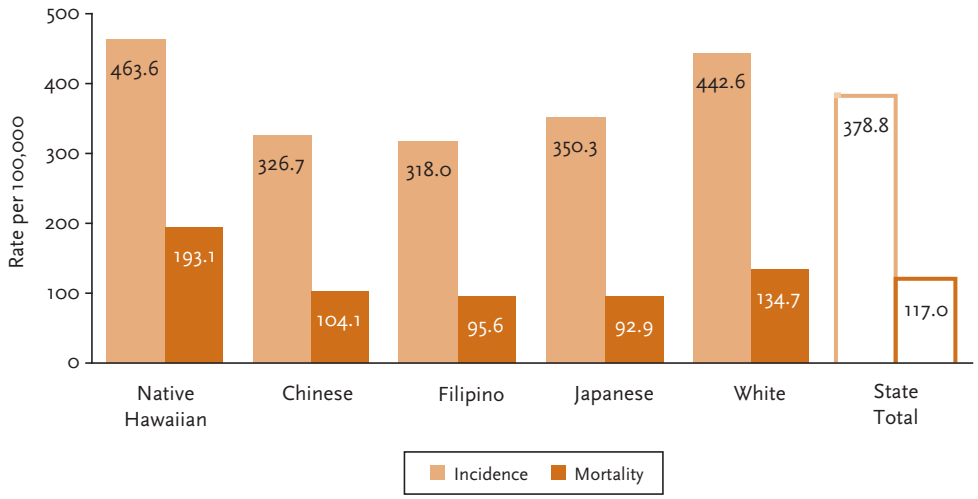
Source: American Cancer Society, Cancer Research Center of Hawai'i, and Hawai'i Department of Health 2003.

Native Hawaiian women follow a pattern similar to that of Native Hawaiian men. However, compared with the other major ethnic groups in the state, Native Hawaiian women had the highest cancer incidence and mortality rates (Figure 2.53).

- The rate of contracting cancer among Native Hawaiian women exceeded the statewide rate by more than 20 percent.
- The total cancer mortality rate among Native Hawaiian women was roughly 65 percent higher than the statewide rate.
- The ratio of cancer mortality to incidence among Native Hawaiian women was the highest of the major ethnic groups, suggesting that Native Hawaiian women are less likely to survive the disease. For every two Native Hawaiian women diagnosed with cancer between 1995 and 2000, roughly one died from the disease (roughly 1 to 2, or 0.42). The statewide mortality-to-incidence rate was approximately 1 to 3 (0.31).

These quantitative data, which suggest ongoing disparities in health care access, utilization, and quality, are supported by a qualitative study of Native Hawaiian cancer survivors, in which Braun et al. (2002) found that one of the greatest obstacles to cancer recovery was limited access to health care, due to the high number of uninsured families within the Native Hawaiian community. The disproportionately high mortality rates in the Hawaiian community reflect the fact that Native Hawaiians are particularly susceptible to both economic and health disparities.

FIGURE 2.53 Cancer incidence and mortality rates among females [all types of cancer (combined), by race/ethnicity, state of Hawai'i, 1995 to 2000 (combined)]



Source: American Cancer Society, Cancer Research Center of Hawai'i, and Hawai'i Department of Health 2003.

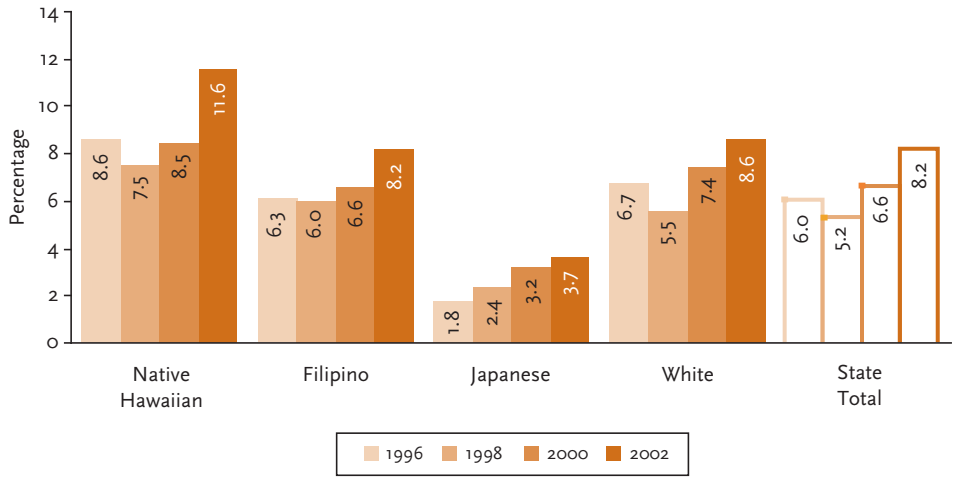
Access to Health Care

The substantial health risks Native Hawaiians face are compounded by limited access to health care. In a society where medical services are largely allocated in accordance with one's ability to pay the accompanying fees, health insurance is increasingly necessary to ensure that individuals and families have access to preventive care and necessary medical treatment. Without insurance, health crises and major medical expenses may pose additional threats to families already living in poverty.

Figure 2.54 shows the prevalence of uninsured adults for the period 1996 to 2002, averaged across three-year intervals. Results indicate that Native Hawaiians have sustained high rates of uninsured since at least the mid-1990s—despite state programs and laws aimed at providing nearly universal health care coverage.

- In recent years, Native Hawaiians have had the highest three-year averaged rates of uninsured, compared with other major ethnic groups in the state.
- In 2002, roughly one in ten Native Hawaiians (11.6 percent, based on three-year averages) went without medical insurance, compared with 8.2 percent statewide.
- Recent increases in the uninsured population are apparent across all major ethnic groups in the state, with the largest increase among Native Hawaiians (from 8.6 percent to 11.6 percent).

FIGURE 2.54 Trends in individuals without medical insurance as a percentage of all adults [three-year averages, adults 18 years and older, by race/ethnicity, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, BRFSS 1995 to 2003.
Note: Data for the Chinese population are not available.

Among Native Hawaiians who have medical insurance, many rely on public assistance programs (e.g., Medicaid) that subsidize health care for indigent families. Figure 2.55 shows that among the major ethnic groups in Hawai'i, Native Hawaiians consistently had the highest rates of Medicaid use, based on three-year averages.

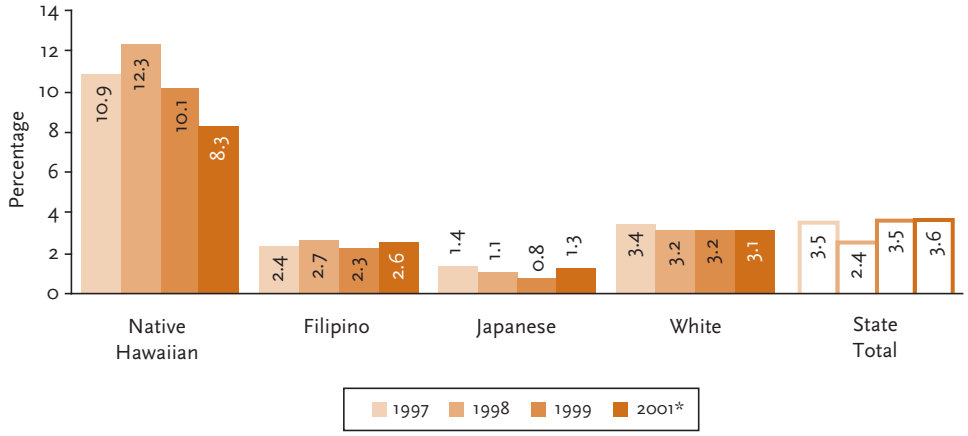
- Native Hawaiians were significantly more likely than non-Hawaiians to rely on Medicaid. From 1997 to 2001, the Native Hawaiian rate of Medicaid use, based on three-year averages, was consistently more than double the statewide rate.
- In recent years, the rate of Medicaid use among Native Hawaiians has steadily declined, from a three-year average of 12.3 percent in 1998 to 8.3 percent in 2001—a decrease of 32.5 percent.
- Although the percentage of Native Hawaiians on Medicaid has decreased since 1998, the trend has been accompanied by an increase in the percentage of uninsured Native Hawaiians (Figure 2.54).

Preventive Care

Routine checkups represent the most basic form of preventive care, allowing early identification and management of health problems. Figure 2.56 suggests that Native Hawaiians are less likely to receive annual medical checkups than are members of other ethnic groups and that, overall, checkups are becoming less common.

- In 1999 and 2001, Native Hawaiian adults had the lowest checkup rates (based on three-year averages) of the state's major ethnic groups.
- Rates for 2001, based on three-year averages, suggest a recent decline in the prevalence of annual medical checkups. Between 1999 and 2001, the percentage of Native Hawaiians who received an annual checkup dropped from a three-year average of 74.0 percent to 61.9 percent.

FIGURE 2.55 Trends in individuals enrolled in Medicaid or medical assistance programs as a percentage of all adults
[three-year averages, adults 18 years and older, by race/ethnicity, state of Hawai'i, selected years]



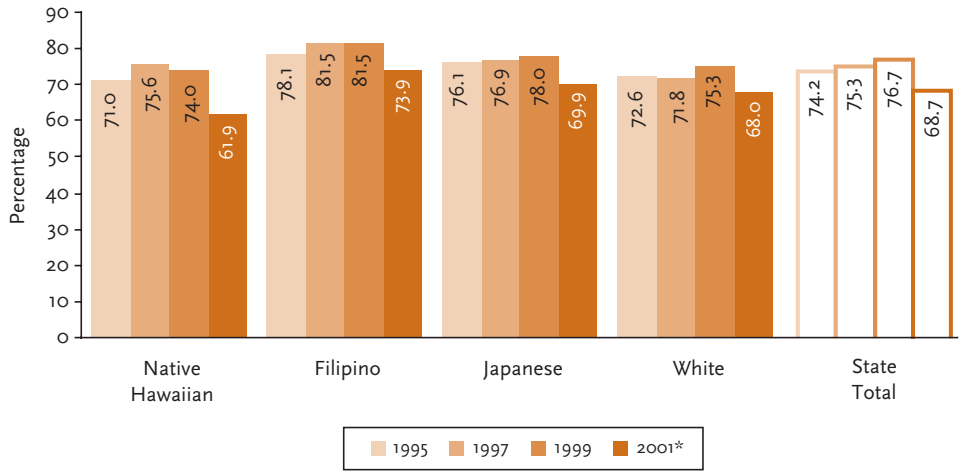
Data source: Hawai'i Department of Health, BRFSS 1996 to 2001.
Note: Data for the Chinese population are not available.
* In 2001, the percentage for Japanese is based on a two-year average of 1999 and 2001 owing to insufficient sample size in 2000.

Trends in insurance coverage may have a direct effect on the extent to which individuals and families seek both preventive health care and needed medical treatment. For example, the downward trend in preventive care may be related to increases in the uninsured population (cf. Figure 2.54 and Figure 2.56).

The high cost of medical care may not only reduce the frequency of routine checkups but also deter families from seeking treatment when health problems arise. Figure 2.57 shows the percentage of adults (averaged across three-year intervals) who have foregone needed medical treatment because of cost considerations.

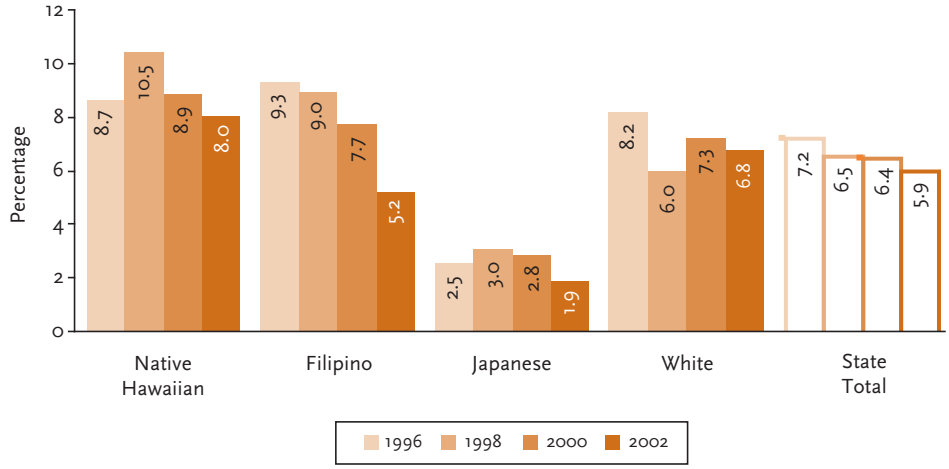
- Among the major ethnic groups, Native Hawaiians were most likely to have deferred a needed visit to the doctor because of the associated costs. In 2002, the rate of foregone medical treatment among Native Hawaiians (based on three-year averages) was 8.0 percent, compared with a statewide rate of 5.9 percent.
- Despite recent increases in the uninsured population (Figure 2.54), the percentage of the population that deferred treatment because of finances has been declining. Among Native Hawaiians, the rate decreased from a three-year average of 10.5 percent in 1998 to 8.0 percent in 2002.

FIGURE 2.56 Trends in individuals who report annual health checkups as a percentage of all adults [three-year averages, adults 18 years and older, by race/ethnicity, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, BRFSS 1994 to 2002.
Note: Data for the Chinese population are not available.
* In 2001, estimates are based on two-year averages of 2000 and 2002 data owing to unavailable data in that year.

FIGURE 2.57 Trends in individuals who missed a needed doctor visit within the past year because of the cost as a percentage of all adults [three-year averages, by race/ethnicity, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, BRFSS 1995 to 2003.
Note: Data for the Chinese population are not available.

EMOTIONAL AND SPIRITUAL WELL-BEING

Emotional well-being is fundamental to all interactions in life. Internal balance and mental health influence the kinds of decisions individuals make on a daily basis, as well as at more pivotal points in their lives (e.g., jobs, educational decisions, new opportunities). Within families, the emotional health of members affects marital relationships and stability, parent–child bonding, and the quality of communication; it is crucial to forming relationships and meeting life's stresses.

A stressful home environment may hinder the growth and development of children. Studies show that children's educational outcomes are measurably affected by the emotional well-being and mental health of their parents (Ensminger et al. 2003; Farahati, Marcotte, and Wilcox-Gōk 2003; Smith 2004).

In addition to individual outlooks and attributes, studies show that social support is a key factor that reinforces emotional well-being. Social support provides protection in times of financial stress (Kana'iaupuni et al. 2005). It is also important for individuals to feel that they have someone to talk to in times of need, to seek guidance on issues relating to work, health concerns, child-raising, death, or other trauma. Having someone to turn to for emotional support provides new outlooks on distressful situations and new perspectives on possible courses of action. Perhaps most importantly, social support offers an outlet to express feelings that might otherwise emerge in less healthy ways (Berkman 1995).

The analysis that follows indicates that, compared with the major ethnic groups in the state, Native Hawaiians have greater resources for emotional support and express greater satisfaction with their lives. Culture plays a pivotal role in helping Native Hawaiians cope with the multiple stressors within the community. Data in this section suggest that cultural foundations, strong family support, and spiritual practices are common among Native Hawaiians. According to recent research, cultural identity may act as a protective influence on the emotional and mental well-being of Native Hawaiian adolescents (McCubbin 2003). These and other beneficial effects of cultural identity likely carry over into adulthood and across the larger community (McCubbin 2004; Phinney 1990).

Emotional support and other mechanisms most people use to enhance their emotional well-being are effective ways to enjoy life, family, and healthy relationships. For some, however, emotional stability is more elusive and difficult to achieve. Although we do not have a complete picture of Native Hawaiian mental health, suicide ideation rates are one measure of a relatively rare event that allows some insights into needed areas of intervention. Findings from the following discussion suggest that the likelihood that a Native Hawaiian has considered suicide is somewhat higher than average, although the actual rate of suicide attempts among Native Hawaiians is about the same as the statewide average. Notably, suicide rates are lowest among older Native Hawaiians, unlike Western trends in which the elderly are more susceptible to suicide (Juurlink et al. 2004; Pritchard and Hansen 2005). This difference may reflect the strength of traditional values within the Native Hawaiian population, such as cultural traditions of respect and reverence for kūpuna.

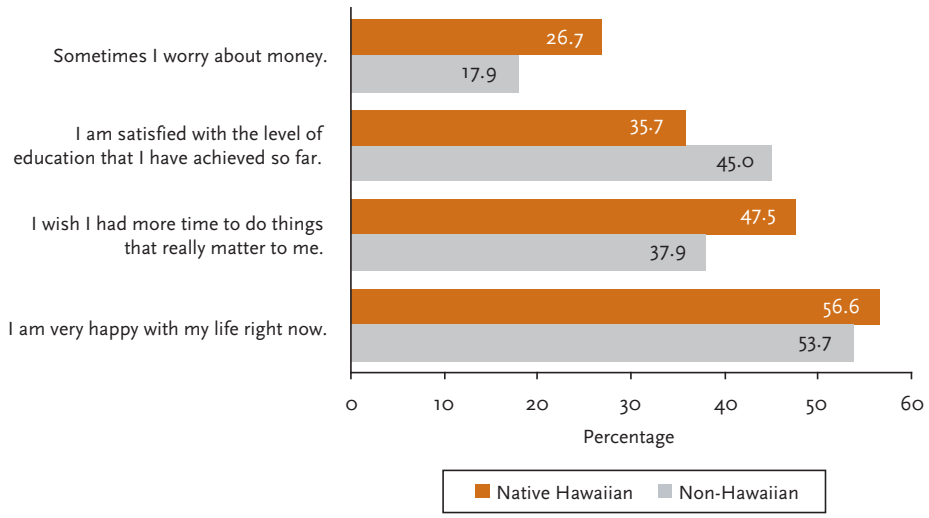
Overall, data in this section suggest that the Native Hawaiian community possesses key emotional resources that stem from a strong sense of 'ohana and traditional cultural values. These assets may provide building blocks that can be used to help Native Hawaiians achieve emotional and spiritual fulfillment and to meet the challenges of day-to-day living.

Sources of Emotional Support

Discussions in previous sections have highlighted the substantial social and material difficulties facing many Native Hawaiian families and communities, including poverty, unemployment, domestic violence, and incarceration, all of which threaten emotional well-being. The 2003 Hawai'i Health Survey administered by the Hawai'i Department of Health[13] asked respondents about satisfaction with their lives and the resources they use in times of need. Figure 2.58 and Figure 2.59 compare the responses of Native Hawaiians with those of non-Hawaiians. The results show that Native Hawaiians generally tend to meet the practical problems of daily life with positive emotional and spiritual resources.

- Compared with other state residents, Native Hawaiians were more likely to report money worries (26.7 percent versus 17.9 percent) and less likely to report being satisfied with their education (35.7 percent versus 45.0 percent).
- Nearly half of all Native Hawaiians (47.5 percent) expressed concerns about having more time to do things that really mattered, compared with 37.9 percent of non-Hawaiians.
- Despite their greater preoccupation with pragmatic concerns, Native Hawaiians were slightly more likely than non-Hawaiians to report being happy (56.6 percent versus 53.7 percent).

FIGURE 2.58 Respondents reporting life satisfaction levels as a percentage of all adults [adults 18 and older, by Native Hawaiian ethnicity, state of Hawai'i, 2003]



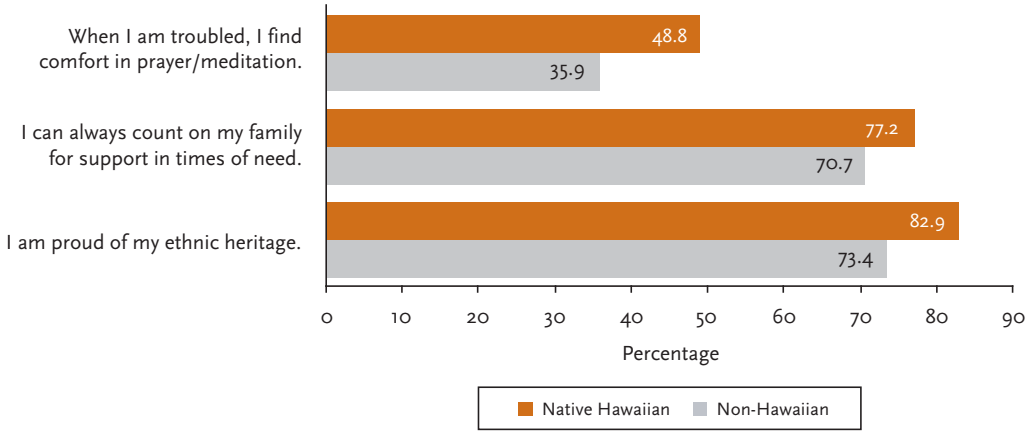
Data source: Kamehameha Schools, Hawai'i Health Survey special tabulations 2003.

13. The Hawai'i Health Survey is an annual telephone survey of a random sample of more than 4,000 households in the state of Hawai'i. The survey, which is administered by the Hawai'i Department of Health, is designed to provide statistically reliable information about the state population to be used for planning and evaluating various government health initiatives.

How do Native Hawaiians cope with financial hardships, educational dissatisfaction, and time pressures? Figure 2.59 suggests that social networks, spirituality, and cultural pride all serve as important sources of emotional support for Native Hawaiians.

- Native Hawaiians exhibit greater pride in their ethnic roots than do non-Hawaiians. Approximately 82.9 percent of Native Hawaiians reported being proud of their heritage, compared with 73.4 percent of non-Hawaiians.
- Native Hawaiians were more likely to characterize their families as a source of support than were non-Hawaiians (77.2 percent versus 70.7 percent).
- Native Hawaiians are supported by strong community ties, as measured by an expressed attachment to their neighborhoods. Almost half (47.3 percent) of Native Hawaiian respondents reported that, if forced to move, they would miss their current neighborhood, compared with 45.4 percent of non-Hawaiians (not shown).
- Nearly half of Native Hawaiians (48.8 percent) find comfort in prayer and meditation, compared with roughly one-third of non-Hawaiians (35.9 percent).

FIGURE 2.59 Respondents reporting sources of emotional support as a percentage of all adults [adults 18 and older, by Native Hawaiian ethnicity, state of Hawai'i, 2003]



Data source: Kamehameha Schools, Hawai'i Health Survey special tabulations 2003.

Emotional Stability

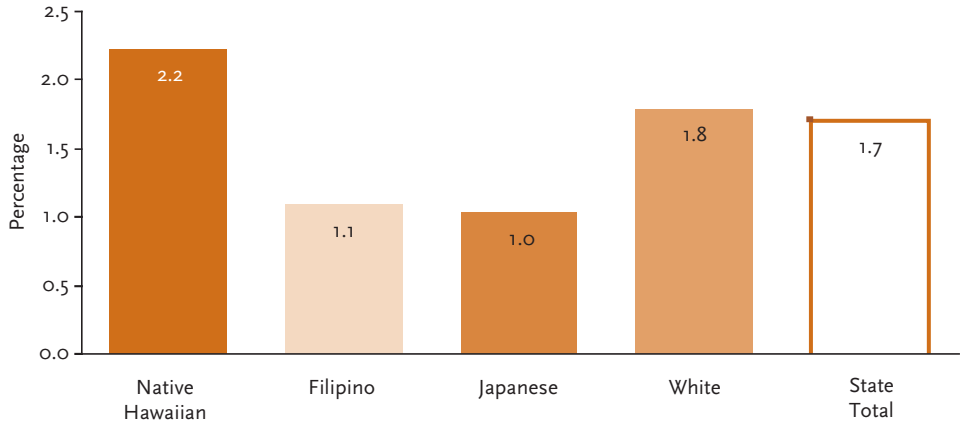
The mental health of parents and other adults at home affects the functioning and dynamics of the entire family as well as their interactions with others. Depression—especially maternal depression—is related to inconsistent and less effective parenting behaviors. Studies show short- and long-term effects of maternal depression on children's behavior, attachments, and cognitive development (Currie 2005). For example, recent research finds that children with depressive parents are more likely to drop out of high school than are children with emotionally stable parents (Farahati, Marcotte, and Wilcox-Gōk 2003).

Although we lack more complete data on mental health and depression, suicide represents one end of the continuum of mental health, the ultimate act of emotional despair. From an educational standpoint, suicidal thoughts among adults suggest a lack of hope for the future and may be related to lower educational attainment (Blackorby and Wagner 1996; Kessler et al. 1995; Miech et al. 1999). Based on the evidence to date, we would expect that the loss of a loved one to suicide or the preoccupation of a loved one with suicidal thoughts similarly affects children, draining their own aspirations and distracting them from educational development.

Our findings suggest that Native Hawaiians share average rates of life satisfaction with non-Hawaiians; however, the data on suicidal thoughts and actions are warning signs of greater mental instability or perceived hopelessness among Native Hawaiians. Figure 2.60 shows elevated levels of suicide ideation among Native Hawaiians compared with members of other major ethnic groups.

- Approximately one in fifty Native Hawaiian adults (2.2 percent) reported having considered suicide at some point during the previous year.
- Among the major ethnic groups in the state, Native Hawaiians had the highest rates of suicide ideation. For example, Native Hawaiians were twice as likely as Filipino and Japanese adults to have contemplated suicide.

FIGURE 2.60 Respondents who considered suicide during past year as a percentage of all adults [adults 18 and older, by race/ethnicity, state of Hawai'i, 2001]



Source: Hawai'i Department of Health 2003.

Data from the Department of Health show that the suicide rate among Native Hawaiians is comparable with that of the statewide population (Figure 2.61).

- Within the Native Hawaiian population, approximately 60 individuals committed suicide for every one hundred thousand in the population. Statewide, the rate was 61 per one hundred thousand.
- Native Hawaiians were more than twice as likely to commit suicide as were Chinese, more than 60 percent more likely to commit suicide than were Filipinos, and 20 percent more likely to commit suicide than were Japanese.

These findings are consistent with an earlier study by the Hawai'i Department of Health in which the rate of suicide deaths among Native Hawaiians was found to be slightly lower than the statewide rate (Hawai'i Department of Health, Adult Mental Health Division 2003).

Given the high prevalence of suicide ideation within the Native Hawaiian population—as well as the presence of suicide risk factors such as poverty, health problems, and homelessness (Hawai'i Department of Health, Adult Mental Health Division 2003)—the parity between Native Hawaiian and statewide suicide rates is encouraging.

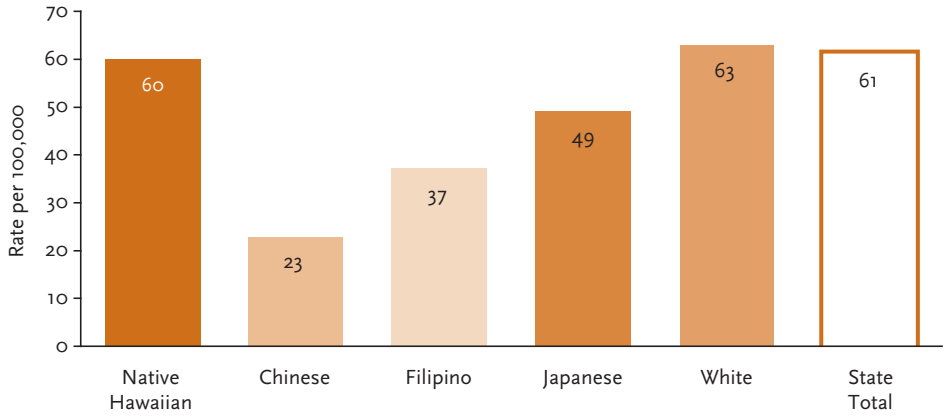
Taking age into consideration highlights the underlying issues and trends that contribute to differences in the overall suicide rates for each population. Figure 2.62 shows that the prevalence and risk of suicide within the Native Hawaiian population decreases significantly with age.

- Compared with other major ethnic groups in the state, Native Hawaiians suffered the highest rates of suicide among young adults.
- The suicide rate among twenty- to thirty-four-year-old Native Hawaiian adults was 70.8 percent higher than the comparable Filipino rate, 86.4 percent higher than the comparable White rate, and more than double the Japanese rate.
- The suicide rate among thirty-five- to forty-four-year-old Native Hawaiian adults was more than 30 percent higher than the comparable Japanese and White rates and more than twice the rate among Filipinos.
- Among older adults, Native Hawaiian suicide rates were comparatively low. The suicide rate among Native Hawaiians ages sixty-five years and older was 25.0 percent lower than the comparable statewide rate.

Although the overall suicide rate among Native Hawaiians is comparable with statewide figures, Native Hawaiian young adults face an elevated risk. This is consistent with data in Part Four, which show that Native Hawaiian adolescents are significantly more likely to consider and attempt suicide than are their non-Hawaiian peers. These findings suggest the need for policymakers and service providers to focus mental health resources on younger Native Hawaiians.

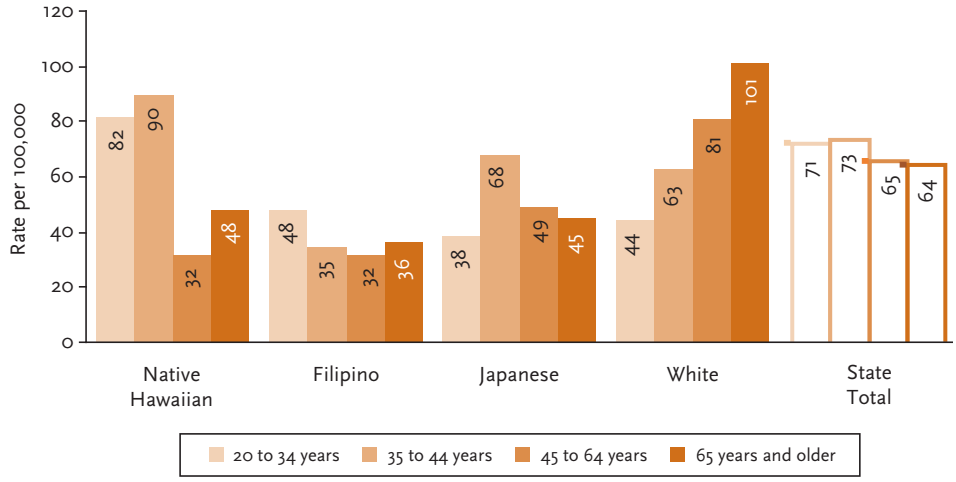
Furthermore, the disproportionately high rate of suicide ideation within the Native Hawaiian population, as a whole, indicates the need for services that address the depressive tendencies and the psychological, social, and environmental stressors that drive Native Hawaiians to consider suicide. There is also a need to explore the factors that predispose Native Hawaiians to such dire states, as well as those factors that help prevent the taking of one's life.

FIGURE 2.61 Suicide rates* [unadjusted rates, by race/ethnicity, state of Hawai'i, 1998 to 2002 (combined)]



Source: Hawai'i Department of Health, Injury Prevention and Control Program 2004.
Note: The rough estimate of the state total was calculated by Kamehameha Schools–PASE based on average group rates.
* State total calculated independently, based on data provided by source.

FIGURE 2.62 Age-specific suicide rates [adults age 20 years and older, by race/ethnicity, state of Hawai'i, 1998 to 2002 (combined)]



Source: Hawai'i Department of Health, Injury Prevention and Control Program 2004.
Note: Data for the Chinese population are not available.

EDUCATIONAL WELL-BEING

Education is more than classrooms, chalkboards, and book-learning; it represents an expansion of capabilities and opportunities that enhance a person's ability to make positive decisions and pursue life goals. Studies have shown a significant effect of education in many aspects of life, including economic security (Bills 2003; Day and Newburger 2002; Perna 2003), social relationships (Brady, Verba, and Schlozman 1995; McPherson and Rotolo 1996; Rosenthal, Feiring, and Lewis 1998), physical health (Feldman et al. 1989; Pappas et al. 1993; Ross and Mirowsky 1999; Ross and Wu 1995; Williams 1990), and life satisfaction (Diener et al.1999; Hartog and Oosterbeek 1997; Jokisaari 2004; Meeks and Murrell 2001).

The educational attainment of adults plays a significant role in the development of children. Research concretely and consistently links parental education with the level of education pursued by children (Wolfe and Zuvekas 1997). Educational well-being, therefore, represents more than degree attainment or a grade point average; it contributes to other domains of well-being and shapes the prospects for future generations.

In the following discussion, our research shows that Native Hawaiian parents have high expectations for their children's postsecondary educational achievements. These findings support recorded gains in college enrollment rates and levels of educational attainment within the Native Hawaiian population. For example, since 1990, the percentage of Native Hawaiian young adults pursuing higher education has increased, as has the prevalence of bachelor's degrees and graduate degrees within the Native Hawaiian population. However, compared with state averages, Native Hawaiians are still underrepresented in postsecondary enrollment and educational attainment.

Within the University of Hawai'i system—the postsecondary choice for the majority of high school graduates in the state—increases in Native Hawaiian enrollment are apparent. However, the data show that, despite improvements over time, Native Hawaiians are still underrepresented at the University of Hawai'i, with a disproportionately high number of Native Hawaiian students enrolled in two-year community colleges. Further, at the University of Hawai'i–Mānoa, Native Hawaiian students are the least likely to graduate in six years, indicating that they are less likely to complete degree requirements than are students of other ethnic backgrounds, and that Native Hawaiians who do graduate typically take longer.

What are the underlying causes for the underrepresentation of Native Hawaiians in postsecondary education? Throughout Part Two, we have demonstrated that various aspects of well-being affect educational development, decisions, and outcomes. In other words, social, economic, physical, and emotional well-being all contribute to an individual's educational path.

Attesting to the direct relationship between education and material or economic well-being, one of the greatest obstacles to postsecondary education for Native Hawaiians and other groups that experience socioeconomic disadvantage is financial constraints (Akerhielm et al. 1998; Callender and Wilkinson 2003; Choy 2002; Connor et al. 2001; King 2002; Sanderson et al. 1996). For many Native Hawaiians, day-to-day needs may dictate that earnings be prioritized over education. This reality is evidenced by studies showing that financial aid significantly improves the postsecondary educational prospects of Native Hawaiian college students (Hagedorn et al. 2004; Makuakane-Drechsel and Hagedorn 2000). Data on college student employment presented below further confirm these findings, showing that Native Hawaiians are more likely than other students to work full time while enrolled in school, a fact which may account for relatively longer paths to degree completion.

However, just as education is affected by social, economic, physical, and emotional well-being, education likewise influences all other areas of well-being. For example, highly educated individuals are more likely to contribute to their communities (Brady, Verba, and Schlozman 1995; McPherson and Rotolo 1996; Rosenthal, Feiring, and Lewis 1998; Wilson 2000). Higher levels of educational attainment are also associated with lower rates of mortality and terminal illness, fewer health risk behaviors (De Vogli et al. 2005; Lantz et al. 1998; Pappas et al. 1993; Winkleby et al. 1992), and greater life satisfaction (Meeks and Murrell 2001). Education and economic status are tied in a cyclical, mutually dependent relationship: While financial circumstances may affect a person's ability to pursue a postsecondary degree, the attainment of that degree, in turn, may affect the person's future financial circumstances.

Among those seeking higher education, available data show that Native Hawaiians are underrepresented in certain high-earning fields such as architecture and engineering, business administration, and the natural sciences, and are overrepresented in comparatively low-earning fields such as education, social work, and the social sciences. These statistics suggest the potential for targeted college outreach and mentoring services in certain fields to increase access for disadvantaged students and support their choices. Several new programs offer exciting possibilities, such as the interdisciplinary Hui Konohiki program at the University of Hawai'i–Mānoa, which integrates Hawaiian knowledge and traditions into technologically sophisticated coursework on resource management, and the Keaholoa Project at the University of Hawai'i–Hilo, which provides internship opportunities and support services to Native Hawaiian postsecondary students in the fields of mathematics, science, and technology.

One of the most significant promises of postsecondary education is its positive effect on future generations. Within the Native Hawaiian population, we find that parental educational attainment is highly correlated with children's educational indicators, including absenteeism, conflicts with school officials, and grades earned. This intergenerational cycle—through which both strengths and disadvantages are passed from one generation to the next—suggests that the implications of ongoing disparities in postsecondary education extend far beyond the earnings and occupations of today's Native Hawaiian adults.

College Enrollment

Education begins in the home, not only through the facts, skills, and life lessons parents teach their children but also through the goals parents encourage their children to pursue. The values, beliefs, and encouragement that parents exhibit influence the educational decisions students make, particularly among family-centered cultural groups such as Native Hawaiians (Connor et al. 2001; Ross et al. 2002). Recent survey data show that most parents in the Native Hawaiian households polled envisioned a post-secondary education for their children (Figure 2.63).

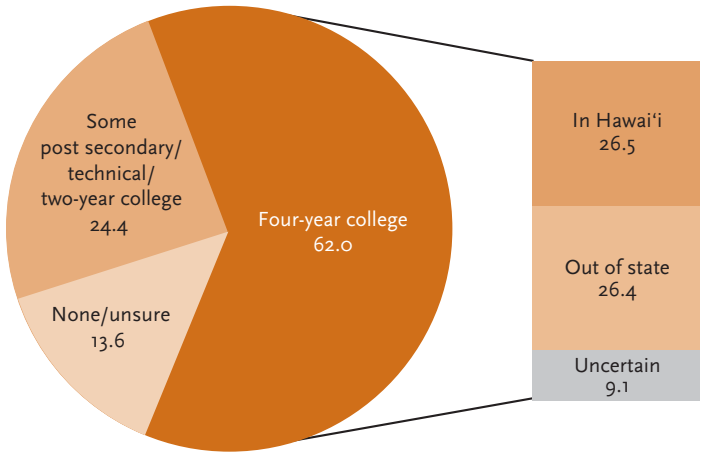
- More than four out of five Native Hawaiian respondents (86.4 percent) expected their children to continue their studies beyond high school, either at a four-year college (62.0 percent) or at a two-year college or technical school (24.4 percent).
- The Native Hawaiian parents who anticipated a four-year degree for their children were evenly split about whether their child would likely attend school in Hawai'i or out of state.

These figures are underscored by additional data showing that education is highly valued in most Native Hawaiian households. Approximately two-thirds of adult respondents agreed that "the more education a person has in life, the more successful he or she is" (66.8 percent), and that "more education would help me get ahead in my job" (64.6 percent). These statistics suggest the significance Native Hawaiians attach to education in general and postsecondary education in particular (not shown).

Although Native Hawaiian parents have high educational ambitions for their children, Native Hawaiians are underrepresented among college students and graduate or professional students. Figure 2.64 shows the ethnic composition of undergraduate and graduate students in the state of Hawai'i.

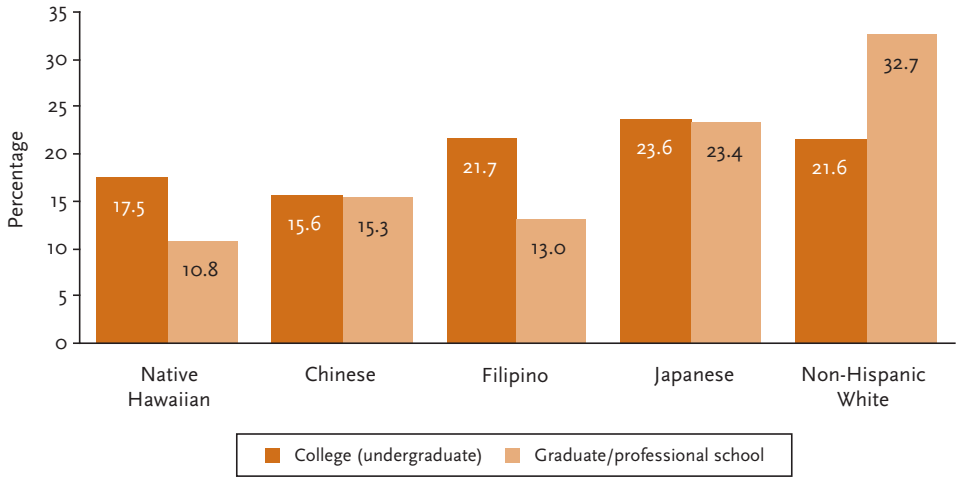
- Although Native Hawaiians constituted 23.1 percent of the state's college-age population (18 to 24 years of age) in 2000 (not shown), they accounted for just 17.5 percent of college students.
- Next to Chinese students, who comprised a relatively smaller share of the state population, Native Hawaiians constituted the smallest proportion of undergraduate students among the state's major ethnic groups.
- Just 10.8 percent of graduate students were Native Hawaiian, meaning that Native Hawaiian representation among graduate students was about half their representation in the larger state population.

FIGURE 2.63 Native Hawaiian parent respondents' postsecondary educational plans for their children
[percentage distribution, Native Hawaiian parents of school-age children, state of Hawai'i, 2002]



Data source: Kamehameha Schools, Hawaiian Community Survey 2002.

FIGURE 2.64 Racial/ethnic distribution of enrolled college and graduate/professional school students
[percentage distribution, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A). As a result, distributions may not sum to 100 percent.

College enrollment among Native Hawaiian young adults—the percentage of Native Hawaiians who are enrolled in college—is also among the lowest in the state (Figure 2.65). These findings indicate that Native Hawaiians pursue postsecondary education at lower rates than do young adults of other ethnicities.

- In 2000, about one in four Native Hawaiians between the ages of eighteen and twenty-four (25.6 percent) was enrolled in college.
- Native Hawaiian young adults were two-thirds as likely to attend college as were their Chinese peers and almost half as likely to attend college as were their Japanese counterparts.
- Among the major ethnic groups in Hawai'i, only non-Hispanic Whites were less likely than Native Hawaiians to be enrolled in college. This probably reflects the high proportion of military personnel within the population of White young adults.[14]
- Between 1990 and 2000, the gap between the Native Hawaiian enrollment rate and that of the total state population decreased significantly. In 1990, the statewide rate was 35.1 percent higher than the Native Hawaiian rate; in 2000, the statewide rate exceeded the Native Hawaiian rate by just 27.0 percent (not shown).

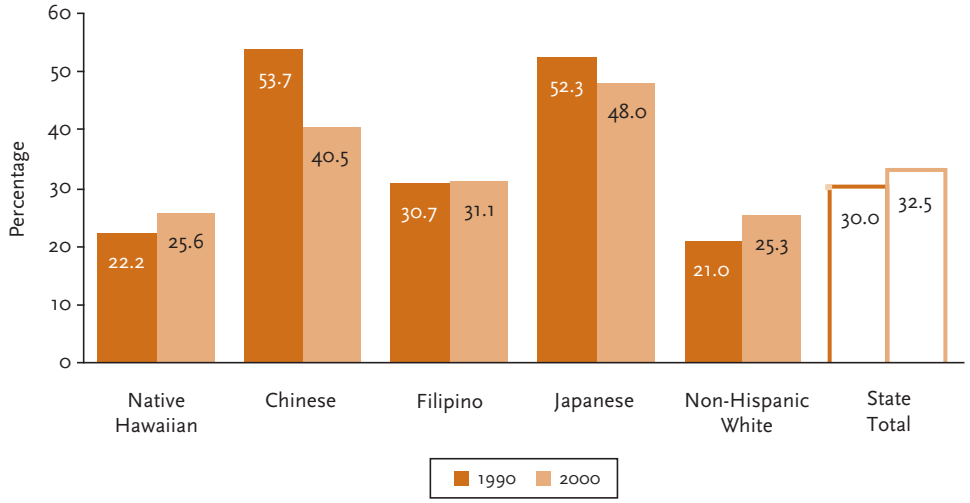
Table 2.1 shows that the University of Hawai'i (UH) system offers the most common route for Native Hawaiians seeking postsecondary education through its campuses in Mānoa (O'ahu), Hilo (Hawai'i Island), and West O'ahu, as well as numerous community colleges located on most major islands.

- Of the 21,497 Native Hawaiians ages eighteen to twenty-four who had earned a high school diploma, 32.2 percent were enrolled in college in 2000.[15]
- Fully 6,135 of the 6,917 Native Hawaiian college and graduate students in the state (88.7 percent) attended the University of Hawai'i.

14. Fully 12.2 percent of non-Hispanic White adults (ages eighteen to sixty-four) in the state of Hawai'i were active service members in the Armed Forces in 2000. This percentage compares to lower rates for Hawaiian (0.5 percent), Chinese (0.4 percent), Filipino (1.3 percent), or Japanese (0.4 percent) adults in the state (U.S. Census 2000, Summary File 4).

15. College enrollment rates may be somewhat misleading in that they often fail to take into account eligibility requirements for postsecondary education, which typically include a high school diploma or general equivalency diploma (GED). This oversight may underestimate Native Hawaiian enrollment rates because, as detailed in Part Four, a significant number of Native Hawaiian students drop out of school before obtaining their diploma and are, therefore, not in the pool of potential college students. Table 2.1 shows that, of the 26,498 Native Hawaiians ages eighteen to twenty-four, 5,001 (18.9 percent) did not obtain a high school diploma and were therefore not eligible for college.

FIGURE 2.65 Trends in individuals enrolled in college as a percentage of all young adults [adults ages 18 to 24, by race/ethnicity, state of Hawai'i, 1990 and 2000]



Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

TABLE 2.1 Native Hawaiian enrollment in Hawai'i colleges/universities and the University of Hawai'i (UH) system[1] [college-eligible adults, 18 to 24 years of age with a high school diploma or GED, state of Hawai'i, 2000]

	Number	Percentage of college-eligible	Percentage of all enrolled
Total Hawaiian population in Hawai'i, 18 to 24 years old [2]	26,498		
LESS: Hawaiians, 18–24, with no high school diploma [3]	5,001		
College-eligible Hawaiians 18 to 24 years old	21,497	100.0	
Enrolled in college or graduate school [3]	6,917	32.2	100.0
Enrolled in UH system [4]	6,135	28.5	88.7
Undergraduate students [4]	5,729	26.7	82.8
Graduate/professional students [4]	406	1.9	5.9

[1] Statistics assume:
(a) All Native Hawaiians students in the UH system are eighteen to twenty-four years old.
(b) All Native Hawaiian students enrolled in UH in 2000 were residents of the state of Hawai'i.
(c) All Native Hawaiians, ages eighteen to twenty-four, who have completed high school are eligible for UH enrollment.
[2] *Source:* U.S. Census 2000, Summary File 2.
[3] *Data source:* U.S. Census 2000, Summary File 4.
[4] *Data source:* University of Hawai'i, Fall Enrollment Report 1999–2000.

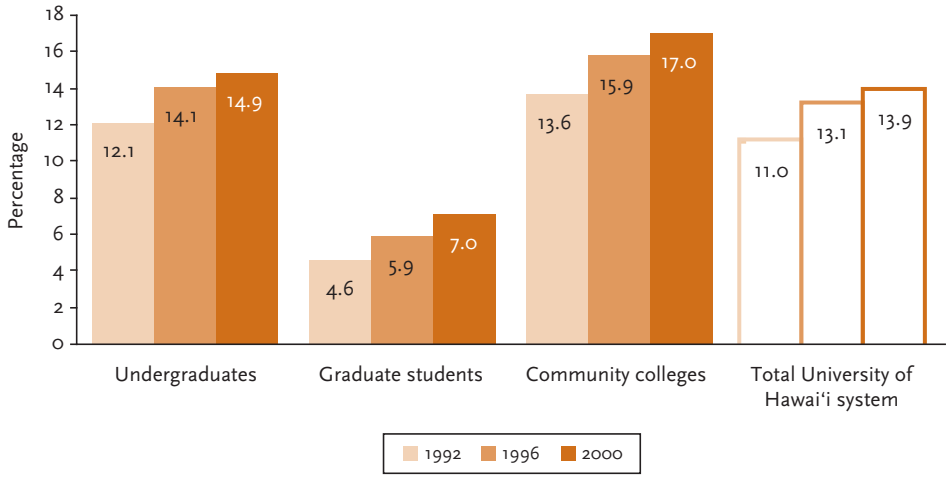
Enrollment of Native Hawaiian students at the University of Hawai'i has increased over the past decade, both in terms of the total number of Native Hawaiians enrolled and the proportion of the university's enrollment identified as Native Hawaiian. The general upward trend observed during the early 1990s, however, levels out in the mid-90s and turns downward after 1999.[16] Such fluctuations in enrollment within a single decade suggest that the trends in Hawaiian enrollment are not constant and may be subject to "shocks" that promote or discourage college attendance, such as policy shifts within the university system, economic downturns, changes in government, social crises, and demographic phenomena.

Despite the progress achieved in the past decade, Native Hawaiians continue to be underrepresented at the University of Hawai'i, accounting for a share of student enrollment that is a fraction of Native Hawaiian representation in the larger population of college-eligible adults. Furthermore, Native Hawaiian students are more prevalent at two-year community colleges than they are on the four-year college campuses (not shown).

- As shown in Figure 2.66, the Native Hawaiian share of enrollment (based on three-year averages) increased from 11.0 percent of the total University of Hawai'i student body in 1992 to 13.9 percent in 2000. Examining the student population as separate groups of undergraduates, graduate students, and community college students reveals similarly steady increases in Native Hawaiian enrollment.
- In the past decade, the number of Native Hawaiian students enrolled in the University of Hawai'i system increased by 25.2 percent, from 4,517 in 1990 to 6,248 in 2001 (not shown).
- According to the U.S. Census, Native Hawaiians constituted 23.1 percent of the state's total population of eighteen to twenty-four-year-olds (not shown). The gap between the percentage of young adults who are Native Hawaiian (23.1 percent) and the percentage of University of Hawai'i students who are Native Hawaiian (13.9 percent) highlights the ongoing underrepresentation of Native Hawaiians in the UH system.
- In 2000, Native Hawaiian students constituted 17.0 percent of the student population in University of Hawai'i community colleges (based on three-year averages), compared with just 10.2 percent of the students in bachelor's and graduate degree programs at the Mānoa, Hilo, and West O'ahu campuses (not shown).
- Although Native Hawaiian representation in the University of Hawai'i's graduate programs has improved significantly since the early 1990s, Native Hawaiians still accounted for just 7.0 percent of UH graduate students in 2000.

16. Over the course of a single year, the number of Native Hawaiian students at the University of Hawai'i decreased from 6,619 (14.2 percent of total UH enrollment) in 1999 to 6,135 (13.8 percent of total UH enrollment) in 2000.

FIGURE 2.66 Trends in Native Hawaiians as a percentage of total University of Hawai'i enrollment [by school level, three-year averages, University of Hawai'i system, selected years]



Source: University of Hawai'i 1991 to 2001.
Note: The undergraduate category includes community college students, as well as students in four-year degree programs.

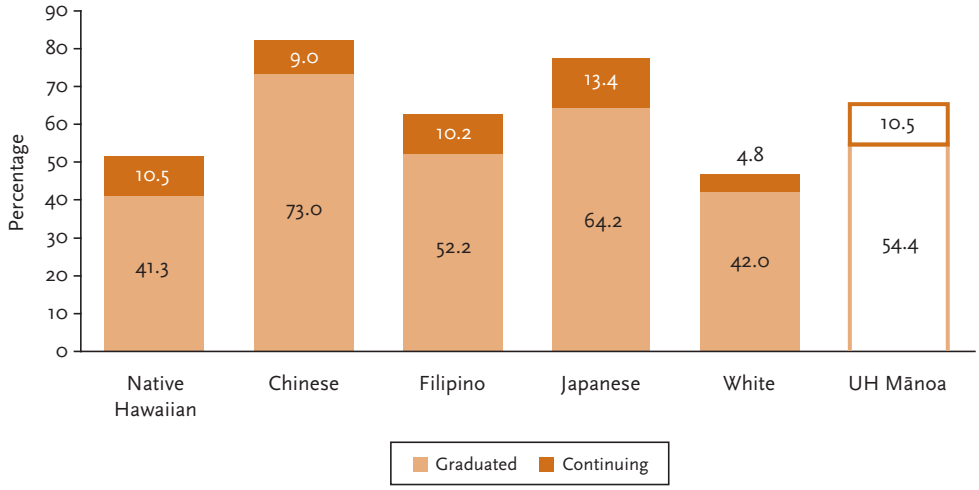
College Completion Rates

On average, individuals with a college background have significantly higher earnings than do high school graduates (Figure 2.42). Similarly, individuals who had obtained a four-year bachelor's degree reported significantly higher earnings than did individuals who either earned an associate's degree or dropped out of college. The attainment of a college degree therefore yields greater labor market rewards.

Statistics show that many individuals begin college but do not graduate, thereby affecting lifetime employment and wage opportunities (Choy 2002; Day and Newburger 2002; King 2002; University of Hawai'i 2000). College graduation rates for Native Hawaiian students at the University of Hawai'i–Mānoa are the lowest of those of the major ethnic groups in the state (Figure 2.67).

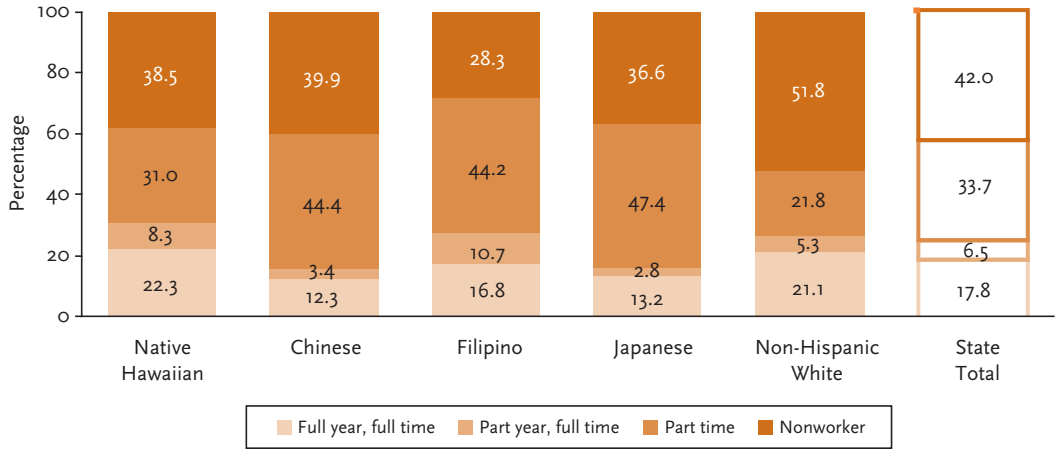
- Approximately two in five Native Hawaiian students at the University of Hawai'i–Mānoa (41.3 percent) graduated within six years of admission. By contrast, almost three out of four Chinese students (73.0 percent) and two out of three Japanese students (64.2 percent) graduated within the same time frame.
- The continuation rate (i.e., the percentage of students who continue to be enrolled after six years) for Native Hawaiian students at the University of Hawai'i–Mānoa was relatively high (10.5 percent) compared with that of other ethnic groups. In other words, Native Hawaiian students took longer than their peers to complete graduation requirements.
- The total college success rates among Native Hawaiians—defined as the sum of both graduation and continuation rates—was lower (51.8 percent) than the rates of most other major ethnic groups in the state. Six years after being admitted to the University of Hawai'i–Mānoa, almost half of all Native Hawaiian students (48.2 percent) had left the school without completing their degree requirements.

FIGURE 2.67 Students who graduate from college or continue undergraduate studies after six years as a percentage of all University of Hawai'i–Mānoa students [fall 1990 to fall 1999 undergraduate cohorts, by race/ethnicity, by student status, University of Hawai'i–Mānoa, 2000]



Data source: University of Hawai'i, Graduation and Retention Rates, Peer and Benchmark Group Comparisons 2000.

FIGURE 2.68 Labor force status among enrolled college students [individuals enrolled in college, by race/ethnicity, by labor force status, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Reasons for relatively low total college success rates among Native Hawaiian students may include noncontinuous college enrollment (i.e., periods of inactivity owing to work, family, or other commitments), part-time college attendance, and competing obligations—financial and otherwise (Choy 2002; King 2002). Data from the U.S. Census support such explanations. Figure 2.68 shows that, compared with college students of other ethnic backgrounds, Native Hawaiians were most likely to have full-time employment while attending school.

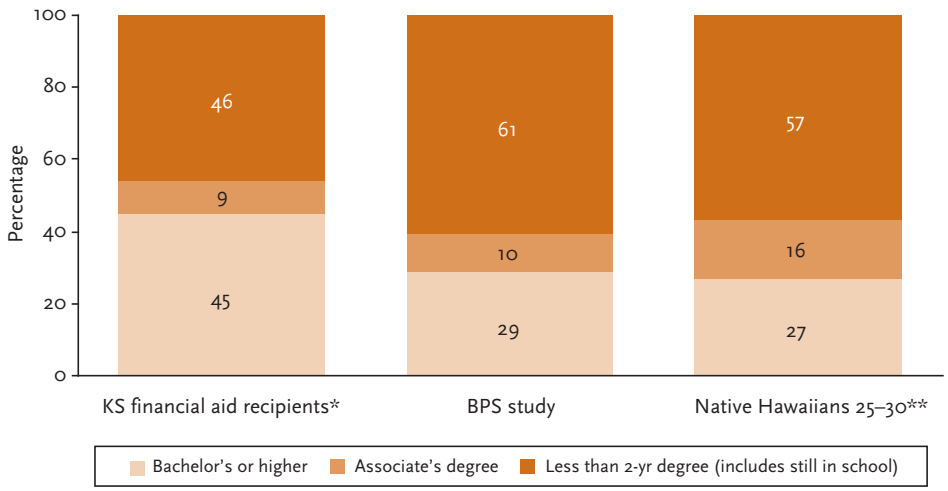
- More than one in five Native Hawaiian college students (22.3 percent) held a full-time job for the entire year while attending school. The Native Hawaiian rate of full-year, full-time employment was nearly twice the rate of Japanese and Chinese students (13.2 percent and 12.3 percent, respectively).
- The rate of part-year, full-time employment among Native Hawaiian college students was also among the highest in the state (8.3 percent, compared with a statewide rate of 6.5 percent). Only Filipino college students were more likely to hold a full-time job for part of the year (10.7 percent).
- Of the state's major ethnic groups, Native Hawaiian college students were the most likely to be employed full time (for either part of the year or for the full year). Almost one in three (30.6 percent) held a full-time job, compared with about one in four students statewide (24.3 percent).

Our earlier discussion of material and economic well-being suggested that financial circumstances in the family may weigh heavily on Native Hawaiian college students, forcing some to assume full-time jobs while attending school. Tight schedules and financial realities may mean that, given the option between reducing earnings or reducing class hours, some students must prioritize work over studies and attend school on a part-time basis, take a semester off, or drop out of college entirely. Such pragmatic decisions may account for the relatively low graduation rates and high continuation rates that characterize Native Hawaiian college students (Choy 2002; King 2002).

Research shows that college completion rates among Native Hawaiians improve dramatically with proper support services such as financial aid, academic assistance, and mentoring. In a joint study between the University of Southern California and Kamehameha Schools (Hagedorn et al. 2004), researchers found that Native Hawaiian college students who received postsecondary financial aid and counseling support from Kamehameha Schools were more likely to complete a four-year degree program than were Native Hawaiian college students in general and students from a national sample used in the Beginning Post-Secondary Study,[17] or BPS (Figure 2.69).

- More than half of all KS financial aid recipients completed either two- or four-year degrees, compared with 39 percent of BPS students and 43 percent of Native Hawaiian college students.
- However, within these degree completion totals, the comparison group of Native Hawaiian college students had a higher proportion of two-year degrees (as opposed to four-year degrees) than did either KS financial aid recipients or BPS students.
- Recipients of KS financial aid earned bachelor's degrees at more than one and a half times the rate of students from the BPS study and Native Hawaiian college students as a whole (45 percent versus 29 percent and 27 percent, respectively).

FIGURE 2.69 Educational attainment distribution among KS financial aid recipients and selected benchmarks
[percentage distribution, selected groups, United States, 2000 to 2003]



Source: Hagedorn et al. 2004.

* KS financial aid recipient category does not include KS alumni who received postsecondary financial aid from Kamehameha Schools.

** Category for Native Hawaiians 25–30 includes only Native Hawaiians in the United States, ages 25 to 30, with at least some college background. Data based on U.S. Census 2000, PUMS.

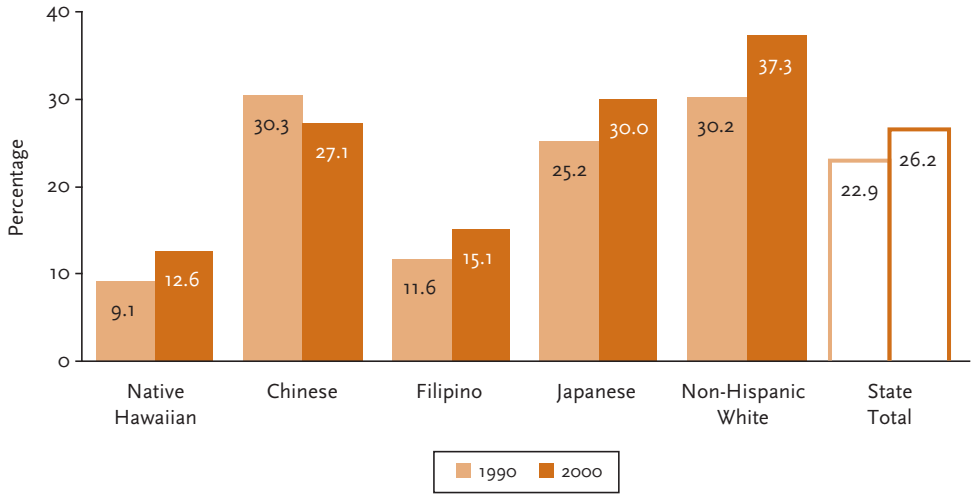
17. The 1995–96 Beginning Post-Secondary Study (BPS) collected longitudinal data from 832 institutions that included approximately twelve thousand postsecondary students who were first-time freshmen in the 1995–96 school year. The BPS comparison group was a nationally representative sample that likely included a smaller proportion of socioeconomically disadvantaged students than that of the KS financial aid sample.

Low college enrollment rates among Native Hawaiian adults in general, combined with low degree completion rates among Native Hawaiians who initially attend college, have resulted in Native Hawaiians having the lowest levels of educational attainment of the major ethnic groups in the state.

Figure 2.70 shows the prevalence of bachelor's degrees (or higher) in each of the state's major ethnic groups in 1990 and 2000. Although the percentage of college-educated Native Hawaiians increased over the ten-year period, it was still less than half the state average (12.6 percent versus 26.2 percent) and lower than the rates among all other major ethnic groups in Hawai'i.

- In 1990, fewer than one in ten Native Hawaiian adults (9.1 percent) had obtained a bachelor's degree or higher. A decade later, the percentage of Native Hawaiian adults with a college degree had increased by 3.5 points to 12.6 percent.
- In 2000, the percentage of college-educated Native Hawaiians (12.6 percent) was less than half the rate among the Chinese and Japanese populations (27.1 percent and 30.0 percent, respectively) and roughly one-third the rate of non-Hispanic Whites (37.3 percent).

FIGURE 2.70 Trends in individuals with bachelor's degrees or higher as a percentage of all adults [adults 25 and older, by race/ethnicity, state of Hawai'i, 1990 and 2000]



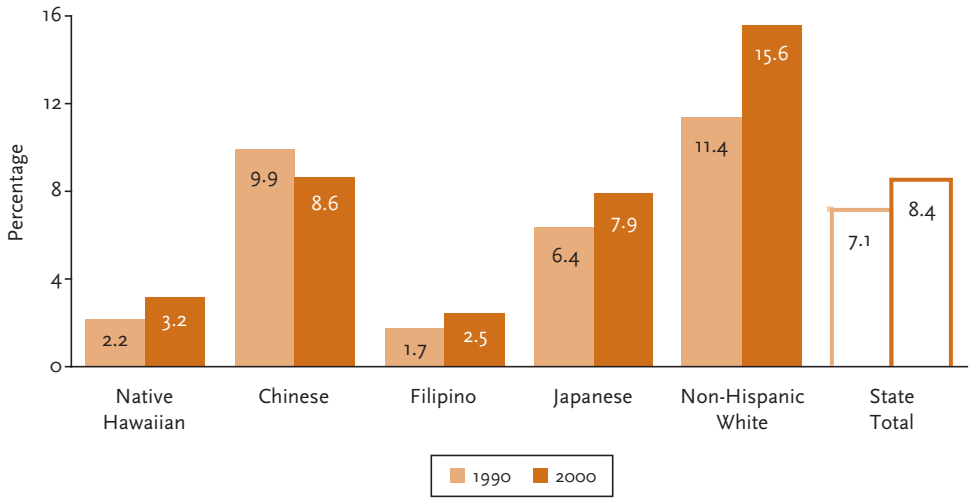
Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Completion of Graduate or Professional School

Successively higher levels of education are usually associated with greater economic and occupational returns (Bills 2003; Day and Newburger 2002; Kerckhoff 2001; Kerckhoff, Campbell, and Trott 1982; Perna 2003; Sewell, Haller, and Hauster 1972; Sewell, Haller, and Ohlendorf 1970; Sewell, Haller, and Portes 1969). Figure 2.71 shows that the number of Native Hawaiians who completed graduate or professional degrees increased significantly between 1990 and 2000.

- In one decade, the percentage of Native Hawaiian adults who obtained a graduate or professional degree increased by nearly 50 percent, from 2.2 percent in 1990 to 3.2 percent in 2000.
- In 2000, the Native Hawaiian rate of graduate degree attainment (3.2 percent) was less than half the statewide rate (8.4 percent) and about one-fifth the rate of non-Hispanic Whites (15.6 percent).

FIGURE 2.71 Trends in graduate or professional degree attainment among adults [adults 25 and older, by race/ethnicity, state of Hawai'i, 1990 and 2000]



Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Types of Postsecondary Degrees and Programs

Horn, Zahn, and Carroll (2001) found that employment outcomes associated with a bachelor's degree (e.g., earnings and job stability) vary widely between different majors or fields of study. Existing data indicate that Native Hawaiians have relatively low rates of representation in the natural sciences, information and computer sciences, mathematics, and business administration. Table 2.2 shows the ethnic distribution of graduates from different programs at the University of Hawai'i–Mānoa.

- Between school years 1996–97 and 2000–01, a total of 7.4 percent of all degrees earned were awarded to Native Hawaiian students. However, Native Hawaiians accounted for just 4.0 percent of degrees in the natural sciences, 2.8 percent of computer science degrees, and 3.2 percent of mathematics degrees (the latter two are not shown).
- Native Hawaiians were similarly underrepresented in fields such as architecture and engineering (3.4 percent) and business administration (4.1 percent).
- Subject areas with relatively high concentrations of Native Hawaiian students included Hawaiian studies (70.9 percent), law (14.1 percent), education and social work (11.0 percent), and the social sciences (8.5 percent).

TABLE 2.2 Racial/ethnic distribution of postsecondary degree program graduates of the University of Hawai'i–Mānoa, by program [percentage distribution, by race/ethnicity of graduate, 1997 to 2001 (combined)]

	Native Hawaiian	Chinese	Filipino	Japanese	White
University of Hawai'i–Mānoa Total	7.4	12.4	8.1	22.3	19.9
Hawaiian Studies	70.9	0.0	1.3	7.3	2.6
Law	14.1	7.3	5.1	17.3	24.9
Education & Social Work	11.0	5.6	7.6	28.5	22.3
Social Science	8.5	7.6	9.8	20.1	20.2
Arts, Humanities, Language, Linguistics, & Literature	6.5	7.2	5.2	21.9	25.4
Medicine, Nursing & Dental Hygiene, Public Health	5.7	11.9	12.2	18.3	27.6
Natural Sciences	4.0	17.8	7.1	20.7	23.0
Business Administration	4.1	21.0	6.5	22.3	9.0
Architecture & Engineering	3.4	27.2	12.8	23.5	9.7

Data source: University of Hawai'i, Degrees and Certificates Earned, 1997 to 2001.

The fields of study in which Native Hawaiian representation is lowest tend to have the greatest earning potential and job stability. For example, graduates in engineering and business administration—two areas in which Native Hawaiians are underrepresented—have the highest job stability and higher-than-average salaries. In contrast, degrees in the social sciences, social work, and education, all of which tend to have relatively high concentrations of Native Hawaiian students, are associated with lower-than-average salaries (Horn, Zahn, and Carroll 2001).

Although the underrepresentation of Native Hawaiians in certain majors may have implications for socioeconomic prospects, such choices should not be construed as a suboptimal outcome. It is likely that occupational choices are often informed by more than just economic considerations. For example, the choice to major in fields such as Hawaiian studies, education, and social work may reflect a Native Hawaiian worldview that emphasizes cultural values, community involvement, and the transmission of knowledge.

The Effects of Parental Education on Children

Even more important than the economic benefits associated with postsecondary education is the long-term effect of educational achievement on future generations. Parental educational attainment is a significant predictor of children's educational outcomes. Numerous studies find a positive correlation between parental education and the level of education achieved by children (Wolfe and Zuvekas 1997). For example, a child whose parents are high school graduates is much more likely to complete his or her secondary education than is a child whose parents did not graduate from high school.

The following analyses show that the educational background of parents may be related not only to the level of their child's educational attainment but also to their child's performance and engagement in school. Because mothers are more often the primary caregivers of their children than are fathers, these analyses look at the correlation between mother's educational attainment and children's educational experiences. This relationship between the educational outcomes of parents and their children may not be a direct one. For example, the educational attainment of parents may impact children through its effect on income, access to stimulating learning materials, health care, better nutrition, and healthier lifestyle choices. Nonetheless, the relationship remains consistent across a number of educational indicators for children.

In general, Native Hawaiian children with highly educated mothers are absent from school less frequently than are children from families with lower levels of educational attainment. Figure 2.72 shows the number of days Native Hawaiian students were absent from school within a six-month period.

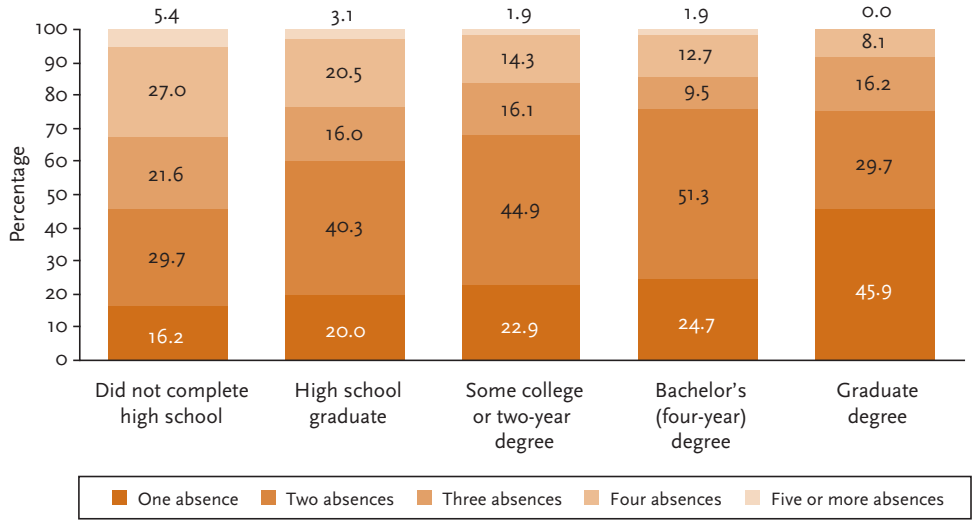
- Nearly half (45.9 percent) of Native Hawaiian students whose mothers had earned a graduate degree had just one absence from school, compared with 24.7 percent of students with college-educated mothers and 20.0 percent of students with high school-educated mothers.
- Native Hawaiian students whose mothers had not completed high school were more than twice as likely to have five or more absences from school, compared with students whose mothers had obtained a bachelor's degree (5.4 percent and 1.9 percent, respectively).

Recent data from Hawaiian families also suggest a correlation between mothers' educational attainment and children's scholastic performance that mirrors statistical relationships found repeatedly in other populations. Figure 2.73 shows the typical grades Native Hawaiian students receive in school (per parents' reports).[18]

- Nearly half of all students whose mothers had obtained either a bachelor's or graduate degree earned an average grade of "A."
- Compared with children whose mothers had not yet completed high school (13.5 percent), students whose mothers had obtained a bachelor's degree (46.2 percent) were more than three times as likely to earn an average grade of "A."

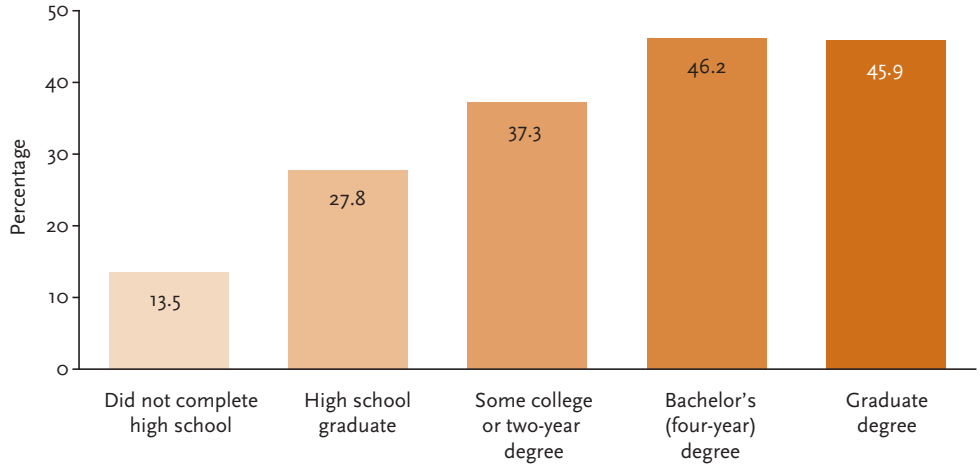
18. These data rely on self-reported information from parents and may vary somewhat from actual school records.

FIGURE 2.72 Number of absences in the last six months among students in respondent Native Hawaiian households, by mother's educational attainment [percentage distribution, reported by respondent parents of Native Hawaiian children ages 5 to 17, state of Hawai'i, 2001]



Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

FIGURE 2.73 Students with average grade of "A" as a percentage of all students in respondent Native Hawaiian households, by mother's educational attainment [reported by respondent parents of children ages 5 to 17, state of Hawai'i, 2001]

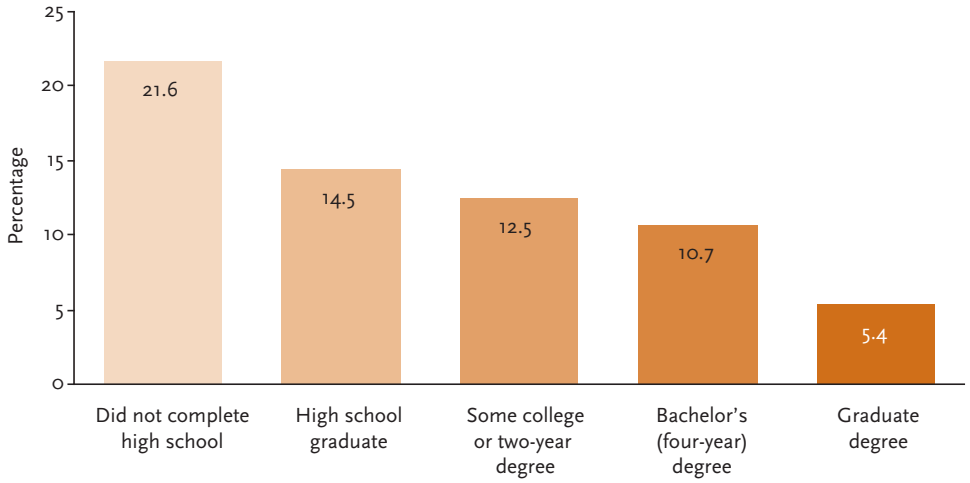


Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

An important relationship also exists between parental education and the diagnosis of physical or learning disabilities among students. The rate of diagnosed physical or learning disabilities among Native Hawaiian children decreases as the educational attainment of their mothers increases. Figure 2.74 shows the percentage of Native Hawaiian students reported to have a diagnosed physical or learning disability.

- Among Native Hawaiian children whose mothers did not complete high school, 21.6 percent reportedly had a physical or learning disability, compared with 10.7 percent of children with college-educated mothers.
- Native Hawaiian children whose mothers did not complete high school were four times as likely to be diagnosed with a physical or learning disability as were children whose mothers had obtained a graduate degree (21.6 percent and 5.4 percent, respectively).

FIGURE 2.74 Students with diagnosed physical or learning disabilities as a percentage of all students in respondent Native Hawaiian households, by mother's educational attainment [reported by respondent parents of children ages 5 to 17, state of Hawai'i, 2001]



Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

The preceding figures should be viewed in the context of the well-documented overrepresentation and misdiagnosis of disadvantaged minority students in special education programs (see Figure 4.77 and Figure 4.78 in Part Four for percentages among public school students). Losen and Orfield (2002) note two factors in disproportionate special education enrollment that may be relevant to Native Hawaiians: (1) "large resource inequalities that run along lines of race and class" and (2) "power differentials between minority parents and school officials" (p. xviii). In other words, it is likely that higher incomes earned by well-educated parents permit early diagnosis and remediation of learning disabilities. In addition, well-educated parents may more actively participate in decisions about their children's placement in school and may be more confident in dealing with—and questioning—school officials. This, in turn, may reduce the chances of their child being inappropriately referred for special education.

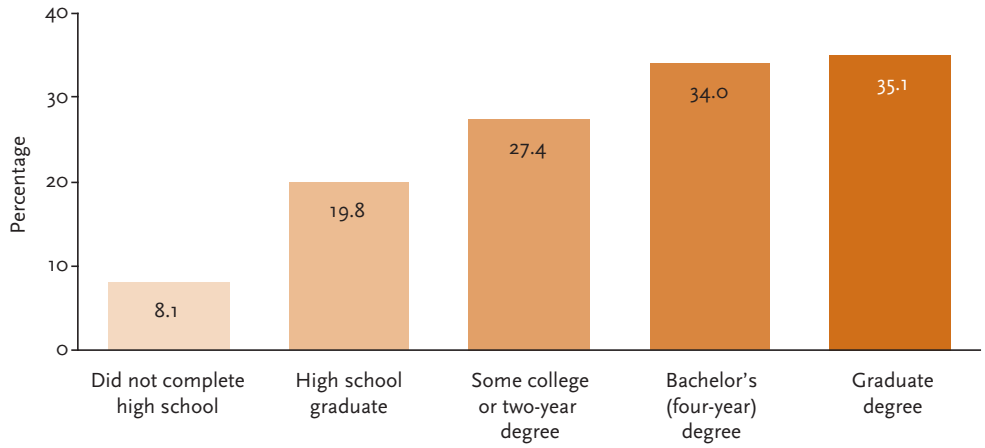
In addition, cultural differences and misunderstandings between disadvantaged minority students and the school officials who make diagnostic placement decisions may contribute to overreferral and overrepresentation of Native Hawaiian children in special education programs (Osher, Woodruff, and Sims 2002). Donovan and Cross (2002) concluded that "cultural differences [between teachers and students] may set in motion a process of interaction and evaluation during which teachers may underestimate the abilities of students who are culturally different" (p. 184).

Parental educational attainment and involvement in their child's school may be related to perceptions of problems in obtaining a quality education for their children. Although one might assume that less-advantaged families would perceive greater difficulty in obtaining quality educational services, Figure 2.75 suggests otherwise: Families in which the mother has high educational attainment are the most likely to report problems with their child's schooling.

- Families with college-educated mothers were almost twice as likely to report problems obtaining a quality education as were families with mothers who had completed high school only (34.0 percent and 19.8 percent, respectively).
- Families with mothers who had obtained a graduate degree were most likely (35.1 percent) to report problems with their child's schooling. By contrast, families with mothers who did not complete high school were least likely (8.1 percent) to report such problems.

These seemingly paradoxical findings are consistent with those of other studies which demonstrate the link between parents' education and their expectations for their children's schools (Goldring and Hausman 1999; Martinez, Thomas, and Kemerer 1994).

FIGURE 2.75 Parents reporting perceived problems obtaining quality education as a percentage of all Native Hawaiian parent respondents, by mother's educational attainment [parents of children ages 5–17, state of Hawai'i, 2001]



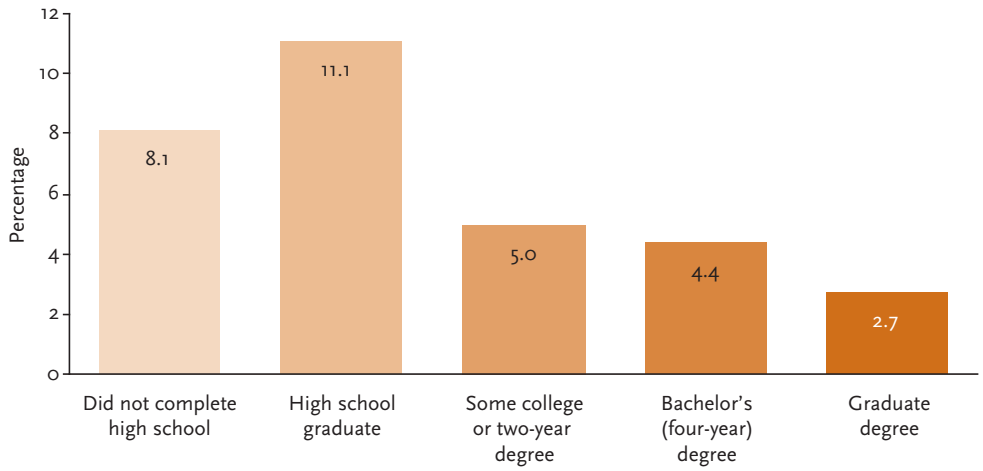
Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

The level of parental educational attainment may also be correlated with the relative stability or transience of school arrangements for their children. Residential mobility and transience have been associated with lower achievement in children (Astone and McLanahan 1994). Part of the relationship between school transfer rates and achievement may be attributable to household income, which is closely associated with residential transience (e.g., home ownership as opposed to renting) and children's performance in school.

Figure 2.76 shows the percentage of Native Hawaiian students who attended more than one school in the previous school year.

- Native Hawaiian children with highly educated mothers were less likely to have transferred to another school midyear.
- Just 4.4 percent of students with college-educated mothers transferred midyear, compared with 8.1 percent of students whose mothers did not complete high school.
- The school transience rate was highest (11.1 percent) among students whose mothers had graduated from high school.

FIGURE 2.76 Children who attended more than one school in the last school year as a percentage of all students in respondent Native Hawaiian households, by mother's educational attainment [reported by respondent parents of children ages 5 to 17, state of Hawai'i, 2001]



Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

The colors and shapes of children's lives play out within the context of community, family, and parental resources and inputs. The findings in Part Two have revealed areas of significant hardship—many triggered by the complex effects of poverty and its accordant challenges in health and overall well-being. What also emerge throughout these pages are family resiliency and social relationships that both draw from and sustain the collective bonds of Native Hawaiians. Finally, the results suggest that education is a critical determinant of well-being not only for today's Native Hawaiian adults, families, and communities but also for future generations. Together, these findings lay the groundwork for the following discussion, which focuses on the influential factors and early childhood opportunities that affect the well-being of our keiki.

Ka ʻike a ka makua
he hei na ke keiki

‘EKOLU | PART THREE

Influential Factors and Outcomes of Early Childhood

[THE KNOWLEDGE OF THE PARENT IS ABSORBED BY THE CHILD]

3

PART THREE INTRODUCTION

Part Three provides an overview of the early childhood conditions and factors that influence young children in the state of Hawai'i, especially Native Hawaiian *keiki* (children). Our review of various indicators of well-being updates current information describing the Native Hawaiian population, reveals several areas of progress in early childhood health and education, and confirms where continued resources are needed.

Early childhood is critical to educational well-being both in terms of individual and social benefits. Neurological research shows that the vast majority of synapse development in the brain occurs before age five and that this development is highly influenced by environmental factors (Berger 1999; Carnegie Task Force on Meeting the Needs of Young Children 1994). These findings highlight the positive individual-level benefits of early childhood education investments for children. In addition, investments in early childhood promote economic development (Rolnick and Grunewald 2003). This argument is backed by mounting research documenting the substantial societal benefits of early childhood investments, the results of which show up in productivity, citizenship, and other societal contributions (Heckman and Masterov 2004).

The years prior to formal schooling lay the foundation for the development of children—emotionally, socially, and academically—and set the stage for lifelong opportunities and successes. Stimulating and nurturing environments provided by families and primary caregivers, as well as quality childcare and preschool experiences, all play a critical role children's development (Shonkoff and Phillips 2000). Risk factors for healthy development, on the other hand, include inadequate nutrition; lack of physical, emotional, and intellectual stimulation; and emotional or physical abuse (Hauser, Brown, and Prosser 1997).

Evidence supporting the importance of investing in children's formative years is compelling and has spurred many nationwide and regional initiatives across multiple sectors of society, including business, health, education, mental health, social services, and childcare. Economic analyses indicate substantial indirect societal benefits to early childhood investments in the form of higher workforce productivity, reduced crime, increased community involvement, higher educational attainment, and reduced

dependency on social services. Research suggests that society's return on investments in quality early childhood programs ranges from $2 to $8 for every $1 invested (Barnett 1995, 1996, 2000; Belfield 2004; Belfield and McEwan 2005; Bruner 2002; Campbell et al. 2002; Heckman 1999; Karoly et al. 1998; Masse and Barnett 2002; Parks 2000; Reynolds et al. 2002; Schweinhart 1993; Van der Gaag and Tan 1998).

In addition to economic payoffs, longitudinal studies strongly suggest that high-quality early childhood education makes a lasting impact on children's health, educational success, and adult career achievement and well-being outcomes (Reynolds 2000; Schweinhart and Weikart 1997). Research documents, for example, that early reading and other skills are highly correlated with formal education achievement, which in turn is a significant indicator of future success (National Institute of Child Health and Human Development 2000; Snow, Burns, and Griffin 1998). These findings urge educators and economists alike to seize this window of opportunity to provide high-quality, scientifically based programs as early as possible to help children maximize their growth and lifelong successes.

The review of early childhood well-being throughout Part Three serves two critical purposes. First, we provide comprehensive information, where available, that may strengthen the capacity of communities and policymakers to make data-driven decisions about services for young children and their families. Second, we indicate areas of progress and those needing further resources. Among the latter is the need for additional data and research, especially with respect to young children in Native Hawaiian communities.

It is also important to recognize that the statistics presented in this narrative do not occur in isolation from their historical causes, which are rooted in the forces of colonialism and exploitation (Blaisdell 1993b; Halualani 2002; Kame'eleihiwa 1992b; Kana'iaupuni 2004a; Kaomea forthcoming). The erosion of a once thriving, healthy Hawaiian society is evident today in the high percentages of children living in conditions that place them at risk. Yet, as Kaomea (forthcoming) argues, public policy approaches tend to decontextualize the present reality from its historical causes, often seeing Hawaiian parents as inferior or "unfit." She affirms the importance of recognizing resiliency and creativity in Native Hawaiian families and asserts that rather than "viewing indigenous families as a negative influence to be compensated for...we [must] view them as a strength to be built upon" (p. 21).

One challenge in gathering information about young children is the limited data on early outcomes and achievement. As such, our review provides as comprehensive a portrait as possible, based on the following key sources of data.

- **Native Hawaiian Young Children: Data, Information, and Services.** Compiled in 2000 by Ho'owaiwai Nā Kamali'i, this report provides information from a survey of service providers who target families and children younger than five years of age, as well as additional information gathered from consumers of those services.
- **Hawaiian Community Survey (HCS)** of Native Hawaiian households. Administered by Kamehameha Schools, this annual survey was designed to obtain community input regarding the educational needs of Native Hawaiian learners and their families. The 2002 version of this survey oversampled households with young children to assess childcare and preschool needs, as well as other social and economic indicators.
- **U.S. Census 2000** and **Hawai'i Department of Health** data for the state of Hawai'i. These sources offer representative information regarding the social, economic, and household characteristics of Native Hawaiian families with young children, permitting comparisons with other major ethnic groups within the state.

The discussion that follows examines the well-being of children younger than five years old (although in some instances, reporting conventions in the data sources include five-year-olds). We begin with a demographic summary of young Native Hawaiians, including population trends and projections, as well as family characteristics. Next, we present available data on the social, economic/material, physical, and emotional factors that influence children's educational outcomes and cognitive development. Indicators of social and economic well-being include family structure, employment, income, and poverty. We assess physical well-being for the youngest Native Hawaiians with indicators of infant mortality, prenatal care, and pregnancy outcomes, which are known to shape the early environment and are linked to children's well-being (Hauser, Brown, and Prosser 1997). We conclude with a discussion of educational and emotional well-being indicators, including family interaction, time spent with children, and early childhood education characteristics.

POPULATION CHARACTERISTICS

This analysis examines trends and future growth of the young Native Hawaiian population. This information is essential for policymaking and resource planning to improve well-being and provide quality childcare, preschool facilities, and access to health care and social services.

The bottom line is that the Native Hawaiian population is growing. First, we find rising numbers of Native Hawaiian births since 1965, despite some year-to-year fluctuations. Second, we observe that most of the gains are due to births in the counties of Maui, Kaua'i, and Hawai'i. Thus, although the bulk of the Native Hawaiian population continues to reside on O'ahu, there is a slow shift toward other counties as populations grow in these regions.

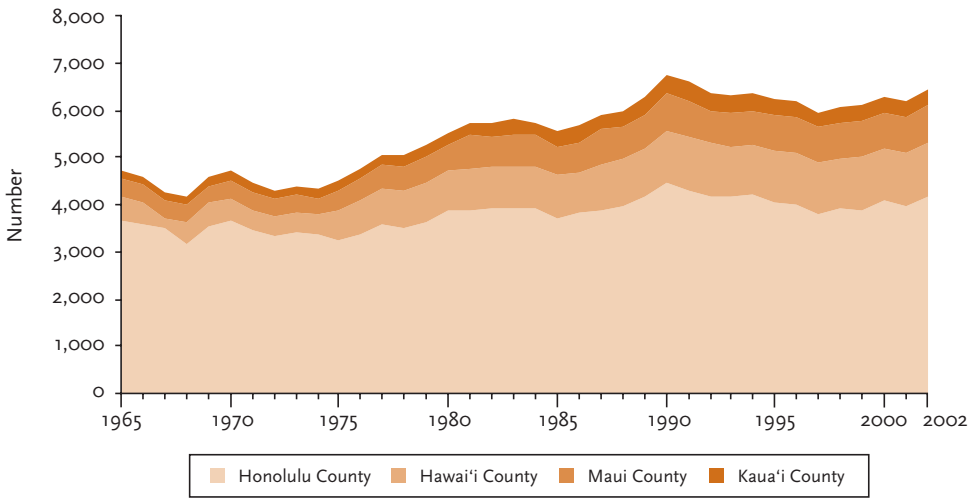
Third, population forecasts project steady growth of young Native Hawaiian children over the next several decades (unlike the case for several other major ethnic groups in the state and nation). According to these forecasts (Malone 2005), the population of Native Hawaiian children younger than age five will increase by 167 percent between 2000 and 2050. At the same time, the preschool-age Native Hawaiian population will also grow to represent a larger percentage of the total Native Hawaiian population. Taken together, these trends signal the need to plan ahead for the continued growth of the young Native Hawaiian population.

Native Hawaiian Births

The Native Hawaiian population has experienced a consistent upward trend in the number of births since 1965. Figure 3.1 shows the breakdown of births by county, indicating that much of the growth in the last four decades has been in the counties of Maui, Kaua'i, and Hawai'i.

- The number of Native Hawaiian births statewide increased from 4,732 in 1965 to 6,459 in 2002, a 37 percent increase.
- Honolulu County experienced a 13 percent increase (3,674 in 1965 to 4,148 in 2002).
- Maui County experienced a 109 percent increase (380 in 1965 to 794 in 2002).
- Kaua'i County experienced a 78 percent increase (192 in 1965 to 342 in 2002).
- Hawai'i County experienced a 141 percent increase (487 in 1965 to 1,175 in 2002).

FIGURE 3.1 Native Hawaiian birth trends [by county, state of Hawai'i, 1965 to 2002]



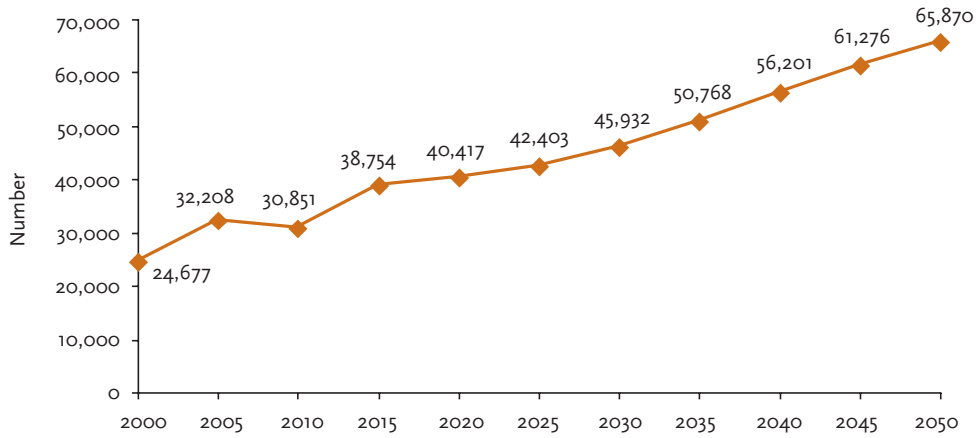
Data source: Hawai'i Department of Health, Vital Statistics Reports 1965 to 2002.

Population Forecasts

Population forecasts project that by 2050, the number of Native Hawaiian children younger than age five will have increased dramatically (Figure 3.2). This projection is consistent with statistics on the overall growth of the Native Hawaiian population (see Part One).

- The number of Native Hawaiian children younger than age five will more than double in the next fifty years, from 24,677 in the year 2000 to 65,870 in 2050.
- This tremendous increase raises questions about resource allocations, availability of childcare and preschool facilities, and the health and social concerns that may affect these generations in the future.

FIGURE 3.2 Population forecasts for young Native Hawaiian children [children under 5, state of Hawai'i, 2000 to 2050]

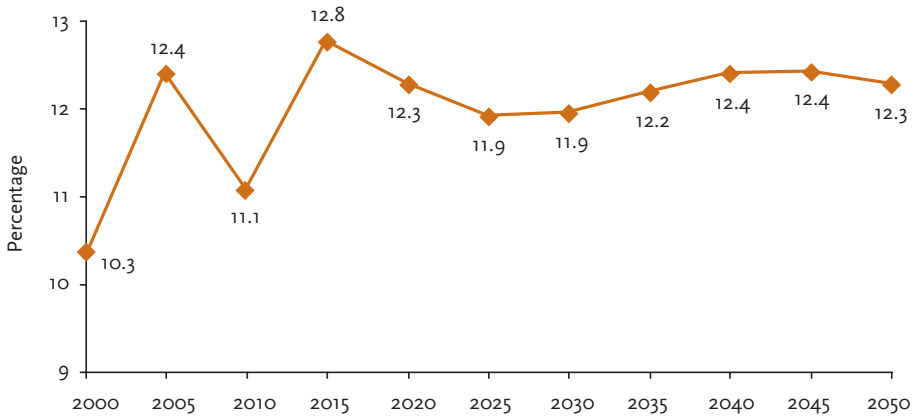


Source: Malone 2005.

As the number of young Native Hawaiians increases, their relative share as a percentage of the Native Hawaiian population also grows. Figure 3.3 shows population forecasts predicting a large increase in the percentage of Native Hawaiian children younger than age five in coming decades.

- Projections estimate that the number of young Native Hawaiians will grow to represent 12.3 percent of the total Native Hawaiian population by the year 2050. This value reflects an increase of approximately 19 percent from the 2000 level.
- Over the next decade, the share of the total Native Hawaiian population consisting of children younger than age five will increase sharply, from 10.3 percent in 2000 to 12.8 percent in 2015. This upward trend is interrupted by a dip of roughly 1 percentage point in 2010, which reflects a shift in the population of reproductive age. From 2015 forward, the concentration of young children in the Native Hawaiian population will level off to more stable trends.
- Overall, the demographic shift depicted in Figure 3.3 suggests the need to ensure adequate public and private resources to accommodate a faster rate of growth in the younger Native Hawaiian population, relative to older Native Hawaiians, and a corresponding increase in dependency ratios (see Figure 1.11).

FIGURE 3.3 Young children as a percentage of total Native Hawaiian population [based on population forecasts, children under 5, state of Hawai'i, 2000 to 2050]



Source: Malone 2005.

SOCIAL AND MATERIAL WELL-BEING: FAMILY RESOURCES AND SUPPORTS

Given the context of a rapidly growing young Native Hawaiian population, we now turn to more in-depth analyses of the social and material well-being of our youngest children. In a child's early years, social interaction and growth are typically centered in the family. Economic resources that affect access to childcare and preschool also directly affect the early development of young children. Accordingly, this section first presents research on family structure and household characteristics, followed by data on poverty and public assistance use. Identifying the resources available to families is important to understanding the educational opportunities and overall well-being of Native Hawaiian youngsters.

Our findings indicate that Native Hawaiian families are more likely to have young children and more likely to be headed by a single parent, compared with other ethnic groups in the state. A vast research literature connects family structure to child well-being. Studies show that children in single-mother families often have fewer economic resources, spend less time interacting with their parents, and face greater risks of inadequate supervision and oversight (Eggebeen and Lichter 1991; McLanahan 2004; McLanahan and Sandefur 1994). As adults, children who are reared in single-parent families tend to have lower levels of education and employment and are more likely to receive welfare than are children who grow up with both biological parents (McLanahan and Sandefur 1994). Family structure also is linked to intergenerational outcomes. For example, girls from single-parent families are comparatively more likely to

experience disruption in their marriages and spend some of their own lives as a single parent (McLanahan and Sandefur 1994; Wu and Martinson 1993). Recent investigations find that children in all kinds of nonnuclear families (single-parent, step-, or blended families) are subject to poorer educational outcomes, and that much of the relationship between family structure and educational outcomes may be attributed to differences in family income (Ginther and Pollak 2004).

One of the chief ways that family size and structure affect young children is through their effects on the amount of resources and opportunities available to young children (Lee and Burkam 2002). Studies find that economic status and available material resources influence behavioral and cognitive outcomes of preschool-age children (Yeung, Linver, and Brooks-Gunn 2002). In fact, "a child's cognitive ability at age ten is more closely linked to his socioeconomic status at age two than to his cognitive ability at age two" (Noble, Tottenham, and Casey 2005, p. 75). As such, parental employment is also related to child outcomes, mainly through its effects on economic resources and the ability to purchase quality childcare and preschool services.

One factor that mediates the developmental risks to lower-income children is parental educational attainment. Higher parental education positively influences children's cognitive and behavioral development and, over the long term, children's educational attainment and employment outcomes (McLanahan 2004). Research shows that the educational attainment of parents significantly affects parent–child interactions. Highly educated parents are more likely than other parents to read to their children, engage with them verbally, expose them to a larger vocabulary, and involve them in projects and activities that are cognitively rich (Brooks-Gunn and Markman 2005). Studies also find that home- and center-based programs that have a parenting component improve parent nurturance and disciplinary skills and, in so doing, increase the likelihood that children will succeed in formal educational settings. In the short term, home-based programs appear to affect mothers but not their children, whereas center-based programs may be more likely to achieve measurable growth among both parents and children (Brooks-Gunn and Markman 2005).

In general, Native Hawaiian families with young children tend to have lower income and educational attainment compared with similar families among other ethnic groups. Although employment rates of Native Hawaiian families with children are on par with the state average, poverty rates continue to be high, suggesting that many Native Hawaiian families struggle to earn a living wage, partly as a result of their limited access to high-quality educational opportunities. Factors such as education, employment, and income affect the choices and opportunities available to parents and their children.

Rates of poverty and dependence on state financial assistance are higher for Native Hawaiian households than for other ethnic groups. These current realities put many Native Hawaiian children in a precarious situation early in their lives. The higher usage rates of state benefits such as Temporary Assistance for Needy Families (TANF), Temporary Assistance to Other Needy Families (TAONF), and Child Care Connection suggest that many Native Hawaiian families have difficulty financing the needs of their young children. The stresses of providing for their children with limited resources can be daunting to parents and are compounded by the high prevalence of conduct disorders, hyperactivity, illness, and emotional difficulties in low-income families, which also impact later educational outcomes (Duncan and Brooks-Gunn 1997; Mayer 1997).

Counteracting some of the negative risks are positive influences and nonmaterial resources. For example, our findings in the following discussion show that compared with other children, young Native Hawaiian children enjoy high levels of interaction and contact with their grandparents. Given the prevalence of Native Hawaiian children living in the same household as their grandparents, Native Hawaiian children are also more likely than other children to have grandparents who assume caregiving responsibilities.

In Native Hawaiian homes, the benefits of *kūpuna* (elders) vis-à-vis young children can be practical as well as cultural. Research shows that living in multigenerational families or relying on extended family is an effective strategy to alleviate the effects of socioeconomic disadvantage among families with young children, specifically by increasing access to social networks and support (Kana'iaupuni et al. 2005). This practice is also consistent with cultural values surrounding the importance of *'ohana* (family) among Native Hawaiians. In multigenerational households, young Native Hawaiian children rely on their kūpuna as caregivers, mentors, instructors, sources of knowledge, and protectors.

Family Composition and Characteristics

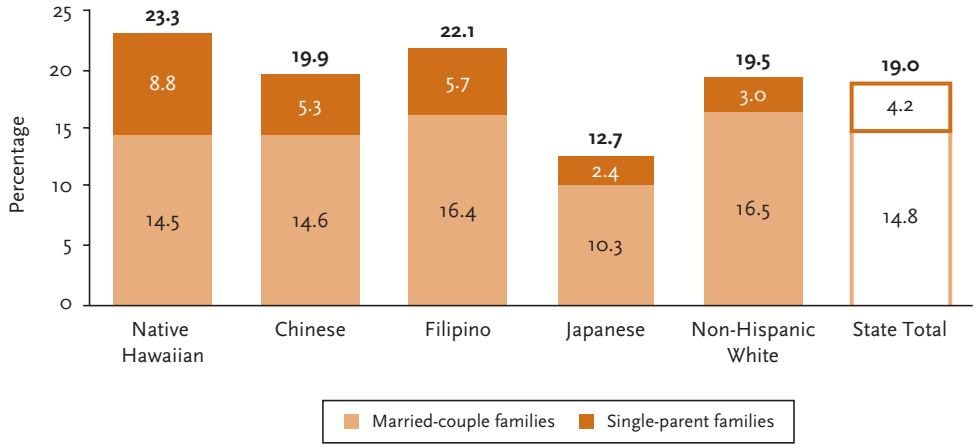
In 2000, the percentage of households with children ages five and younger was higher among Native Hawaiians than among other ethnic groups in the state. Figure 3.4 shows that much of the difference is due to a relatively large proportion of Native Hawaiian single-parent families.

- Nearly one-quarter (23.3 percent) of all Native Hawaiian families included children ages five and younger, compared with the state average of 19.0 percent.
- Approximately one in ten Native Hawaiian households (8.8 percent) consisted of a single parent raising young children. This figure was more than double the state average of 4.2 percent and higher than that of all other major ethnic groups in the state.

Family structure is important to child rearing and the resources available to young children. Figure 3.5 shows that in 2000, young Native Hawaiian children ages five and younger were more likely to live with single parents than were young children of other ethnicities.

- Among young Native Hawaiian children, about two of three (64.6 percent) lived in married-couple families, compared with the state average of 78.5 percent.
- Among young Native Hawaiian children, 25.4 percent were cared for by single mothers. This proportion was higher than that of other ethnic groups and nearly 10 percentage points higher than the state average of 15.5 percent.
- Single-father families were also more prevalent among young Native Hawaiian children (9.9 percent), compared with the state average of 6.1 percent.

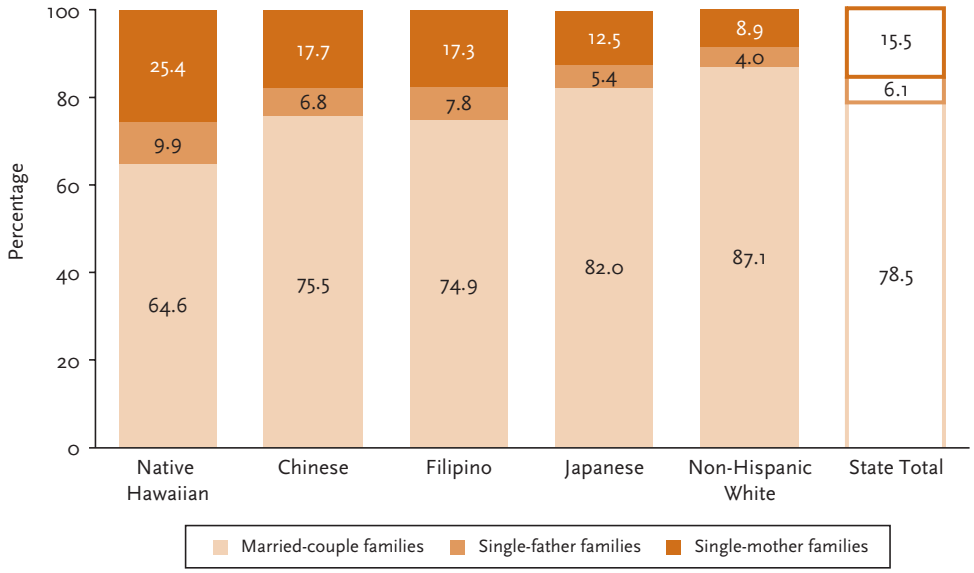
FIGURE 3.4 Families with young children as a percentage of all families [families with children ages 5 and younger, by family type, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 2.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

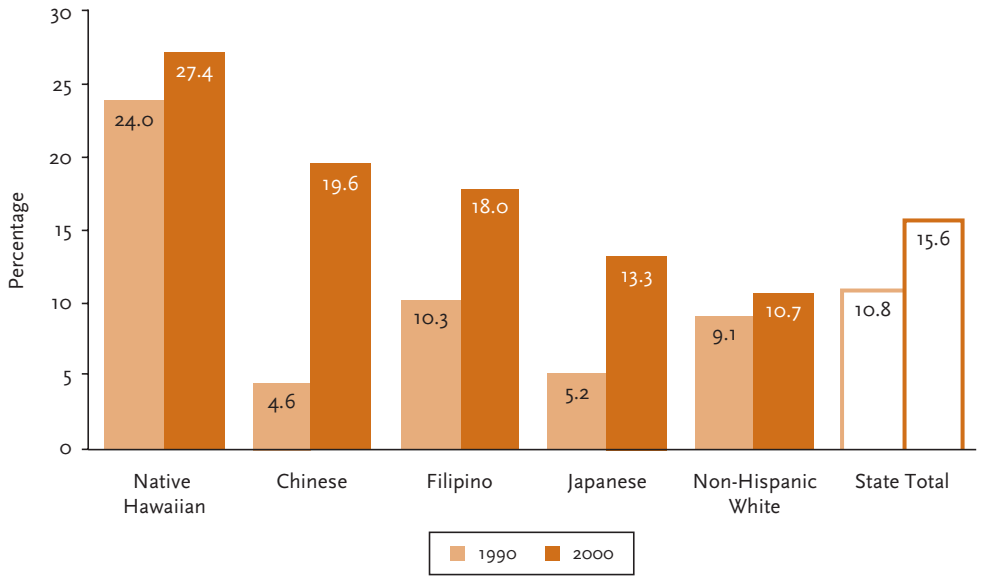
FIGURE 3.5 Distribution of young children according to family type [children ages 5 and younger, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 2.

Note: For the sake of brevity, families headed by a single male with no wife present are referred to as "single-father families," and families headed by a single female with no husband present are generalized as "single-mother families." However, the individuals or couples who head these families are not necessarily the biological parents of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

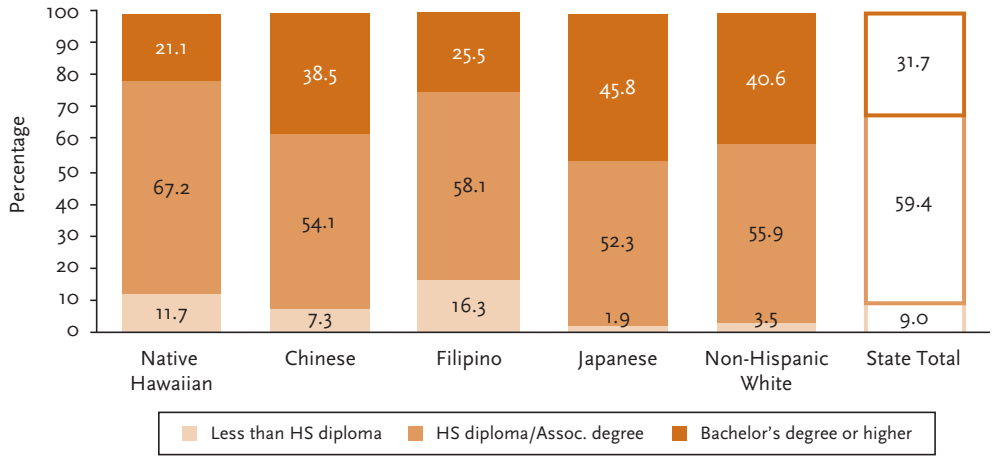
FIGURE 3.6 Trends in single-mother families as a percentage of all families with young children [families with children ages 5 and younger, by race/ethnicity, state of Hawai'i, 1990 and 2000]



Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 2.

Note: For the sake of brevity, families headed by a single female with no husband present are referred to as "single-mother families." However, the individuals who head these families are not necessarily the biological mothers of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

FIGURE 3.7 Educational attainment* of parents with young children [percentage distribution, families with children under 5, by education level, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

*Educational attainment refers to the parent with the highest attainment within the family.

Similarly, in 2000, Native Hawaiian families with children ages five and younger were more likely to be single-parent families (headed by a mother or father), compared with other families. Figure 3.6 shows rates of single-mother families in 2000 compared with those of 1990.

- In 2000, about one in four Native Hawaiian families with young children (27.4 percent) was headed by a single mother, an increase of 3.4 percentage points from 1990.
- The percentage of single-mother Native Hawaiian families with young children was the highest in the state in 2000, surpassing the state average by more than 10 percentage points.
- Nonmarital births to Native Hawaiian mothers has consistently been more than 20 percentage points higher than the statewide rate for the past ten years (see Figure 2.7 in Part Two).

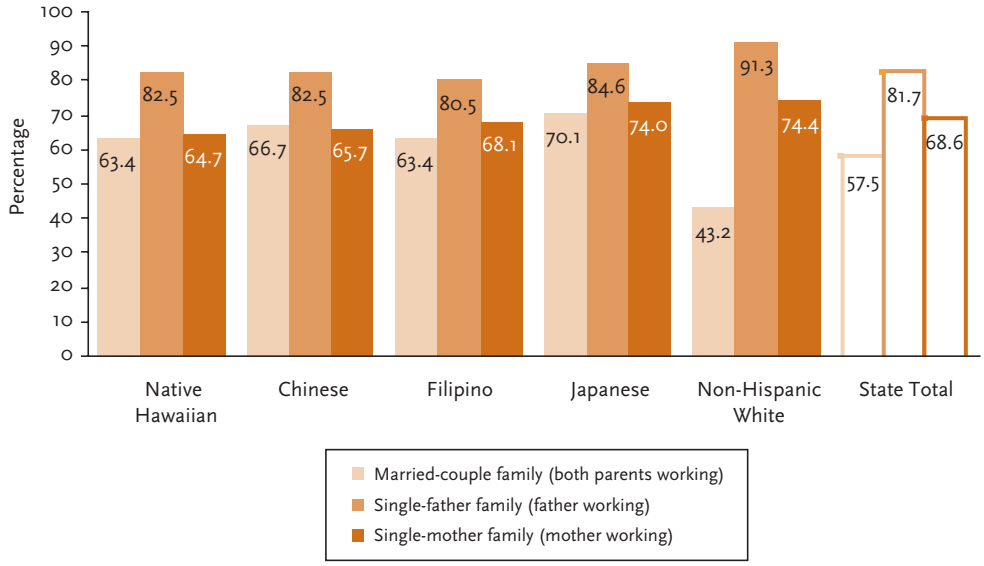
Young Native Hawaiian children are likely to have parents with less formal education, compared with their non-Hawaiian peers. This can affect both social and economic resources available to children. Figure 3.7 shows educational attainment of parents with young children.

- Among Native Hawaiian families with young children in 2000, roughly one in five (21.1 percent) included a parent with a bachelor's degree or higher, compared with the state average of 31.7 percent.
- Native Hawaiian families with children younger than age five were the least likely to contain a parent with a bachelor's degree, compared with similar families among the state's major ethnic groups.
- Among Native Hawaiian families with young children, slightly more than one in ten parents (11.7 percent) had less than a high school diploma.

Poorer employment opportunities and lower wages affect the well-being of young Native Hawaiian children and may create economic stress for families. Figure 3.8 shows that, despite lower incomes (Figure 3.10) and higher poverty levels (Figure 3.11, Figure 3.12, and Figure 3.13), Native Hawaiian parents of young children exhibit rates of employment that are similar to those of parents in other major ethnic groups. These findings underscore the need for more jobs that pay a living wage and for the creation of educational and career paths that help young Native Hawaiian adults move into higher paying occupations.

- About two-thirds (63.4 percent) of children in married-couple families had both parents working. This value is higher than the state average (57.5 percent) and similar to that of the state's other major ethnic groups with the exception of non-Hispanic Whites (43.2 percent).
- More than four out of five young Native Hawaiian children in single-father families had employed fathers (82.5 percent), slightly higher than the state average for this group (81.7 percent).
- Almost two-thirds (64.7 percent) of young Native Hawaiian children in single-mother families had mothers who work, slightly less than the state average among this group (68.6 percent).

FIGURE 3.8 Children with working parents as a percentage of all young children [children ages 5 and younger, by family type, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 4.
Note: For the sake of brevity, families headed by a single male with no wife present are referred to as "single-father families," and families headed by a single female with no husband present are generalized as "single-mother families." However, the individuals or couples who head these families are not necessarily the biological parents of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

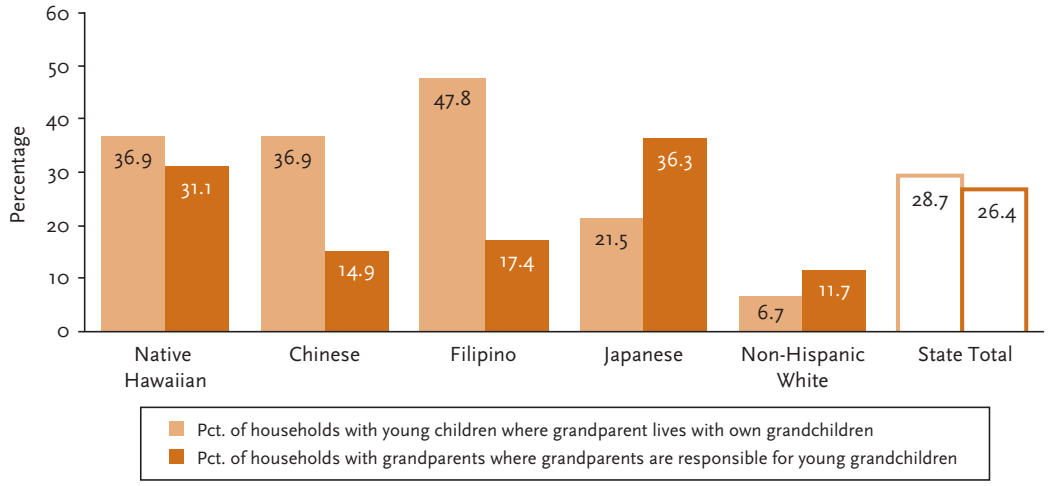
Social Support: Grandparent Involvement

Extended family and friends expand the social and economic resources available to children. Many young Native Hawaiian children benefit from the social supports and networks of grandparents and other kin; in fact, it is quite common for young Native Hawaiian children to spend some portion of their childhood being cared for by their grandparents. Figure 3.9 shows the high degree of coresidence between grandparents and grandchildren and underscores the important role of grandparents as caregivers in Native Hawaiian families.

- Among all Native Hawaiian households with children younger than age five, more than one-third (36.9 percent) had grandparents living in the same home as grandchildren, compared with the state average of 28.7 percent.
- In nearly one-third (31.1 percent) of such households, grandparents served as caregivers[1] for their young grandchildren. Thus, in more than one in ten Native Hawaiian households with young children (11.5 percent), live-in grandparents provided at least some of the childcare (not shown).[2] The next highest rate is among Filipino families (8.3 percent); the statewide rate is 7.6 percent.

1. A caregiver is not necessarily the sole provider for the child, but may also include adults with regular caregiving duties such as babysitting.
2. Note that these data may underestimate the role of grandparents because they do not include those who reside in households separate from the young children for whom they provide care.

FIGURE 3.9 Presence of grandparents and grandparent caregiving in households with young children [households with children under 5, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Income, Poverty, and Public Assistance

Research shows that the effects of poverty can last a lifetime. Economic uncertainty in families with young children can affect health, limit educational opportunities, and decrease the likelihood of a child's readiness for school and future positive educational outcomes (Ginther and Pollak 2004; Lee and Burkam 2002; Yeung, Linver, and Brooks-Gunn 2002). Studies show that children from poorer families tend to make relatively smaller gains in math and other academic areas in part because of reduced access to money and human capital resources, in addition to other social and cultural factors (Burkam et al. 2004; Chin and Phillips 2004).

Income is lower and poverty rates are higher among Native Hawaiians than among other major ethnic groups in the state of Hawai'i. Estimates of poverty among three- and four-year-old Native Hawaiians vary throughout the state, ranging from 16 percent in West Hawai'i to 80 percent on Moloka'i (based on 185 percent of the poverty threshold).

The high percentage of Native Hawaiian children living in poverty throughout the islands has significant implications for the present and future well-being of Native Hawaiian communities and for children's overall well-being, cognitive development, and school readiness. Actual poverty rates may be even higher in the state of Hawai'i because available estimates using conventional poverty thresholds do not take into account cost-of-living factors such as childcare, food, or geographic location and may greatly underestimate the true needs of working-poor Native Hawaiian families (Short et al. 1999). Boushey et al. (2001) report that families at twice the current poverty level experience relatively high rates of critical and serious hardships.[3] Locally, the Good Beginnings Alliance (n.d.) estimates that about two-thirds of the jobs in the state of Hawai'i do not pay enough to meet the minimum level of support required by families.

3. Serious hardships are defined as the inability to afford preventive medical care, quality childcare, or safe and affordable housing. Critical hardships are those arising from the inability to meet basic needs such as food, housing, or medical care.

Consequently, with the average cost of licensed childcare in Hawai'i at $385 per month ($4,620 annually), even families at 185 percent of the poverty threshold are not likely to be able to afford both basic living costs and childcare. For many working parents, this may mean finding economical alternatives to expensive preschool and childcare programs, which research shows often results in tradeoffs in the quality of those services (Shonkoff and Phillips 2000).

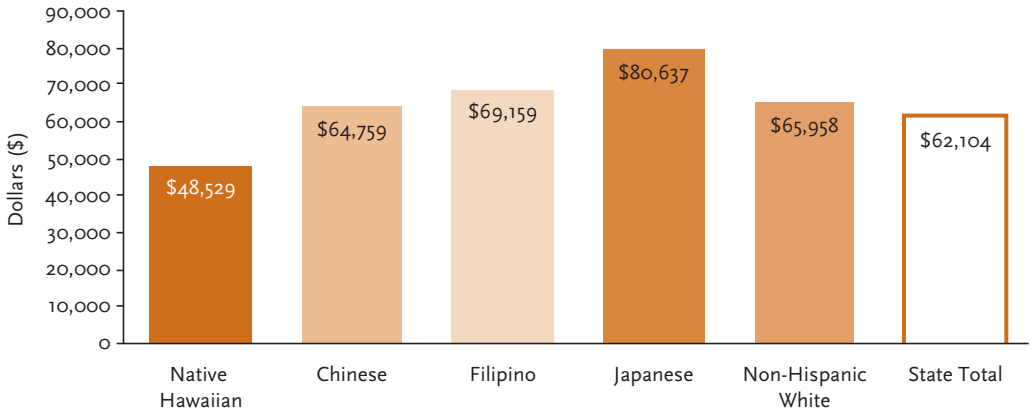
Consistent with long-term trends in income and wages, families of young Native Hawaiian children have the lowest mean income in the state. Figure 3.10 displays mean family income for major ethnic groups in 2000.

- In 2000, the mean family income for Native Hawaiian families with children younger than five was $48,529, nearly $14,000 less than the state average of all families with young children.
- The mean family income for Native Hawaiian families with young children was significantly lower than that of other ethnic groups: more than $16,000 less than that of Chinese families (the second-lowest income group), and more than $32,000 less than that of Japanese families (the highest income group).

The comparatively low income of Native Hawaiian families with young children (Figure 3.10) has implications for the poverty rates (Figure 3.11 and Figure 3.12).

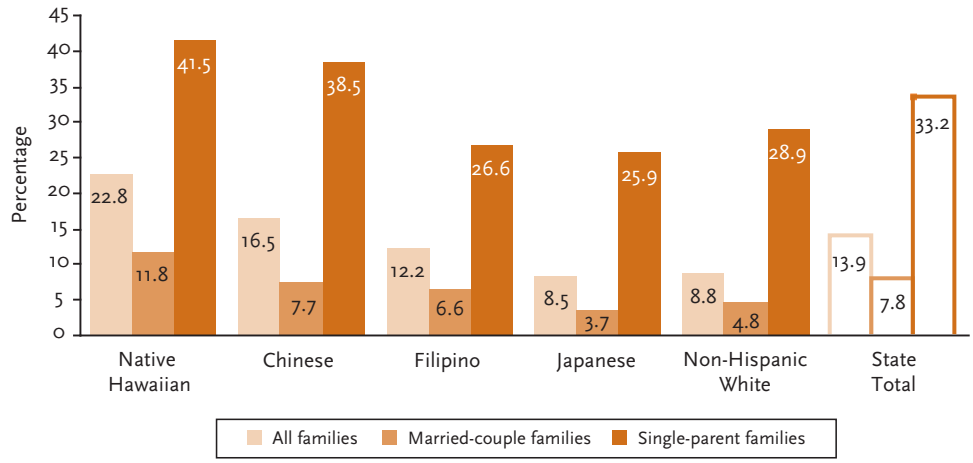
- Compared with other ethnic groups, Native Hawaiian families with children younger than age five had the highest poverty rates in 2000, surpassing the state average by almost 9 percentage points.
- Nearly one-quarter (22.8 percent) of Native Hawaiian families with children younger than age five fell below the poverty threshold. Two-thirds of these needy families were headed by a single parent (not shown), which implies unique difficulties for such families owing to the competing demands of parenthood and economic survival.
- Fully 41.5 percent of Native Hawaiian single-parent families with young children lived in poverty, far exceeding the state average of 33.2 percent.
- Among Native Hawaiian families with young children headed by a single mother, nearly half (48.9 percent) lived in poverty (not shown). The prevalence of poverty among single-mother Native Hawaiian families with young children decreased from 54.8 percent in 1989 to 48.9 percent in 1999 (not shown).

FIGURE 3.10 Mean family income of families with young children [families with children under 5, by race/ethnicity, state of Hawai'i, 1999]



Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

FIGURE 3.11 Families living in poverty as a percentage of all families with young children, selected family types [families with children under 5 years, by family type, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Figure 3.12 presents poverty statistics similar to those of Figure 3.11, except that the unit of analysis is children five and younger.

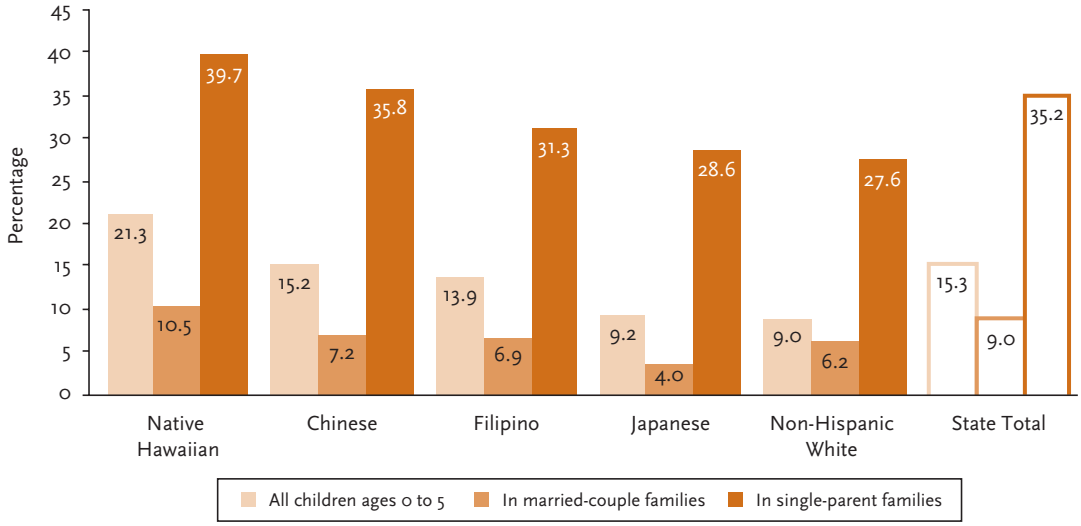
- In 1999, more than one in five young Native Hawaiian children lived in poverty (21.3 percent) compared with 9.0 percent of non-Hispanic White children and 9.2 percent of Japanese children.
- Of young children in married-couple families, Native Hawaiians were more likely to live in poverty than were children of other ethnic groups: 39.7 percent of Native Hawaiian children in single-parent families lived below the poverty threshold.

The number and percentage of young Native Hawaiian children in poverty vary greatly by island and by district. Figure 3.13 shows the percentages of young Native Hawaiian children living below 100 and 185 percent of the poverty threshold.

- Of the approximate 25,000 Native Hawaiian children younger than five years old in Hawai'i, one in five (20.9 percent) lived at or below 100 percent of the federal poverty threshold[4] in 1999. The figures ranged from 10.5 percent in Windward O'ahu to 52.8 percent on Moloka'i.
- Many public assistance programs determine income eligibility with criteria that are closer to 185 percent of the poverty threshold.[5] By this standard, about one in three (32.1 percent) lived at or below 185 percent of the federal poverty threshold.[6]
- The highest concentrations of poverty are found on Moloka'i, Lāna'i, and East Hawai'i.
- Using the 185 percent measure, 7,926 Native Hawaiian children younger than age five (32.1 percent) live in poverty statewide. This translates to 1,386 in East Hawai'i (51.1 percent); 400 in West Hawai'i (21.5 percent); 38 on Lāna'i (50.1 percent); 739 on Maui (26.5 percent); 358 on Moloka'i (80.4 percent); 858 in Central O'ahu (30.2 percent); 1,037 in Honolulu (33.5 percent); 2,046 in Leeward O'ahu (34.9 percent); 578 in Windward O'ahu (16.2 percent); and 450 on Kaua'i (31.9 percent).

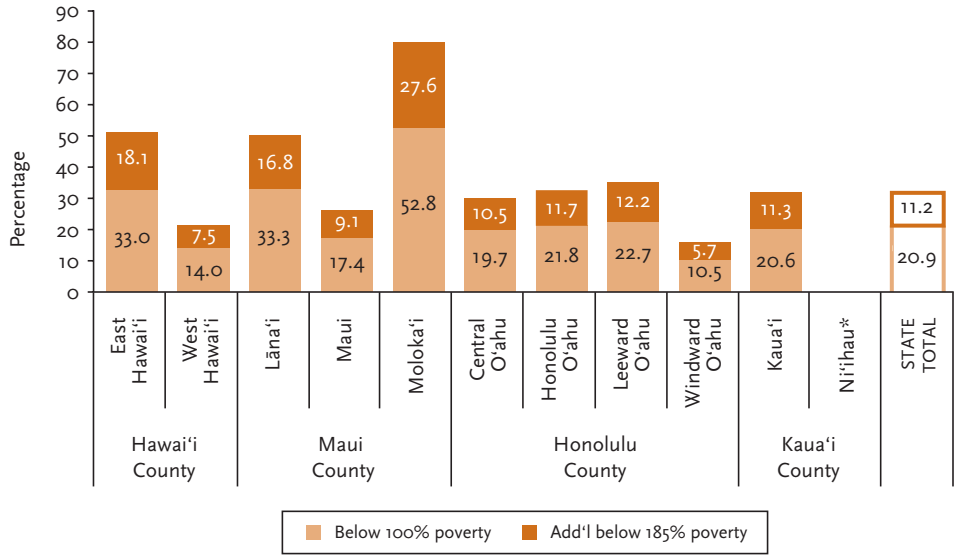
4. The federal poverty threshold at 100 percent is $17,500 for a family of two adults and two children.
5. Income eligibility requirements for public assistance programs are generally based on 185 percent of the federal poverty guidelines, which are a simplified version of the poverty thresholds issued by the U.S. Census Bureau annually. However, the federal government adjusts its poverty guidelines for Hawai'i to account for the higher cost of living in the state, while the Census Bureau's poverty thresholds make no such adjustment. Because the poverty rates presented throughout this report are based on the Census Bureau's poverty thresholds, they underestimate the actual level of need in Hawai'i.
6. Because the cost of living in Hawai'i is so high, even a standard such as 185 percent of the poverty threshold may be inadequate for capturing the full extent of need within the state. In 2000, income levels for a family of four at 185 percent of the Hawai'i-specific poverty guidelines exceeded comparable figures at 185 percent of the poverty threshold by more than 10 percent.

FIGURE 3.12 Young children living in poverty as a percentage of all young children in selected family types [children ages 5 and younger, by family type, by race/ethnicity, state of Hawai'i, 1999)



Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

FIGURE 3.13 Young children living in poverty as a percentage of all young Native Hawaiian children [children under 5 years, by poverty threshold, by geographic region, state of Hawai'i, 1999]



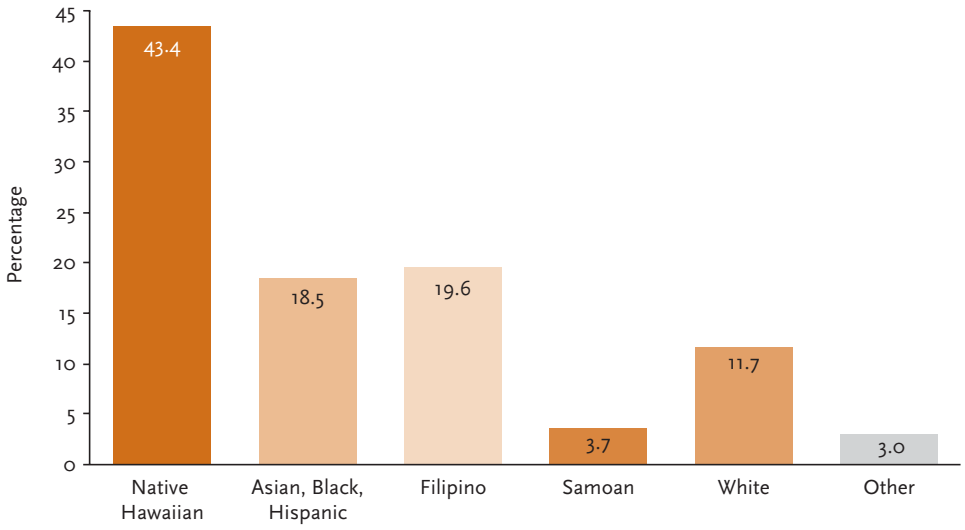
Data source: Kamehameha Schools, Aloha Counts 2003.
Note: Poverty statistics presented here are estimates based on rounded sample data and may differ slightly from poverty statistics cited directly from Census products.
* No estimates were available for Ni'ihau.

Given the preceding statistics on income and poverty, it is not surprising that the State of Hawai'i Department of Human Services reports that Native Hawaiians have disproportionately high participation in state financial assistance programs. Participation rates of Native Hawaiian individuals and families in public assistance programs underscore important issues that pertain to Native Hawaiian youths and communities: the high cost of living in the state, the need for higher-paying employment opportunities, and the difficult tradeoffs regarding work and childcare.

Figure 3.14 shows the racial/ethnic distribution of participants in the Child Care Connection program, a state-administered childcare subsidy program for low-income families.

- In 2002, Native Hawaiians constituted 43.4 percent of the total population that received benefits from the Child Care Connection program. (Native Hawaiians constitute just 20 percent of the state's population.)
- Similarly, Native Hawaiians accounted for nearly one-third of those receiving TANF/TAONF in Hawai'i and represented the largest share of recipients among the state's major ethnic groups (not shown).
- The high rates of both TANF/TAONF and Child Care Connection usage suggest that Native Hawaiian families have relatively higher needs in terms of financing childcare than do families from other ethnic groups.

FIGURE 3.14 Racial/ethnic distribution of Child Care Connection recipients [by race/ethnicity, state of Hawai'i, fiscal year 2001–02]



Source: Hawai'i Department of Human Services 2002.
Note: This figure reflects Department of Human Services ethnic classifications for the state of Hawai'i and sums to 100 percent.

PHYSICAL WELL-BEING

Developmental studies have shown that health inputs during infancy and early childhood affect educational achievement and overall well-being in later life (Shonkoff and Phillips 2000). Some of the key determinants of health and well-being happen early in life, including prenatal and birth experiences, which significantly influence the physical health, cognitive development, growth potential, and susceptibility to chronic illnesses (Lu et al. 2000).

Medical advances have made tremendous progress in ensuring physical health during the prenatal and perinatal periods. One source points out that "the past two decades have witnessed the most profound alterations ever recorded in the structure of infant mortality patterns in the United States" (Gortmaker and Wise 1997, p. 152). The positive trends are largely due to technological advances that have improved outcomes for risky pregnancies, as well as low birthweight and premature infants. Yet, recent research shows a decline in the outcomes of racial minority infants, particularly in risky births, where social inequalities "translate into differential knowledge of, and access to, preventative and curative innovations" (Frisbie et al. 2004, p. 774; Gortmaker and Wise 1997). These disparities have implications for early childhood growth and school readiness. Some research estimates that "racial differences in health conditions and in maternal health and behaviors may account for as much as a quarter of the racial gap in school readiness" (Currie 2005, p. 117).

One important protection against high-risk pregnancy and delivery is timely prenatal care. Medical research shows that prenatal care by a health care practitioner during the first trimester of pregnancy significantly improves the chances of survival for the fetus, while also ensuring the good health of the mother and enhanced child development (Expert Panel on the Content of Prenatal Care 1989). Substantial research indicates that because it is nearly impossible to counteract in nine months a lifetime of accumulated disadvantage, "policymakers and practitioners must focus on maternal health risks well before conception...the emphasis must be on women's health rather than on prenatal care" (Reichman 2005, p. 107).

Healthy birthweight is another important indicator of early child health. Like delayed prenatal care, low birthweight (defined as weighing less than 2,500 grams, or roughly 5.5 pounds) is a conventional measure of risk to infants. Low birthweight is often the result of alcohol, drug, and/or cigarette usage and can result in many health conditions spanning infanthood to adulthood (Ebrahim, Luman, and Floyd 1998; Hack et al. 2002). Low birthweight is associated with poorer health of young children, including delayed motor and cognitive skill development (Reichman 2005); increased risk of sudden infant death syndrome, hypoglycemia, and hypothermia; and greater susceptibility to chronic illnesses such as cerebral palsy, diabetes, and asthma (Conley and Bennett 2000; Corman and Chaikind 1998; McCormick 1985; McCormick et al. 1992; Strauss 2000). Additionally, the effects carry into adulthood, where low birthweight is believed to contribute to health problems such as high blood pressure, depression, and cardiovascular disease.

Overall, conclusions from our review of physical well-being for young Native Hawaiian children are cautiously positive. We find that the rate of infant mortality among Native Hawaiians has declined since the early 1980s. This decline mirrors a nationwide decrease; however, infant mortality for Native Hawaiians still tops that of other major ethnic groups in the state.

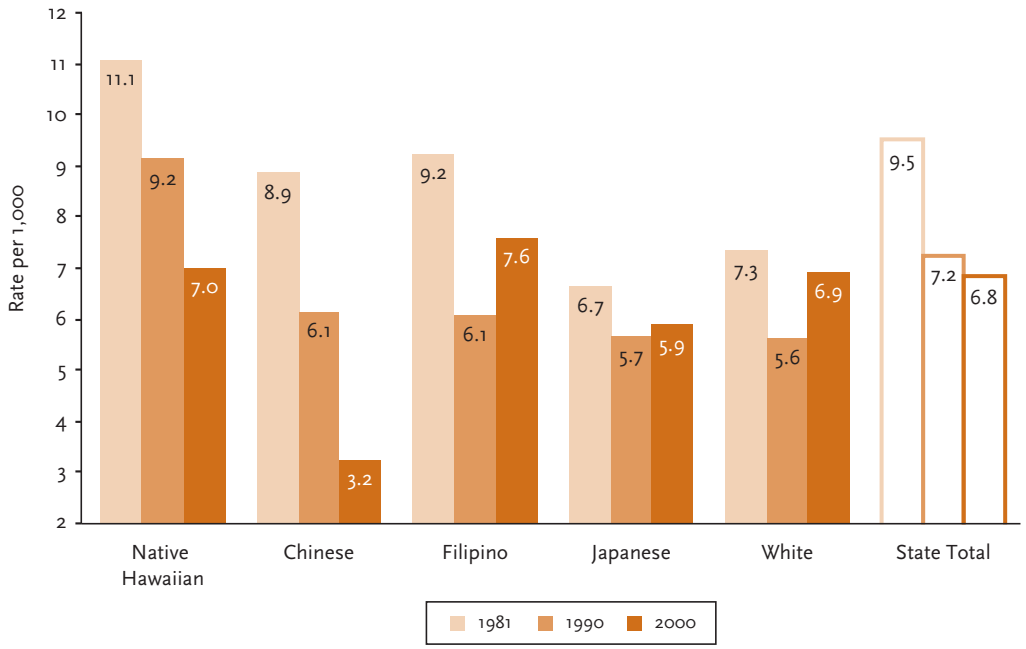
Similarly, although the rate of Native Hawaiian women receiving late or no prenatal care has declined substantially over the past two decades, our research shows that Native Hawaiian women remain less likely to receive prenatal care compared with women of other ethnicities in the state. We also find that the rate of low birthweight among Native Hawaiian infants is about the same as the state average but is much higher than that of Caucasian and Chinese infants. In a society where race/ethnicity and income are associated with unequal outcomes, these findings suggest the need for continued improvements in early health and well-being for Native Hawaiian children.

Infant Deaths

Infant mortality is an international indicator of overall well-being in a population, measured by the number of children who die in their first year of life per every one thousand live births. Paralleling declining national trends in infant mortality, Native Hawaiian infant deaths also have decreased in recent decades. Figure 3.15 shows Native Hawaiian infant mortality rates relative to other groups since 1980, based on three-year averages (1981 is the average of data in 1980, 1981, and 1982; 1990 is the average of data in 1989, 1990, and 1991; and so on).

- Significant improvements have been made in recent decades for Native Hawaiian infants. The infant mortality rate among Native Hawaiians has dropped more than 4 percentage points, a gain exceeded only among Chinese families, whose infant mortality started at a lower point and dropped by more than 5 percentage points.
- In each decade from 1981 to 2000, Native Hawaiian infants have had the highest chances of dying in their first year of life, compared with children in other ethnic groups (except for Filipino infants in 2000).

FIGURE 3.15 Trends in infant mortality rates [three-year averages, by race/ethnicity, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, Vital Statistics Reports 1981, 1990, 2000.

Prenatal Care and Pregnancy Outcomes

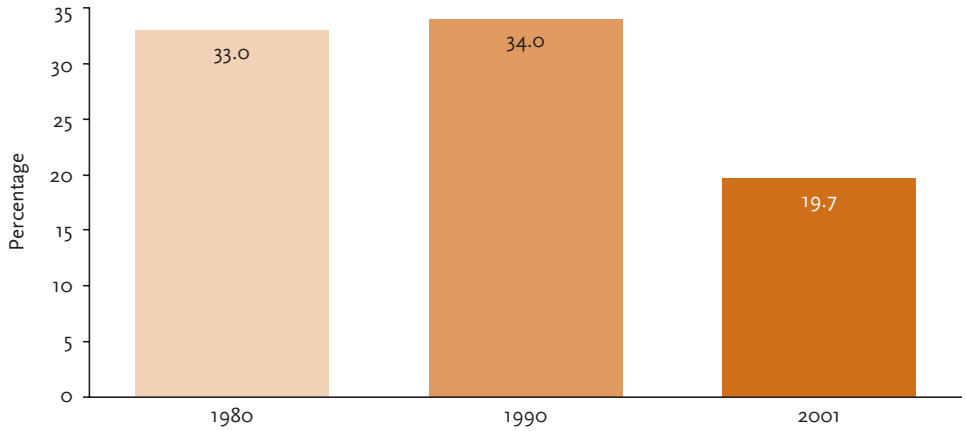
Prenatal care and a healthy pregnancy provide an important start to children's health and well-being. Prenatal care, a commonly used indicator of a child's physical well-being (e.g., Casey Foundation, Kids Count Statewide Trends), is defined as the set of actions and steps taken by pregnant women—including periodic medical visits—that helps to ensure healthy development of the fetus during gestation.

Figure 3.16 shows that the rate of Native Hawaiian women receiving late[7] or no prenatal care has declined significantly in the last decade.

- Whereas in 1980 and 1990, about one-third of all Native Hawaiian women received late or no prenatal care, the rate dropped to one-fifth (19.7 percent) of all women by 2001.
- This decrease represents substantial improvement in the life chances of Native Hawaiian children and their mothers (not shown).

7. Late prenatal care is defined as care received after the first trimester of pregnancy.

FIGURE 3.16 Trends in late or no prenatal care as a percentage of all Native Hawaiian live births [state of Hawai'i, selected years]

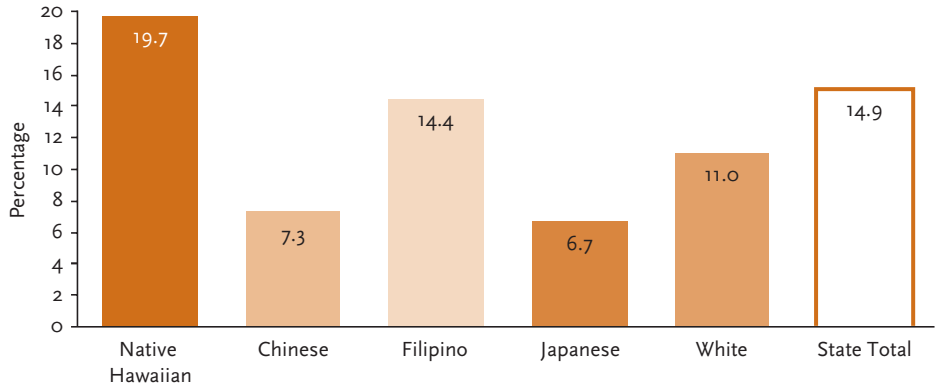


Data source: Hawai'i Department of Health, Vital Statistics Reports 1980, 1990, 2001.

Despite promising progress in the prevalence of prenatal care among pregnant Native Hawaiian women (shown in Figure 3.16), an analysis of statewide data highlights ongoing racial/ethnic disparities in prenatal care utilization rates (Figure 3.17).

- About one in five of Native Hawaiian mothers (19.7 percent) did not receive medical care during the early stages of pregnancy, compared with the state average of 14.9 percent. This suggests higher chances that Native Hawaiian infants will experience death, developmental delays, and other risks associated with late prenatal care.
- The percentage of Native Hawaiian mothers receiving late or no prenatal care is 5 percentage points higher than that of Filipino mothers and nearly triple the rate of Japanese mothers.
- The high rate of uninsured Native Hawaiians (7.0 percent, compared with the state average of 5.2 percent) may contribute to the lack of prenatal care and point to the need for targeted services (not shown).

FIGURE 3.17 Late or no prenatal care as a percentage of all live births [by race/ethnicity, state of Hawai'i, 2001]

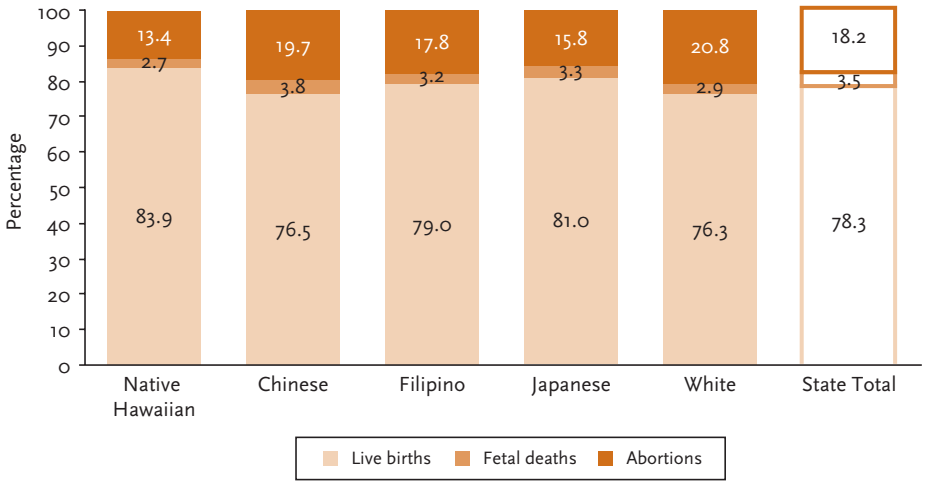


Data source: Hawai'i Department of Health, Vital Statistics Report 2001.

Compared with the state's major ethnic groups, Native Hawaiians are more likely to experience pregnancies that result in live births. More than 99 percent of Native Hawaiian infants were born in hospitals, slightly more than the state average (not shown). Native Hawaiians also are less likely to receive an abortion, compared with other ethnicities. Figure 3.18 shows the percentage of pregnancies resulting in live birth, fetal death, or abortion by race/ethnicity.

- More than four of five pregnancies (83.9 percent) among Native Hawaiians result in live births, a rate that surpasses the state average as well as that of other ethnic groups.
- Only 2.7 percent of all Native Hawaiian pregnancies result in fetal death, compared with the state average of 3.5 percent.
- Additionally, 13.4 percent of Native Hawaiian pregnancies end in abortions. This rate is nearly 5 percentage points lower than the state average and well below the prevalence among other ethnic groups in the state.

FIGURE 3.18 Pregnancy outcomes [percentage distribution, by race/ethnicity of mother, state of Hawai'i, 2001]



Data source: Hawai'i Department of Health, Vital Statistics Report 2001.

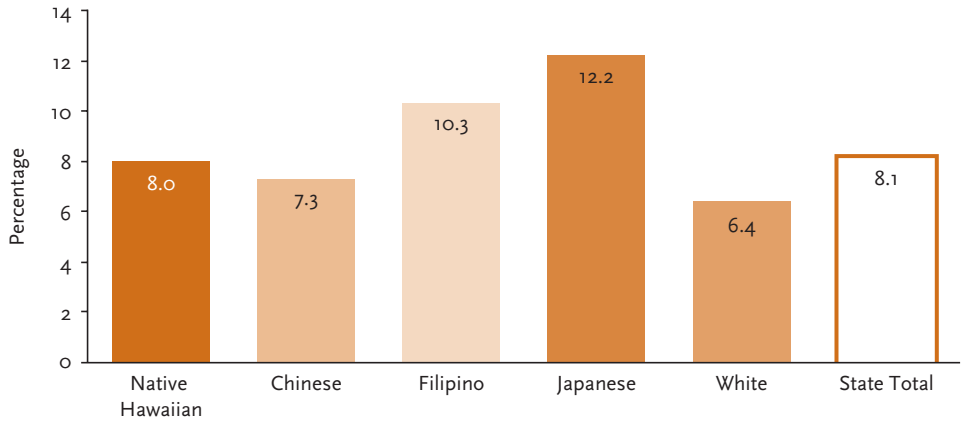
Low Birthweight Births

Birthweight is one indicator of overall health in a population, and research suggests negative developmental consequences for infants born below the threshold determined by the medical field as normal weight (2,500 grams or heavier). The overall incidence of low birthweight births has declined over recent decades owing to targeted efforts in health care through medical outreach, technology, and insurance coverage.

Figure 3.19 shows the prevalence of infants born below this threshold among Native Hawaiians and other ethnic groups in the state of Hawai'i. In 2001, rates of low birthweight infants were lower for Native Hawaiians, compared with some of the other ethnic groups.

- The percentage of low birthweight births among Native Hawaiians (8.0 percent) was about the same as the state average (8.1 percent).
- Although the chances of a low birthweight birth were higher among Native Hawaiians than Whites, they were significantly exceeded by those among Japanese births in 2001.

FIGURE 3.19 Low birthweight births as a percentage of all live births [by race/ethnicity, state of Hawai'i, 2001]

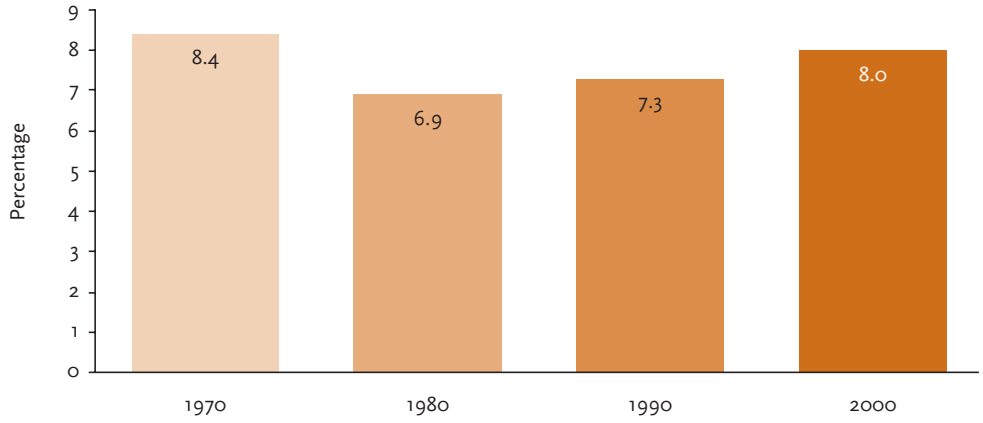


Data source: Hawai'i Department of Health, Vital Statistics Report 2001.

Despite an overall decrease in the incidence of low birthweight births since 1970, comparisons with recent decades suggest that increasing numbers of Native Hawaiian babies are born at dangerously low weights. Figure 3.20 summarizes low birthweight rates among Native Hawaiian children between 1970 and 2000.

- Despite large improvements between 1970 and 1980, the data suggest steady decline in 1990 and 2000. This finding counters the seemingly positive cross-sectional findings comparing Native Hawaiians with other ethnic groups in 2001 and warrants greater investigation to discern the factors contributing to this phenomenon.
- The chances of low birthweight births decrease with mothers' educational attainment, because education reduces risk-taking behaviors related to low birthweight, such as delayed prenatal care, smoking, or other substance abuse. For example, data from the Hawai'i Department of Health indicate that the rate of low birthweight births among women with less than a high school diploma is 11.0 percent, compared with 4.5 percent among women with more than a high school diploma (not shown).

FIGURE 3.20 Trends in low birthweight births as a percentage of all Native Hawaiian live births [state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, Vital Statistics Reports 1970, 1980, 1990, 2001.

EDUCATIONAL AND EMOTIONAL WELL-BEING: HOME AND SCHOOL INPUTS

While there is a healthy supply of data about the social, economic, and physical characteristics of young children, we lack good data on the educational and emotional well-being of young Native Hawaiians. This shortcoming is primarily due to the lack of systematic assessment approaches at the state level and inherent difficulties with assessment of children at young ages. In this section, we gather available data on the factors that affect cognitive and emotional development in young children and present as complete a picture as possible.

First among these inputs is family involvement, which is integral to the development of young children. Studies show that parent–child interactions and the home learning environment have significant effects on overall achievement and growth (Coleman et al. 1966; Gordon 1999). Research also shows that cultural inputs at home can offer experiences that stimulate early childhood achievement among Native Hawaiians (Kana'iaupuni and Else 2005). Not only are caregiver and parent interactions critical to cognitive development, but they are also a fundamental part of young children's social development, their sense of self-worth, and their emotional stability (Brooks-Gunn and Markman 2005).

Recent advances in neurological science have shown that the human brain is capable of learning much more at early ages than originally thought (Shonkoff and Phillips 2000). In addition, studies show that children who precede their K–12 educations with some formal instruction, particularly quality early childhood education, realize greater educational outcomes than do their peers who receive no preschool education (Bridgman and Phillips 1996; Burchinal et al. 2000). These gains are even greater for children from low-income households (Kagan and Neuman 1997).

Inequalities in socioeconomic status may limit educational opportunities for young children and reduce their preparedness for school and future positive educational outcomes (Lee and Burkam 2002). Without other affordable options, many Native Hawaiian and other families with economic challenges rely on relatives or informal providers for childcare. Although the literature assessing the quality of relative or "kith and kin" care is limited, the consensus among experts is that such arrangements are more variable than licensed facilities, particularly for young children in the three- to four-year-old age range (Collins and Carlson 1998; Shonkoff and Phillips 2000). Based on the available research, it is likely that Native Hawaiian children in informal childcare will be less prepared than their peers to take advantage of kindergarten learning opportunities.

We are unable to directly examine this hypothesis with empirical data. Currently, direct measures of educational achievement are unavailable for the youngest children in Hawai'i. Most educators and researchers agree that assessing young children often results in unreliable information. Yet interest in understanding early development continues to drive innovations in assessment and measurement. One of the concepts to emerge from the national discourse on how to measure the development of children prior to formal schooling is school readiness. For example, Head Start, a federally funded nationwide early childhood education program, has recently developed an assessment system with an emphasis on children's readiness for school.

Several studies have been launched to assess school readiness and the transitions into formal school, including the Early Childhood Longitudinal Study (ECLS). Managed by the National Center of Educational Statistics, the ECLS follows two cohorts of children, one from kindergarten and one from birth, to collect data for policymaking and research studies. Based on analysis of these data, research shows that

several different dimensions contribute to children's potential success as learners (Heinemeier 2004). These results are consistent with accumulated knowledge cautioning against the use of a single "school readiness" indicator, which can be a misleading snapshot of a child's developmental potential, especially across different cultural groups.

A handful of states, including Hawai'i, have taken a proactive approach toward school readiness. Hawai'i, for example, was one of the first states to adopt a formal School Readiness Definition into state statute. Enacted during the 2002 legislative session, it recognizes the varied inputs necessary for positive early childhood learning, stating that "young children are ready to have successful learning experiences in school when there is a positive interaction among the child's developmental characteristics, school practices, and family and community support" (Hawai'i State Legislature 2002). Along these lines, researchers from the state's Department of Education and the University of Hawai'i developed and piloted an instrument for assessing school readiness—for children and for their classrooms—in 2003. The tool may eventually offer some new systemwide school readiness data. Currently, however, there is no statewide assessment of Native Hawaiian school readiness and cognitive development.[8]

Family Involvement

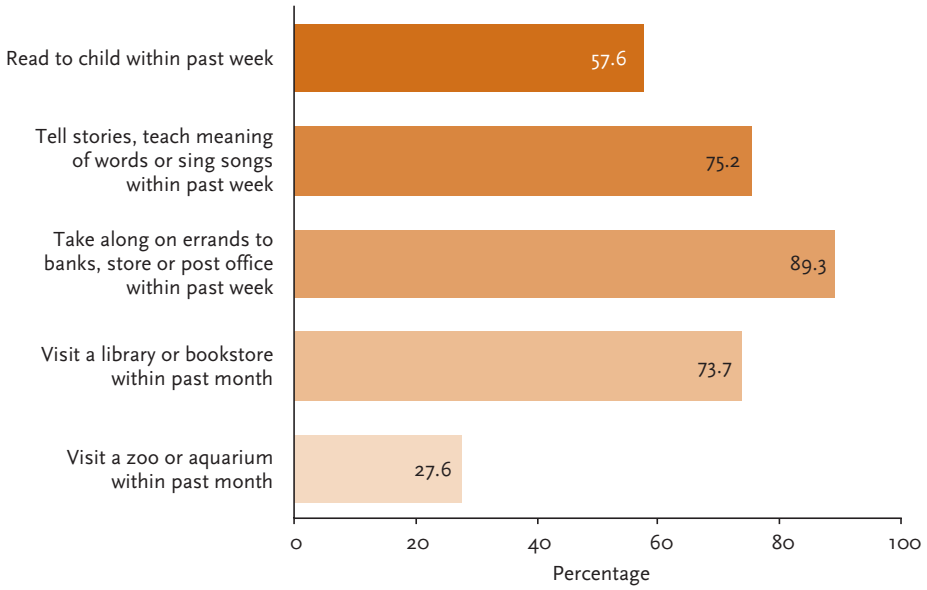
Considerable literature documents the importance of families in the educational development and emotional well-being of young children. Studies show that parent–child interactions and the home learning environment have a significant impact on overall achievement and growth. Reading to children at home is one such activity. While not entirely comparable with our data, national studies indicate that nearly 90 percent of young children, ages one to five years old, are read to by a family member, and nearly half of all young children are read to at least once a day (Fields et al. 2001). Through these and other experiences at home, young children learn important skills that enhance their developmental progress, such as responsibility, time management, and verbal acuity. Parent–child interactions are also critical to the social development of young children, providing them a sense of self-worth, confidence, and emotional stability.

Early activities outside the home also benefit children, stimulating new cognitive and social skills. Figure 3.21 shows some of the types of parent–child interactions in which Native Hawaiians participate. (Data are from the 2002 Hawaiian Community Survey.)

- Among all Native Hawaiian families surveyed, 57.6 percent reported reading to their children during the prior week.
- More than three-quarters of surveyed families engaged in other selected parent–child activities in the weeks prior to the survey, ranging from visiting a library or bookstore (73.7 percent) to involving their children in errands (89.3 percent).
- Three out of four Native Hawaiian parents (75.2 percent) indicated that they tell their children stories, teach them new words, and sing songs with them, while four out of five (81.0 percent) report discussing family history, culture, or cultural values with their children.
- About one-quarter (27.6 percent) of respondent families reported visits to zoos or aquariums with their children during the month prior to the survey, which may be more reflective of the availability of such destinations throughout the state than of family preferences.

8. Between 1982 and 1990, the Hawai'i Department of Education administered the Peabody Picture Vocabulary Test (PPVT) and the Missouri KIDS to all new kindergarten students as an element of the Early Provisions for School Success program.

FIGURE 3.21 Individuals reporting participation in selected parent–child activities as a percentage of all Native Hawaiian respondents with children [respondents with children under 18, by activity, state of Hawai'i, 2002]



Data source: Kamehameha Schools, Hawaiian Community Survey 2002.

Early Childhood Program Access and Availability

For many families, the issue of childcare is both critical and complex. Although families may desire excellent care for their young children, their options are often limited by the access to (i.e., location and affordability) and availability of quality childcare programs. In Native Hawaiian families with young children, these obstacles are especially pronounced given that many families subsist on limited incomes and reside in rural areas with limited childcare opportunities.

Nationally, the importance of early childhood education has received increasing attention. Recent recommendations call for expansion of access to early childcare education programs (Holmes 2005). In Hawai'i, while cost remains a barrier for some, a greater challenge has been the availability of quality programs. Only about 20 percent of the state's preschools are accredited; many of these programs are near or at capacity, whereas others maintain substantial waiting lists (DePledge 2005).

Research shows that quality preschool programs contribute greatly to enhanced school readiness. Quality—which can be measured in a variety of ways—generally incorporates such factors as instruction, curriculum, program structure, staff-to-child ratios, and the availability of family support services. Recent data about early childhood programs in the state of Hawai'i give some indication of the availability of quality programs available to families. For example, the State Pre-K Quality Standards placed Hawai'i slightly below the national average in quality standards in 2002 (Barnett et al. 2004). Among Hawai'i's strengths in state-funded programs are comprehensive curriculum standards, specialized training and degree requirements for teachers and assistant teachers, and the availability of services such as meals and

additional support for families. Areas for improvement in quality state standards include the development of smaller staff-to-child ratios and class sizes, the inclusion of health screening and referrals, and in-service for teachers as well as advanced degree requirements for lead teachers (Barnett et al. 2004).

Childcare choices made by the family may have a significant impact on the child's later years. Several longitudinal studies find significant positive evidence of returns on early childhood education in the form of academic improvement, higher employment rates, higher earnings, and decreased criminal activity (Schweinhart and Weikart 1997). Research also shows that, while rarely thought of as an economic initiative, early childhood programs can offer public returns in excess of other social programs. "Well focused investments in early childhood development yield high public as well as private returns" (Rolnick and Grunewald 2003, p. 6). Economists estimate that investments in high-quality early childhood development programs consistently generate benefit–cost ratios exceeding 3 to 1—or more than a $3 return for every $1 invested—well above the 1 to 1 ratio needed to justify such investments (Lynch 2004).

Although little data exist as to the burden of cost that childcare places on Native Hawaiian families, more than half (51.2 percent) of the consumers of childcare subsidies surveyed by the State of Hawai'i indicated they felt that costs prevent people from using childcare services (Center on the Family 2002). In addition, 49.1 percent of these respondents felt that early care and education services were inadequate to meet the needs of the community.[9] Similarly, 30 percent of providers of early childhood programs indicated that the availability of services was inadequate. In addition, 42 percent of providers rated quality of services as adequate or below (Ho'owaiwai Nā Kamali'i 2002).

Without a doubt, early childcare options are more limited for families that face economic hardship. Available estimates indicate that subsidized preschool spaces are limited and fall short of the needs of young Native Hawaiian and other children in the state (Ho'owaiwai Nā Kamali'i 2002). For example, approximately two subsidized preschool spaces were available for every one Native Hawaiian child living at or below the federal poverty level during the 2001–02 school year (Silverstein 2005). However, because this estimate includes *all* subsidized spaces—Head Start, KS preschools, and recipients of childcare supplements—the spaces are in reality available to all three- and four-year-olds experiencing financial hardship, not just Native Hawaiian children.

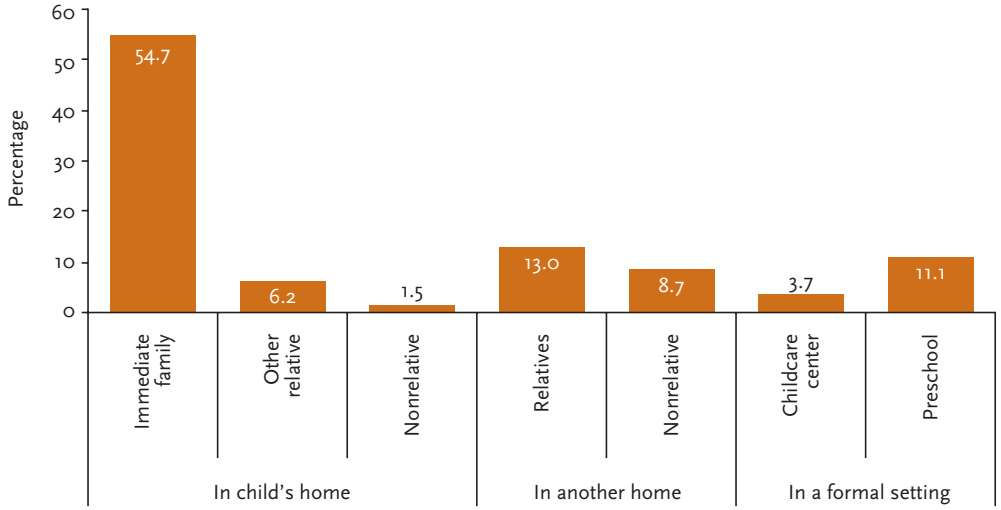
Perhaps due in part to the economic challenges of finding quality care, data on Native Hawaiian families with young children reveal high levels of reliance on relatives and other relations for childcare. In addition, some suggest that this trend in Native Hawaiian families may reflect certain preferences for family-based versus center-based care. For example, recent findings from a study about Native Hawaiian families receiving subsidies suggest a particularly strong preference for childcare by family and friends (Fong et al. 2004). This pattern was especially true among younger, less educated, and single or never-married parents. Overall, approximately 43 percent of Native Hawaiian families in the study relied on kith and kin care, compared with 33 percent among other ethnic groups. Other factors contributing to these choices include availability and convenience of quality early learning programs.

9. Data from more than three hundred agencies in the state of Hawai'i serving pregnant women and children under the age of five indicate that most (82.4 percent) focus on children ages three and older and that approximately one-third of all persons participating in these agency programs are Native Hawaiian.

Figure 3.22 shows the various childcare choices among Native Hawaiian families with children younger than five years old.

- Nearly two-thirds of all Native Hawaiian respondents with children younger than age five care for their children at home themselves (54.7 percent), with assistance from other relatives (6.2 percent), or with the help of other non-family members (1.5 percent).
- About 37 percent of children in Native Hawaiian families receive care outside the home, many of whom are cared for in other homes: 13.0 percent by family relations and 8.7 percent by nonrelatives. The remaining 15 percent of all Native Hawaiian families with young children use formal settings such as childcare centers (3.7 percent) or preschools (11.1 percent).
- Roughly three-quarters (73.9 percent) of Native Hawaiian families with children younger than age five rely on family (including one or more parents) in or out of the home for childcare.

FIGURE 3.22 Types of childcare practices used by respondent Native Hawaiian families with young children [percentage distribution, families with children under 5, by type and location of childcare, state of Hawai'i, 2001

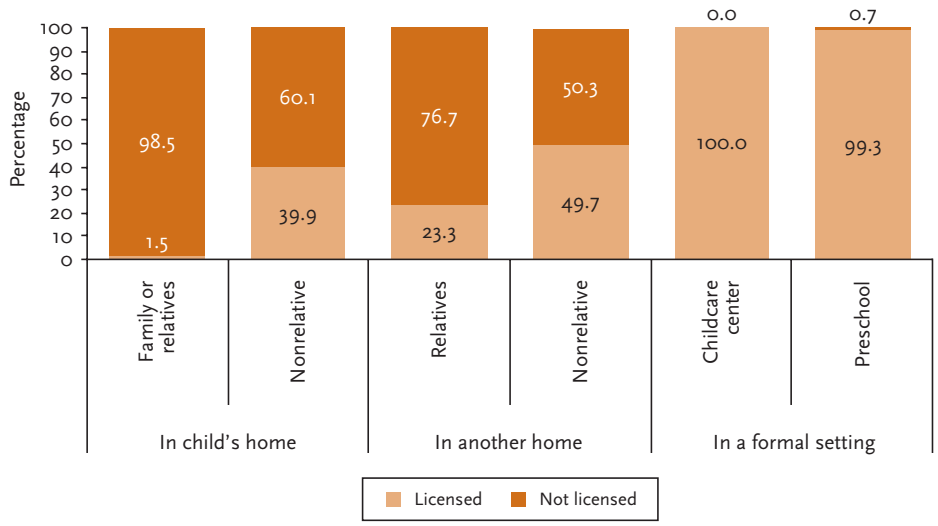


Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

Figure 3.23 presents information on licensure by childcare setting. Although the literature assessing the quality of kith and kin care is limited, the consensus among experts is that such arrangements, especially where unlicensed, are more variable than licensed facilities, particularly for children in the three- to four-year-old age range (Collins and Carlson 1998; Shonkoff and Phillips 2000). For young Native Hawaiian families, who often choose kith and kin care for their young children, an area for policy and program development will be to offer services to family-based and other unlicensed care providers that enhance their efforts to deliver quality childcare. One example is to provide culturally appropriate early childhood education training and materials to kith and kin providers (Fong et al. 2004).

- Figure 3.23 shows that nearly all family caregivers in the homes of children younger than age five are unlicensed (98.5 percent), compared with 60.1 percent of nonrelative, in-home caregivers.
- Childcare provided in other homes is more likely to be licensed. While only one-quarter of relative caregivers (23.3 percent) are licensed in other homes, roughly half (49.7 percent) of nonrelatives in these settings are licensed.

FIGURE 3.23 Childcare credentials of providers used by respondent Native Hawaiian families with young children
[percentage distribution, families with children under 5, by type and location of childcare, state of Hawai'i, 2001]

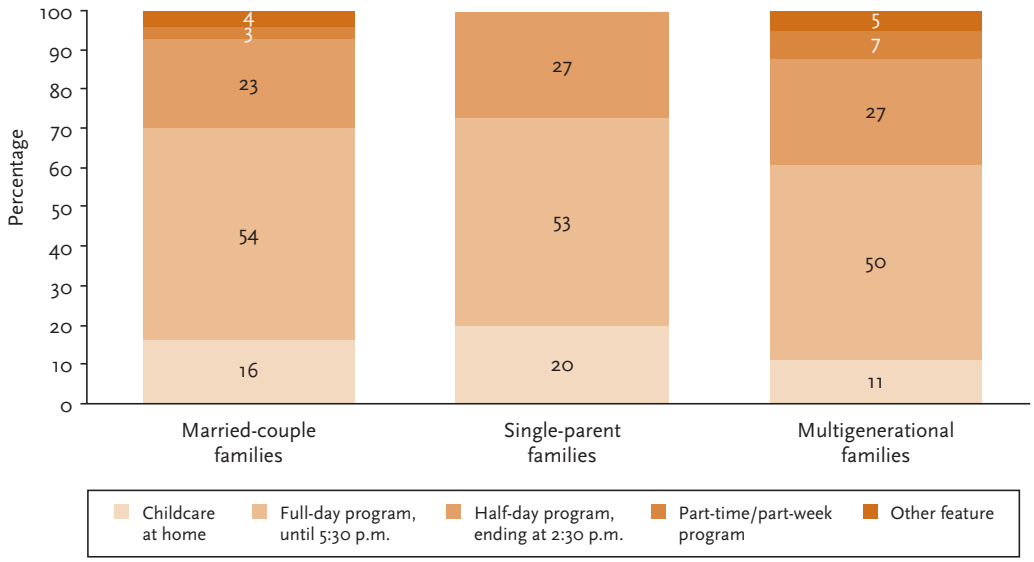


Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

Convenience for families is another factor when considering access to childcare. Findings from the 2002 Hawaiian Community Survey signify the need for flexibility among childcare options for Native Hawaiian families (Figure 3.24).

- When asked to identify the most important features in a childcare provider, more than half of the respondents reported that they needed a full-day program (until 5:30 p.m.). This preference most likely reflects the need to accommodate work schedules among parents.
- About one-fourth of the respondents preferred programs ending in mid-afternoon, and the rest preferred at-home care and part-week service.
- Few differences in childcare preferences exist among Native Hawaiian respondents representing various family structures: Similar percentages of married-couple, single-parent, and multigenerational families express preferences for full-day, half-day, and at-home care.

FIGURE 3.24 Most important childcare feature reported by respondent Native Hawaiian families with young children
[percentage distribution, families with children under 5, by family type, state of Hawai'i, 2002]



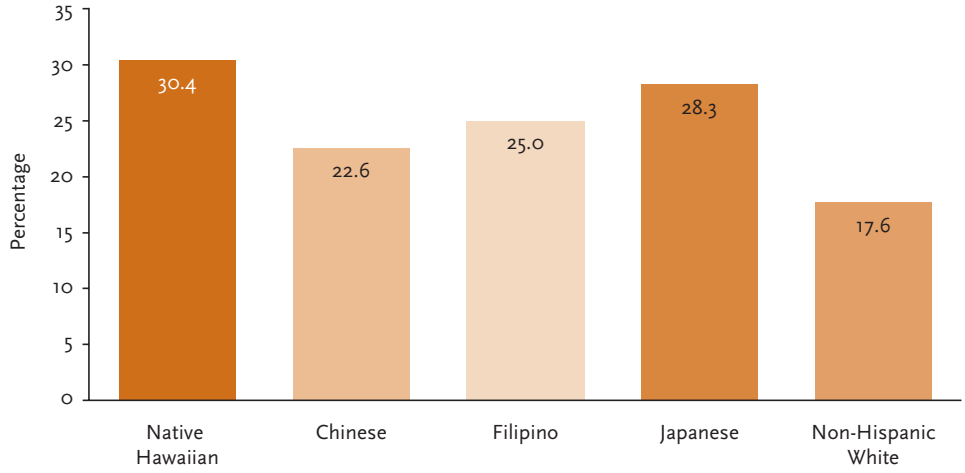
Data source: Kamehameha Schools, Hawaiian Community Survey 2002.

Early Childhood Education Enrollment

With the growing academic focus in kindergarten curricula across the nation, how well Native Hawaiian children fare in the K–12 educational arena may depend, in large part, on what happens prior to formal schooling. Figure 3.25 shows that young Native Hawaiian children account for the largest percentage of children enrolled in Hawai'i preschools, compared with other ethnic groups.

- Nearly one-third (30.4 percent) of children enrolled in preschool are Native Hawaiian, similar to their proportion in the general population of three- and four-year-olds.
- Japanese children make up the second-highest percentage (28.3 percent), and non-Hispanic Whites are the least represented, with 17.6 percent.

FIGURE 3.25 Racial/ethnic distribution of young children enrolled in preschool [percentage distribution, by race/ethnicity, state of Hawai'i, 2000]



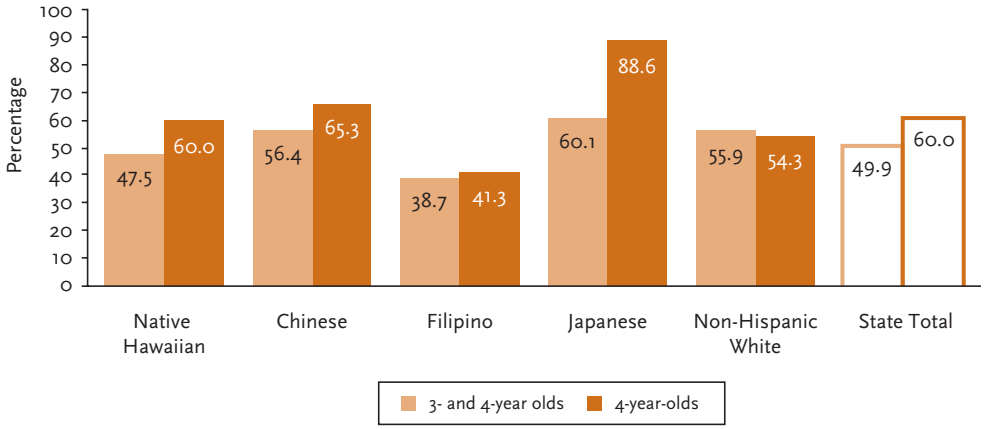
Data source: U.S. Census 2000, Summary File 4.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A). As a result, distributions may not sum to 100 percent.

While young Native Hawaiian children account for the largest percentage of preschoolers among the ethnic groups, the percentage of Native Hawaiian children who attend preschool is slightly lower than the state average. Figure 3.26 shows the preschool enrollment rates for selected ethnic groups in the state of Hawai'i.

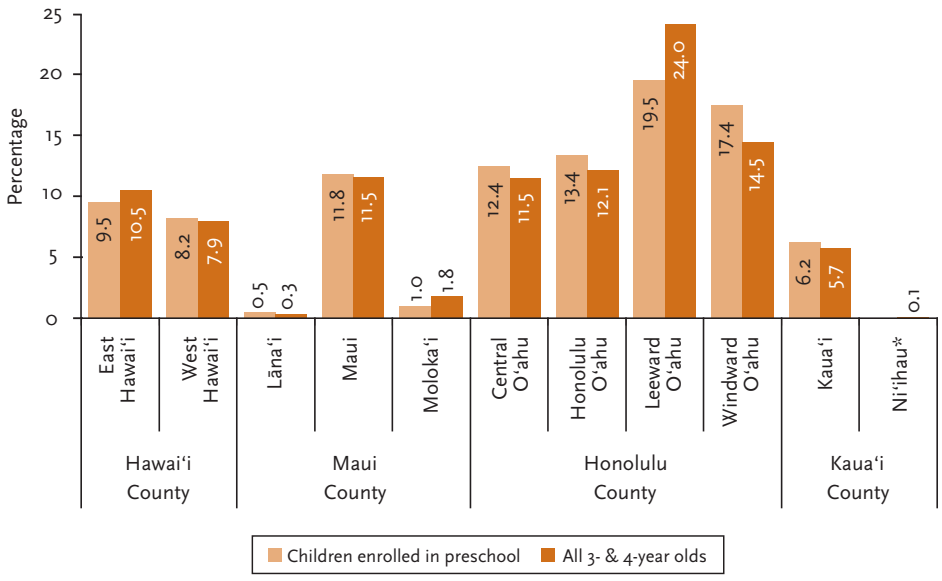
- The preschool enrollment rate among Native Hawaiian three- and four-year-old children increased from 29.3 percent in 1990 (not shown) to 47.5 percent in 2000, suggesting substantial gains in early childhood education over a single decade.
- However, Native Hawaiian preschool enrollment rates remain among the lowest in the state. Less than half (47.5 percent) of all Native Hawaiian three- and four-year-old children in Hawai'i attended some form of nursery school or preschool in 2000, compared with the state average of 49.9 percent.
- Comparisons across ethnic groups show that Native Hawaiian preschool enrollment (47.5 percent) was much lower than that of Japanese (60.1 percent) but higher than that of Filipino children (38.7 percent).
- Moreover, while slightly more than half of Native Hawaiian preschoolers attended private schools (53.9 percent), nearly 60 percent of non-Hawaiian young children attended private preschools (not shown).
- Among four-year-olds (who were not enrolled in kindergarten), Native Hawaiian children were on par with the state average of 60 percent enrollment in preschool. While greater than enrollment rates shown by Filipinos and non-Hispanic Whites, this measure fell short of Chinese and Japanese enrollment levels.

FIGURE 3.26 Young children enrolled in preschool as a percentage of all young children [children ages 3 and 4, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

FIGURE 3.27 Geographic distribution of Native Hawaiian children enrolled in preschool and Native Hawaiian 3- and 4-year-olds [percentage distribution by geographic region, state of Hawai'i, 2000]



Data source: Kamehameha Schools, Aloha Counts 2003.
* No estimates were available for preschool enrollment on Ni'ihau.

To highlight geographic disparities in access to early childhood education, Figure 3.27 compares the distribution of Native Hawaiian children enrolled in preschool throughout the state of Hawai'i with the distribution of three- and four-year-olds.

- The majority of Native Hawaiian preschoolers were found on O'ahu: 19.5 percent in the Leeward area; 17.4 percent in the Windward area; 13.4 percent in the Honolulu area; and 12.4 percent in Central O'ahu.
- Comparing the geographic distribution of Native Hawaiian three- and four-year-olds throughout the state reveals that Native Hawaiian preschoolers were underrepresented in East Hawai'i, Moloka'i, and Leeward O'ahu. (These areas rank among the communities with the highest rates of poverty and lowest rates of employment in the state.)

Preschool Outcomes

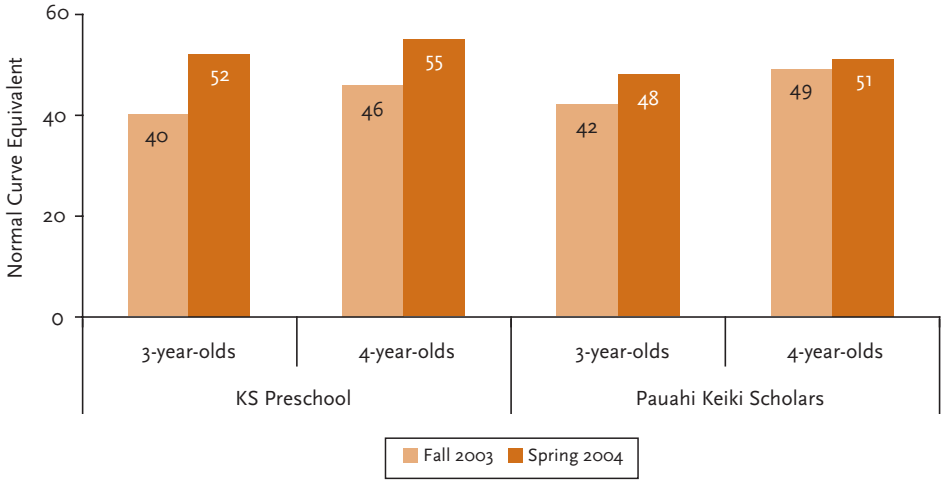
Although the public school system in Hawai'i no longer administers individual child assessments upon entry into kindergarten, we can gain some insights into school readiness from other programs with accessible data. Two of these are the Kamehameha Schools preschools and other preschools participating in Pauahi Keiki Scholars, a program that assists Native Hawaiian preschool students based on economic need and geographic residence. Together, these programs serve roughly 10 percent of eligible Native Hawaiian three- and four-year-olds. The data provides an indication of the type of developmental progress Native Hawaiian children can make in a formal childcare setting.

Gains in the assessment scores of young children in these programs are promising. For example, in the 2003–04 preschool year, Native Hawaiian children in both programs were administered the Peabody Picture Vocabulary Test, Third Edition (PPVT-III) at the beginning and end of the school year. Figure 3.28 shows the normal curve equivalents (NCE)[10] of these students and highlights the gains made.

- In fall 2003, the average incoming three-year-old child at Kamehameha Schools preschools scored about 40. By the end of the school year, NCEs averaged 52 for these children. Gains were also made by four-year-olds in the same program, from an NCE of 46 to 55 during the same one-year period.[11]
- In the Pauahi Keiki Scholars pilot program—which offers scholarships for Native Hawaiian youngsters to attend a quality preschool—similar gains were observed, with NCEs climbing from 42 to 48 for three-year-olds and 49 to 51 for four-year-olds (Yang 2005a).

10. A normal curve equivalent (NCE) is a normalized standard score that allows meaningful comparison between different tests of the same subject. If a student scores an NCE of 53 on one reading test and 45 on a different reading test, one can correctly say that there is a difference of 8 points. NCEs have the advantage of being based on an equal-interval scale. That is, the difference between two successive scores on the scale is the same over all parts of the scale.
11. Note that PPVT scores are adjusted for age. Therefore, an increase in scores reflects an increase in vocabulary that is greater than what is expected based on the change in a child's age alone.

FIGURE 3.28 Assessment scores (NCEs) for preschoolers in Kamehameha Schools Preschools and the Pauahi Keiki Scholars program [pre- and post-test scores, Peabody Picture Vocabulary Test, by program, by age of child, state of Hawai'i, school year 2003–04]



Source: Yang 2005a, 2005b.

The foregoing analysis indicates that young Native Hawaiians are increasing in number and that many experience relatively few advantages during their early years. For example, Native Hawaiian children are less likely to survive infancy (Kieffer, Alexander, and Mor 1995), less likely to receive adequate health care (Kieffer, Alexander, and Mor 1994, 1995), and more likely to experience poverty compared with their non-Hawaiian peers. It also emphasizes the pressing need to collect more data on early childhood outcomes for preschool-age keiki.

In spite of the substantial evidence of ongoing disadvantage and need, Native Hawaiian children possess certain resources that promote strength and resilience. For example, Native Hawaiian children often live in extended family households and have access to various options in early childhood education, as discussed here and in Part Five. In addition, parents of Native Hawaiian children report substantial community-based and family-based support systems (McCubbin et al. 1994; Stern, Yuen, and Hartstock 2004; Werner and Smith 1989). Together these findings set the context for understanding progress and challenges described in the following discussion of education and well-being for school-age Native Hawaiians.

E kuhikuhi pono i nā au iki a me nā au nui o ka ʻike

‘EHĀ | PART FOUR

Academic Trends and Well-Being of School-Age Children

4

PART FOUR INTRODUCTION

The years children spend in primary and secondary school are among the most crucial of their lives. The existence of publicly funded education affirms this. In many societies, education is so important that it is considered a basic human right (United Nations Educational, Scientific, and Cultural Organization, Economic and Social Council 1999). The environment of early childhood initiates and guides children's first critical stages of development, and the years spanning kindergarten through Grade 12 (K–12) build on that early growth and shape it into concrete skills and knowledge that prepare children to become adults. This period of educational growth is a time of exploration and development—an opportunity to excite new interests and aspirations in children and guide them toward the fulfillment of their potential. Quality schooling helps children choose their own path to adulthood—whether it winds through college and higher levels of education or leads straight into the job market—and equips them for success along that journey.

Beyond formal classroom learning, children's development in primary and secondary school helps to determine the people they become, their *kuleana* (area of responsibility), the place they will hold in their communities, and their prospects for a fulfilling and successful life. The formative K–12 years represent a period during which children begin to learn about themselves and about society, exploring an increasingly wide terrain outside the security of the family circle. They develop an interactive relationship with the world around them, absorbing and challenging social norms, developing their own opinions, finding out how others perceive them and what they value within themselves, comparing the expectations imposed on them with their own aspirations, and learning how to overcome obstacles to their goals.

The *'ohana* (family) is a central source of direction during this process of socialization, but schools also play a critical role in shaping the values, beliefs, and behavior of their students. School curricula provide a structure for children's growing body of knowledge and their understanding of the world around them. Classroom interactions—the expectations, rules, and consequences established by teachers—instill norms and values in children that influence their social relationships both on and off the school campus. In this sense, schools act as institutional mechanisms for transmitting culture (Benham and Heck 1998; Oakes et al. 2000; Rogoff 1990). But which culture is being transmitted? Because public schools have

typically been structured in accordance with the values and ideas of the socioeconomically dominant group, public education has historically advanced the displacement of minority children's home culture with Western culture. In Hawai'i, the public school system has historically been used to promote Western culture and suppress indigenous Hawaiian ways (see Part One). Benham and Heck (1998) argue that after the arrival of the missionaries, Hawai'i schools "operated in a manner that was culturally similar to the values and goals of those with power and influence in the community" (p. 63) and that "this education included the indoctrination of Western thought and beliefs through Christianity" (p. 76). However, with the growing recognition of our increasingly multicultural society, Hawai'i's public school system has begun to evolve in recent decades, and new models of public education have emerged to offer alternatives to Western-based conventions.

Part Four provides a comprehensive review of the critical K–12 years in the lives of school-age Native Hawaiian children in Hawai'i, points out those areas of the experience that are not completely understood because of limitations on existing data and knowledge, and highlights Native Hawaiian achievements in certain innovative educational settings.

We begin with a demographic discussion of the school-age Native Hawaiian population—its size, its distribution across the island chain, and projections for its future growth. Subsequent sections are organized by the broad areas of well-being used throughout this report: social/cultural and emotional, material and economic, physical, and educational. Although education is the focus of our analysis, a holistic understanding of well-being is crucial for assessing the process by which children's educational outcomes develop.

Research has established that many factors in both the school environment and the home environment affect students' achievement and educational success. Family relationships (Dornbusch et al. 1987; Glasgow et al. 1997; Pong 1997; Steinberg et al. 1992), financial resources (Smith, Brooks-Gunn, and Klebanov 1997; Yeung, Linver, and Brooks-Gunn 2002), children's physical health (Action for Healthy Kids 2004; Caughy 1996), and their emotional stability (Aluja and Blanch 2004; Chen and Li 2000; Van Ameringen, Mancini, and Farvolden 2003) all contribute to how students perform in school. Therefore, throughout Part Four, we examine the achievement and educational success of Native Hawaiian students within the context of the systematic disadvantages to which they are subject and the support networks to which they look for strength. In other words, we can best understand the educational status of Native Hawaiian children by understanding the related framework of social, economic, physical, and emotional factors.

Our review of social/cultural and emotional well-being examines the characteristics of the Native Hawaiian 'ohana, the nature of family and community relationships, the social and emotional resources accessible to school-age Native Hawaiian children, and the social stressors that may instigate self-destructive and antisocial behaviors. Cultural values—such as the importance of 'ohana, the prominence of *kūpuna* (elders), and the value of community relationships—emerge as important influences in the social development of school-age Native Hawaiian children. Our discussion of material and economic well-being looks at the financial resources and circumstances in Native Hawaiian families with school-age children—parents' educational attainment and employment status, mean income, and poverty rates—as well as the relationship between socioeconomic status and children's performance in school. For physical well-being, we review common health issues among Native Hawaiian children, including asthma and weight problems. We also trace trends in health risk behaviors such as smoking and premature sexual activity and find signs of improvement among Native Hawaiian youths.

Finally, we assess the educational outcomes and well-being of school-age Native Hawaiian children. A review of relevant literature highlights the national and international prevalence of racial/ethnic disparities in education and summarizes the ongoing debate about the causes of such inequities. We discuss the distribution of resources and measures of "adequate yearly progress" across the public school system. At the student level, we analyze the significant gaps in the achievement and proficiency scores of Native Hawaiian public school students and those of other ethnic groups and find that Native Hawaiians have disproportionately high rates of absenteeism and special education placement, as well as low rates of high school completion. A preliminary analysis of the performance and engagement of Native Hawaiians in start-up charter schools suggests more positive results.

Throughout this report, our discussion is limited by the types of data available. In the absence of indigenous indicators documenting the cultural and spiritual attributes of school-age Native Hawaiian children, most of our analyses are based on conventional data collected by government sources. Often these sources contain deficit-based data (e.g., single-parent homes, poverty rates, disease incidence, depressive symptoms, and high school dropout rates). This limitation is particularly apparent in the section on educational well-being.

According to Census 2000, most of the nation's school-age Native Hawaiian children (89 percent) attend public schools. In the state of Hawai'i, 87 percent of Native Hawaiian children are enrolled in the public school system. Accordingly, Part Four focuses primarily on the outcomes of Native Hawaiian children in the state's public schools. Such an analysis is dependent on the type of data collected by the Hawai'i Department of Education, which in turn is increasingly structured by federal mandates. Small-scale programs within the public school system that tap into indigenous educational strategies and address the aspects of children's development that are less easily quantified—such as self-esteem, student engagement, and cultural identity—have difficulty documenting their progress in a political climate that demands standardized measures of accountability. The result is that our story is incomplete.

Regardless of this limitation, the available data depict a profile of school-age Native Hawaiian children that is simultaneously unsettling and hopeful. Native Hawaiian children have not yet achieved educational parity with students of other ethnic groups. But progress has been made, and innovations at the forefront of Native Hawaiian education indicate that more progress is on the horizon. The Native Hawaiian community draws from a wealth of assets, and increasingly we find evidence suggesting the potential for building on those strengths to improve the future of Native Hawaiian education.

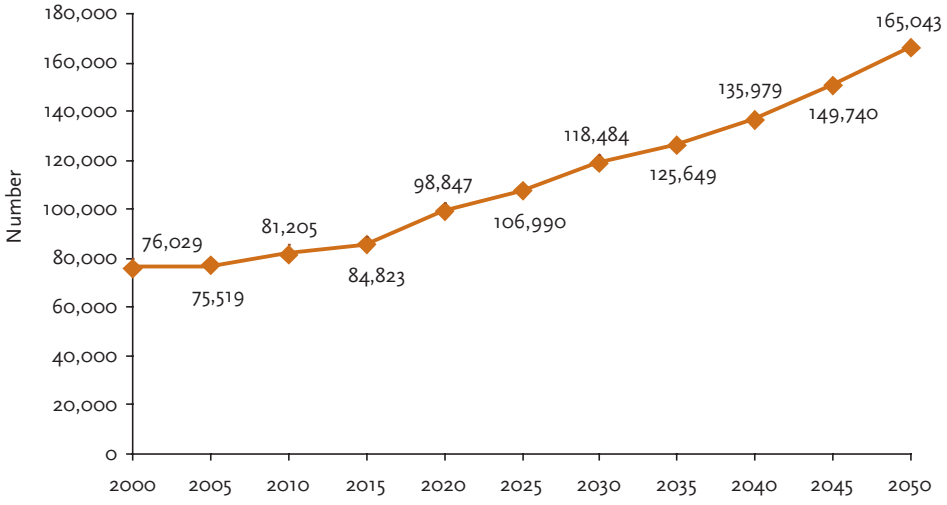
POPULATION CHARACTERISTICS

Demographic statistics provide a snapshot of the current population of school-age Native Hawaiian children and an estimate of the demands placed on our educational systems as that population grows. Fifty-year projections for school-age Native Hawaiian children suggest that the population will increase substantially within the next few decades (Figure 4.1). Already characterized as overburdened and underfunded, will the state's public education system be able to handle the accompanying surge in demand over the next fifty years?[1]

The number of Native Hawaiians between the ages of five and nineteen is expected to double over the next fifty years, from 76,029 in 2000 to 165,043 in 2050 (Figure 4.1).

- Between 2000 and 2015, the projected rate of growth for the school-age Native Hawaiian population is low—an average of less than 4 percent every five years. In fact, the population of Native Hawaiians ages five to nineteen years actually decreased between 2000 and 2005.
- Projections show the school-age Native Hawaiian population increasing by more than 16 percent between 2015 and 2020. Over the thirty-year period from 2020 to 2050, the population is expected to increase by two-thirds (67 percent) at an average rate of 9 percent every five years.

FIGURE 4.1 Population forecasts for school-age Native Hawaiian children [children ages 5 to 19, state of Hawai'i, 2000 to 2050]



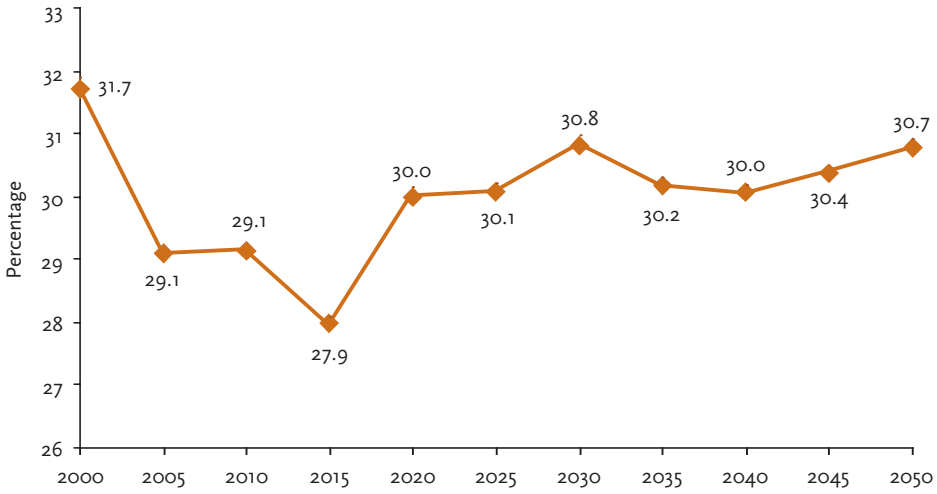
Source: Malone 2005.

1. Recent media reports (e.g., Hurley 2005) have reported a decrease in the school-age population (children ages five to seventeen) from roughly 218,000 in 2000 to 210,000 in 2004. During the same period, the Native Hawaiian school-age population fell from 71,000 to 67,000. However, population forecasts reveal that the decline is temporary, based on factors affecting only the cohorts to reach this age range during this period. By 2010, Native Hawaiian school-age population numbers (as well as those of the total school-age population) will reach circa-2000 levels and continue to rise thereafter (Malone 2005).

Figure 4.2 shows the fifty-year projections for school-age Native Hawaiian children ages five to nineteen as a percentage of the total Native Hawaiian population.

- Corresponding to the period of slow growth in the next decade, the share of the total Native Hawaiian population accounted for by school-age children is expected to decrease from 31.7 percent in the year 2000 to 27.9 percent in 2015.
- By 2020, the school-age Native Hawaiian population is expected to rebound to roughly 30 percent, at which point the population is likely to stabilize for the next thirty years.

FIGURE 4.2 School-age children as a percentage of total Native Hawaiian population [based on population forecasts, children ages 5 to 19, state of Hawai'i, 2000 to 2050]



Source: Malone 2005.

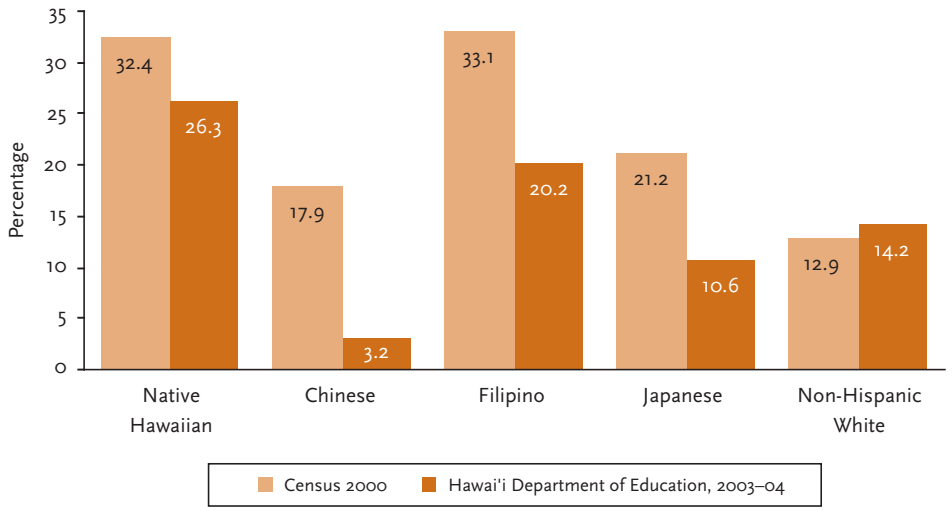
Together, Figure 4.1 and Figure 4.2 highlight the fact that the projected period of slow growth between 2000 and 2015 is confined to the school-age portion of the Native Hawaiian population. Indeed, demographic data for the total population (Part Two, Figure 2.1) indicate that while the school-age population decreased between 2000 and 2005, the total population during the same period increased, and that the increase reflects a fairly typical rate of growth.

These figures suggest that although the number of school-age Native Hawaiians will remain relatively stable over the next fifteen years, this lull will be followed by a period of steady growth during which the Native Hawaiian population in the public education system in Hawai'i will increase substantially.

Figure 4.3 shows two perspectives on the ethnic composition of the population of Hawai'i public school students—one based on Hawai'i Department of Education data and the other on Census 2000 data. Differences across the two sets of tabulations may be explained by variations in the race- and ethnicity reporting conventions used by the two data sources. The Hawai'i Department of Education asked students' parents to report their child's dominant race or ethnicity (one only), whereas Census 2000 allowed individuals to report multiple racial/ethnic identities. Census figures, therefore, sum to more than 100 percent, because children with diverse racial/ethnic backgrounds may be counted in more than one racial/ethnic category (see Appendix A). Regardless of these policy differences, both data sources illustrate that Native Hawaiians are one of the largest ethnic groups within Hawai'i's public schools (Figure 4.3).

- Based on data from the Hawai'i Department of Education, more than one in every four public school students (26.3 percent) claimed "Hawaiian" or "part-Hawaiian" as their dominant racial/ethnic identity. By contrast, Census 2000 data indicate that nearly one in three public school students (32.4 percent) reported some Native Hawaiian background.
- According to data from the Hawai'i Department of Education, Native Hawaiians constituted the largest single ethnic group within the public school system (26.3 percent), with Filipinos representing the next-largest group (20.2 percent).

FIGURE 4.3 Racial/ethnic distribution of public school students [percentage distribution, by race/ethnicity, by data source, state of Hawai'i, multiyear comparisons]



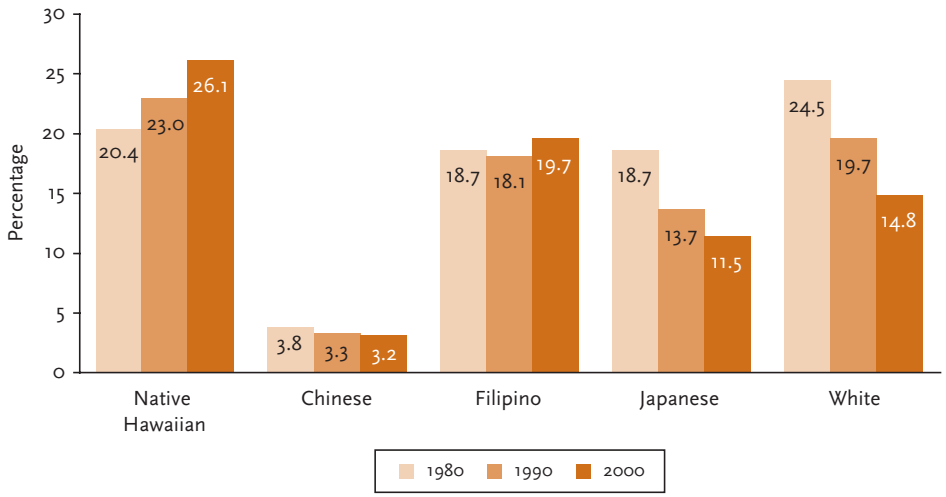
Data sources: U.S. Census 2000, Summary File 4; Hawai'i Department of Education 2003–04.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A). As a result, the distribution based on Census 2000 data may not sum to 100 percent.

The predominance of Native Hawaiian children in the public school system means that the performance of Native Hawaiians, as a group, has important implications for the overall quality and capacity of public education in the state. In a time of increasing emphasis on accountability, Hawai'i public schools will achieve success to the degree that they meet the needs of the group that is arguably their largest student constituency: Native Hawaiians. Data presented later in Part Four demonstrate that this presents a significant challenge.

Figure 4.4 shows how the ethnic composition of public school students in Hawai'i has changed over the past twenty years.

- Native Hawaiians account for a growing percentage of the student body, increasing from 20.4 percent in 1980 to 26.1 percent in 2000.
- The percentage of public school students identified as White or Japanese has declined over the past twenty years. In 1980, White students constituted 24.5 percent of the student population, and Japanese students accounted for 18.7 percent. By 2000, these figures decreased to 14.8 percent for White students and 11.5 percent for Japanese students.

FIGURE 4.4 Trends in racial/ethnic distribution of students in the Hawai'i public school system [percentage distribution, by race/ethnicity, state of Hawai'i, selected years]



Source: Kamehameha Schools–PASE 2001.
Data source: Hawai'i Department of Education 2000–01.

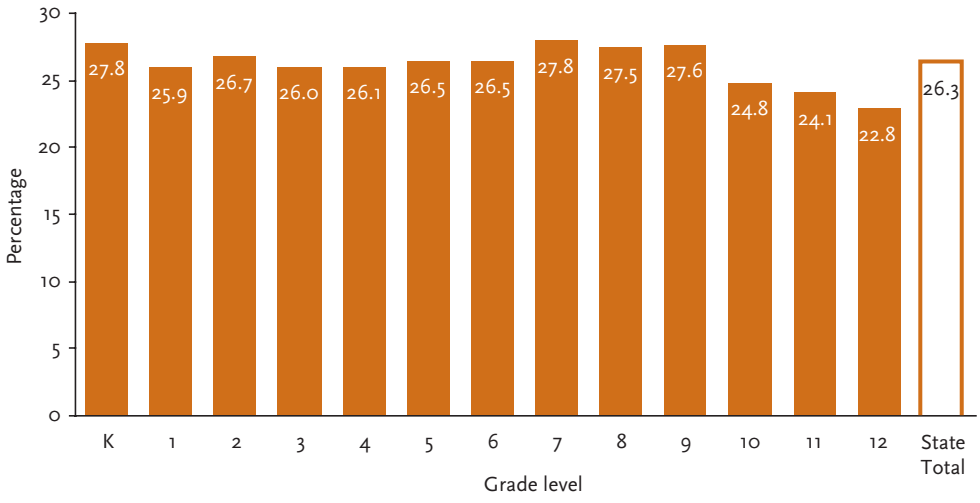
These trends suggest that the Native Hawaiian share of the public school population continues to grow. It is therefore imperative—both for the Hawai'i Department of Education and the Native Hawaiian community—to find more effective strategies that will address the educational needs of Native Hawaiian children in the public school system.

Figure 4.5 shows Native Hawaiian children as a percentage of students in each grade level in the public school system.

- In school year 2003–04, the concentration of Native Hawaiians in public schools was highest in kindergarten and Grades 7, 8, and 9, which typically mark transitional periods in children's schooling, when many families opt to move their children into private schools.
- In high school, the percentage of Native Hawaiian students decreased with each successive grade level, likely reflecting the comparatively high numbers of Native Hawaiian students who are retained in grade or leave school, an issue that is discussed later in this analysis.

Although variations exist across cohorts, these patterns relating to grade-level fluctuations in Native Hawaiian enrollment recur throughout data from the past decade (not shown). In particular, the steady decline in Native Hawaiian enrollment with each successive grade level of high school has been consistently apparent since at least the early 1990s.

FIGURE 4.5 Native Hawaiian students as a percentage of all public school students in each grade [by grade level, state of Hawai'i, school year 2003–04]



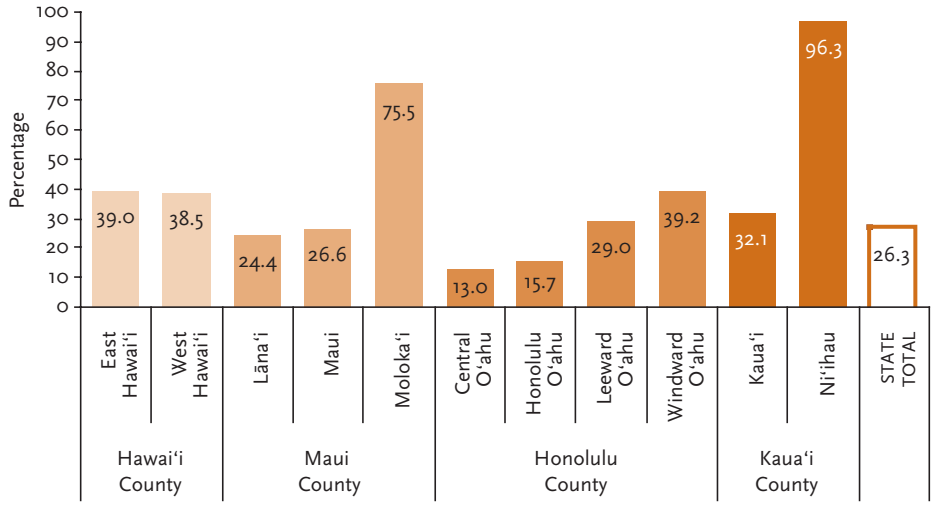
Data source: Hawai'i Department of Education 2003–04.

The patterns highlighted in Figure 4.5 suggest movement of students into and out of the public school system, which may affect the aggregate outcomes achieved by public schools. For example, if a substantial number of high-achieving and socioeconomically advantaged students transfer into private schools in Grade 7, we might expect to see a decline in the average test scores for public middle schools, simply because the loss of high-achieving students would skew the distribution of scores downward. Conversely, if low-achieving students leave school in the upper grade levels, their absence may artificially increase high school test averages. Although neither of these hypothetical trends has been confirmed by the data, the possibilities highlight the potential impact of external forces such as private schools and labor market conditions on the educational indicators of public school students.

The Native Hawaiian population is highly concentrated in certain rural communities, many of which are burdened with high rates of poverty and limited socioeconomic resources. These patterns are reflected in the regional concentrations of Native Hawaiian children within the public school system. Figure 4.6 shows Native Hawaiian students as a percentage of the public school population by region.[2]

- In school year 2003–04, the islands of Niʻihau and Molokaʻi had the highest concentrations of Native Hawaiians at 96.3 percent and 75.5 percent, respectively.
- Almost two of every five public school students on Hawaiʻi Island were Native Hawaiian (39.0 percent in East Hawaiʻi and 38.5 percent in West Hawaiʻi).
- On Oʻahu, the regions with the lowest concentration of Native Hawaiian public school students were the Central district (with a large military population) and cosmopolitan Honolulu (the most urban and affluent district in the state).

FIGURE 4.6 Native Hawaiian students as a percentage of all public school students in region [by geographic region, state of Hawaiʻi, school year 2003–04]



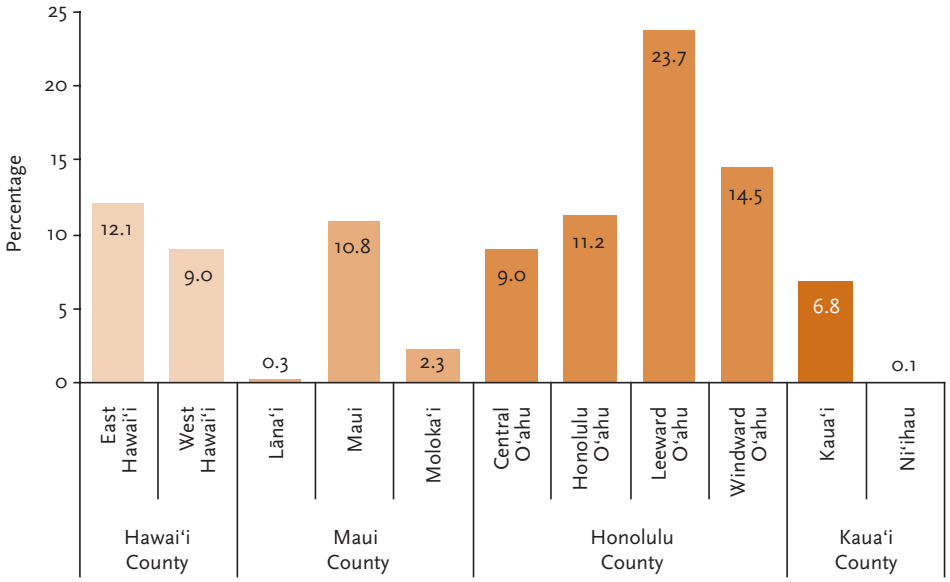
Data source: Hawaiʻi Department of Education 2003–04.

2. The Hawaiʻi Department of Education divides the state school system into seven districts: the Honolulu, Central, Leeward, and Windward districts on Oʻahu; the Hawaiʻi district, covering the entire island of Hawaiʻi; Maui district, encompassing Maui Island, Molokaʻi, and Lānaʻi; and the Kauaʻi district, which includes Kauaʻi Island and Niʻihau. Because these districts cover large and socioeconomically distinct regions, our geographic comparisons in this chapter include eleven regions: Honolulu, Central Oʻahu, Leeward Oʻahu, Windward Oʻahu, East Hawaiʻi, West Hawaiʻi, Maui Island, Molokaʻi Island, Lānaʻi Island, Kauaʻi Island, and Niʻihau Island.

Figure 4.7 shows the distribution of Native Hawaiian public school students across different regions of the state. Although Figure 4.6 suggested that rural areas are often characterized by high concentrations of Native Hawaiian students, Figure 4.7 shows that the majority of Native Hawaiian public school students (58.4 percent) attend schools on the densely populated island of O'ahu.

- In school year 2003–04, the Leeward Coast of O'ahu had the highest number of Native Hawaiian public school students among the major regions in the state. Nearly one of every four Native Hawaiian public school students (23.7 percent) attended a Leeward school.
- Although the vast majority of public school students on Moloka'i and Ni'ihau were Native Hawaiian, they accounted for a small percentage of the total Native Hawaiian population in Hawai'i's public school system (2.3 percent and 0.1 percent, respectively).

FIGURE 4.7 Geographic distribution of Native Hawaiian public school students [percentage distribution, by geographic region, state of Hawai'i, school year 2003–04]



Data source: Hawai'i Department of Education 2003–04.

SOCIAL/CULTURAL AND EMOTIONAL WELL-BEING

Why is the social well-being of school-age children important to their educational outcomes? Social well-being among school-age children includes the nature and strength of their relationships with family, friends, their community, and society as a whole. The social environment may affect educational growth by determining the stability of children's home environments, their access to stimulating activities outside the classroom, the way they interact with others in the classroom, and the value they place on education (Brooks-Gunn and Klebanov 1996; Hughes 2003; Klebanov and Brooks-Gunn 1992; Laible and Carlo 2004; Lindsey and Mize 2001; Noack 2004; Pearson and Rao 2003; Phillips et al. 1998; Ratelle et al. 2004; Zhou et al. 2002). Research shows that parenting practices and social relationships within the home have a significant effect on student achievement and educational outcomes (Dornbusch et al. 1987; Glasgow et al. 1997; Steinberg et al. 1992; Steinberg, Elmen, and Mounts 1989; Steinberg et al. 1991).

ʻOhana is the root of Native Hawaiian culture and the foundation of social development for school-age *keiki* (children). In principle, the ʻohana provides an order that structures all relationships and interactions. The family may also strengthen individuals to overcome challenges and instill a sense of *aloha* (love, affection, compassion) that fosters warmth, trust, and friendship. The strength of ʻohana and the dynamics within families have a powerful impact on how Native Hawaiian children view and interact with the world outside their homes (Laible and Carlo 2004; Lindsey and Mize 2001; Noack 2004; Zhou et al. 2002).

Although the ʻohana is a central institution within Native Hawaiian communities, the families that support Native Hawaiian children often take diverse forms that defy the conventional nuclear household structure. On the one hand, our findings show that Native Hawaiian children are more likely than their peers to grow up in multigenerational households shared with grandparents. Such arrangements allow Native Hawaiian children to absorb the wisdom of kūpuna, enjoy multiple levels of family support, build stronger connections to their heritage and traditional ways, and develop more inclusive notions of love and family. On the other hand, our analysis also shows that Native Hawaiian children are more likely than other children to be raised in single-parent households. Although single-parent families may be just as strong and loving as conventional married-couple families (Hanson 1986; Ricciuti 2004), the situation poses pragmatic difficulties for parents and children. For example, single parents must juggle child-rearing and income-earning responsibilities and may, therefore, have less quality time to spend with their children and fewer financial resources to support their families. These additional pressures may negatively affect the attitudes of single parents as well as their parenting practices. All of these potential issues have measurable effects on children's educational development (Bank et al. 1993; Bateman and Kennedy 1997; Berger 2004; Biblarz and Raferty 1999; Demuth and Brown 2004; Jackson et al. 2000; Jackson and Scheines 2005; Krein and Beller 1988; McLanahan and Sandefur 1994; Milkie et al. 2004; Milne et al. 1986; Pong 1997; Smith, Brooks-Gunn, and Klebanov 1997).

Despite hardships that may arise as a result of the diversity of Native Hawaiian family arrangements, Native Hawaiian children express stronger attachments to their families than do other students and report more positive support from family members—a fact that indicates the strength and resilience of the Native Hawaiian ʻohana. Our analysis of a statewide student survey found that, among the state's

major ethnic groups, Native Hawaiian children were the most likely to feel strong ties to their families and to report opportunities for positive involvement within the family. These positive indicators of family strength offer the building blocks to enhance the social and educational development of school-age Native Hawaiian children, suggesting supportive environments at home that can facilitate children's learning and growth.

However, Native Hawaiian children as a group also experience higher rates of family conflict, greater exposure to substance abuse within the home, and lower levels of parental discipline for antisocial behaviors. In Part Two, our analysis of data from the Hawai'i Department of Human Services showed that Native Hawaiian children also suffer higher rates of child abuse and neglect.

These seemingly conflicting social patterns are indicative of broader social forces that affect both family relationships and community dynamics. Although Native Hawaiian children express strong attachments and ties to their communities, they also describe "disorganized" and unstable neighborhoods where they are exposed to substance abuse and crime. Such dysfunction within the environments in which Native Hawaiian children are raised may lead to emotional instability and self-destructive behavior by the children themselves. Research indicates that school-age Native Hawaiian children are disproportionately prone to depression and suicidal thoughts, the behavioral effects of which manifest themselves in higher rates of arrest, substance abuse, sexual activity, and violence. Although recent research suggests that ethnic and cultural identity may act to mitigate the high risk of suicide among Native Hawaiian youths, such positive influences may be overwhelmed by cultural conflict (McCubbin 2003, Yuen et al. 2000), and socioeconomic stressors (Cross, Earle, and Simmons 2000).

From these data, the story that emerges suggests at once the strong network of support from which Native Hawaiian children draw strength and a more chaotic environment characterized by conflict, instability, and even violence. Studies of other indigenous peoples suggest that these relationships reflect the strength of economic stressors and the erosion of traditional social structures like 'ohana and cultural belief systems that imposed order and dictated consequences for unacceptable behaviors such as child abuse (Pukui et al. 1972).

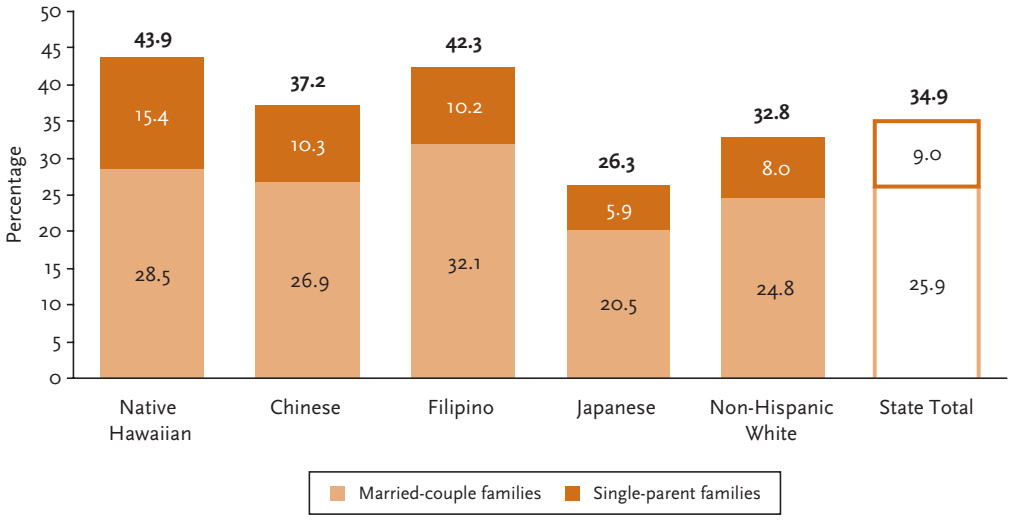
Whatever the cause of dysfunction, the endurance of a Native Hawaiian child's attachments to family and community—in spite of external stressors and antisocial influences—is a testament to the resilience of the Native Hawaiian 'ohana and the strength of the Native Hawaiian community. As the center of Native Hawaiian social networks, 'ohana and community are increasingly the institutions on which we build educational alternatives for Native Hawaiian children and improved well-being for the population as a whole.

Family Characteristics

Hawaiian cultural values place children at the center of the Native Hawaiian ʻohana (Pukui, Haertig, and Lee 1972). This concept finds expression in the Hawaiian proverb, *"He lei poina ʻole ke keiki"* (A lei never forgotten is the beloved child). Consistent with these traditions, Figure 4.8 shows that Native Hawaiian families more often contain school-age children than do families of other ethnic backgrounds.

- In 2000, almost half (43.9 percent) of Native Hawaiian households included school-age children, compared with one-third (34.9 percent) of households statewide.
- Native Hawaiian households were more likely to be headed by a single parent raising school-age children than were households associated with the other major ethnic groups in the state (15.4 percent versus 9.0 percent statewide).

FIGURE 4.8 Families with school-age children as a percentage of all families [families with children ages 6 to 17, by family type, by race/ethnicity, state of Hawai'i, 2000]

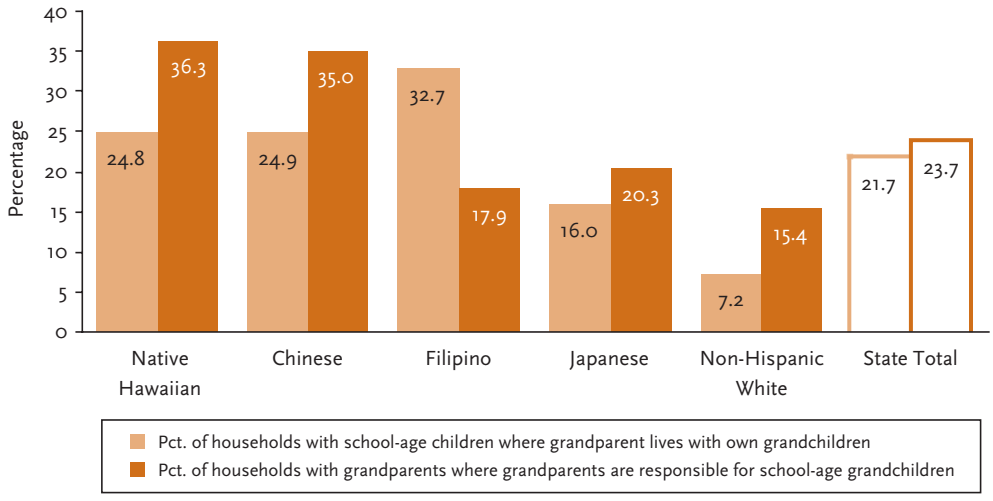


Data source: U.S. Census 2000, Summary File 2.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Families with school-age Native Hawaiian children are diverse in form and may deviate from nuclear family conventions. Grandparents often play a prominent role in Native Hawaiian families and a critical role in the rearing of school-age Native Hawaiian children. Active grandparent involvement theoretically offers substantial benefits to school-age Native Hawaiian children, including the wisdom of elders, additional levels of care and support, broader understandings of 'ohana and aloha, and stronger ties to cultural heritage and traditions (Kana'iaupuni and Else 2005; Kaomea forthcoming). Figure 4.9 shows that Native Hawaiian children are more likely to have grandparents who actively take care of them than are non-Hawaiian children.

- In 2000, roughly one in four Native Hawaiian families with school-age children (24.8 percent) was multigenerational, with grandparents and grandchildren residing in the same household. Such living arrangements are common throughout Hawai'i and accounted for more than one in every five households in the state.
- Although coresident grandparents and grandchildren are also common in Filipino and Chinese families, in Native Hawaiian families live-in grandparents are often responsible for their school-age grandchildren. Grandparents assumed caregiving responsibilities for their grandchildren in more than one-third (36.3 percent) of the Native Hawaiian households where grandparents and grandchildren reside together.
- When grandparents function as sole caregiver, problems with financial security and adequacy of resources may arise, particularly if kūpuna are retired and living on fixed incomes. The prevalence of grandparents who functioned as sole caregiver was twice as high among multigenerational Native Hawaiian households as it was across the state (not shown).

FIGURE 4.9 Presence of grandparents and grandparent caregiving in households with school-age children [households with children ages 5 to 17, by race/ethnicity, state of Hawai'i, 2000]



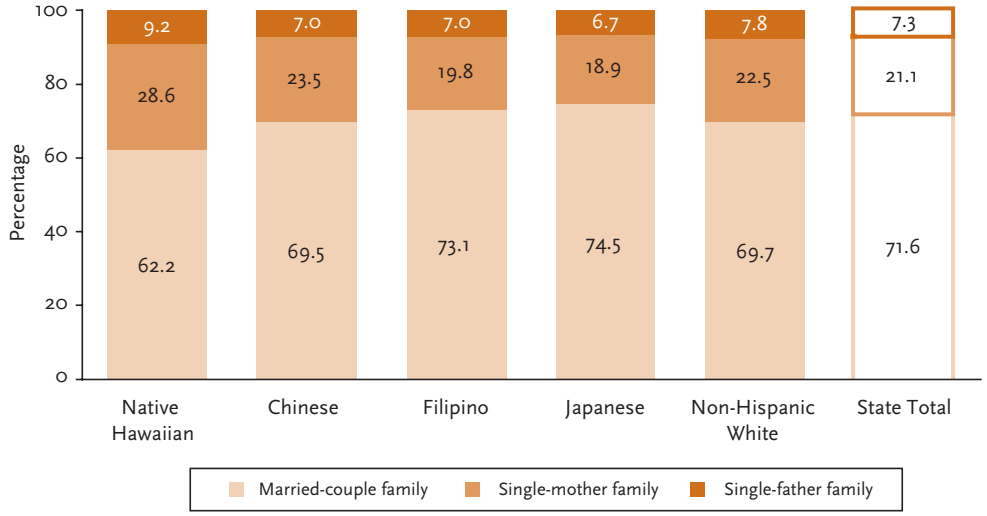
Data source: U.S. Census 2000, PUMS.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Financial issues may also be a concern for single-parent families, in which the household head is both primary caregiver and primary breadwinner. Many school-age Native Hawaiian children grow up in single-parent families, where they must overcome challenges to which other children are not subject. Figure 4.10 shows, for each of the major ethnic groups, the structure of families in which school-age children are raised. Overall, the data show that school-age Native Hawaiian children are more likely to be raised in single-parent households and less likely to be raised in married-couple households than are non-Hawaiian children.

- In 2000, single household heads (male and female) accounted for 37.8 percent of Native Hawaiian families with school-age children and 28.4 percent of all families in the state with school-age children.
- School-age Native Hawaiian children were the least likely of the major ethnic groups to be raised in married-couple families. Among Native Hawaiian families with school-age children, 62.2 percent were headed by a married couple, compared with 71.6 percent of families statewide.

FIGURE 4.10 Distribution of school-age children according to family type [children ages 6 to 17, by race/ethnicity, state of Hawai'i, 2000]



Data source: U.S. Census 2000, Summary File 2.

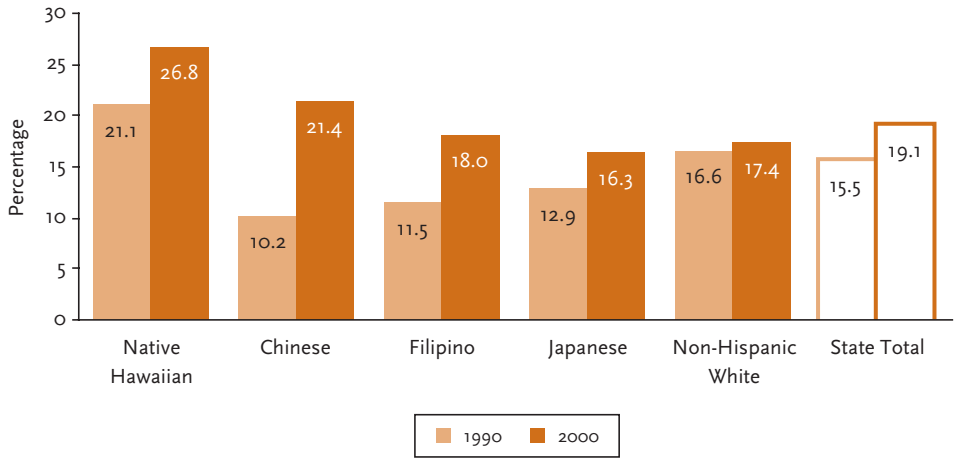
Note: For the sake of brevity, families headed by a single male with no wife present are referred to as "single-father families," and families headed by a single female with no husband present are generalized as "single-mother families." However, the individuals or couples who head these families are not necessarily the biological parents of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Although single-parent families may have the same characteristics of warmth and nurturing as married-couple households, the responsibilities and stress weighing on single parents can affect their financial resources, the amount of time they have to spend with children, and their parenting practices and styles (see related studies discussed previously in the introduction to "Social/Cultural and Emotional Well-Being").

Among single-parent families with school-age children, women are most often the household head. Figure 4.11 highlights changes over the past decade in the prevalence of single females who head households with children. Since 1990, female-headed households with school-age children have become more common in Hawai'i.

- In recent decades, Native Hawaiian families with school-age children were more likely to be headed by a single female than were families of the other major ethnic groups. In both 1990 and 2000, the statewide rate of single-female headed households was roughly 25 percent lower than the rate among Native Hawaiian families (15.5 percent versus 21.1 percent in 1990 and 19.1 percent versus 26.8 percent in 2000).
- Between 1990 and 2000, the percentage of Native Hawaiian families with school-age children headed by a single female increased from 21.1 percent to 26.8 percent. Over the same period, the statewide rate increased from 15.5 percent to 19.1 percent. The large increase for Chinese families may be partially due to the inclusion of Native Hawaiian-Chinese families in the Census 2000 counts (but not in the 1990 Census).

FIGURE 4.11 Trends in single-mother families as a percentage of all families with school-age children [families with children ages 6 to 17, by race/ethnicity, state of Hawai'i, 1990 and 2000]



Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 2.
Note: For the sake of brevity, families headed by a single female with no husband present are referred to as "single-mother families." However, the individuals who head these families are not necessarily the biological mothers of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

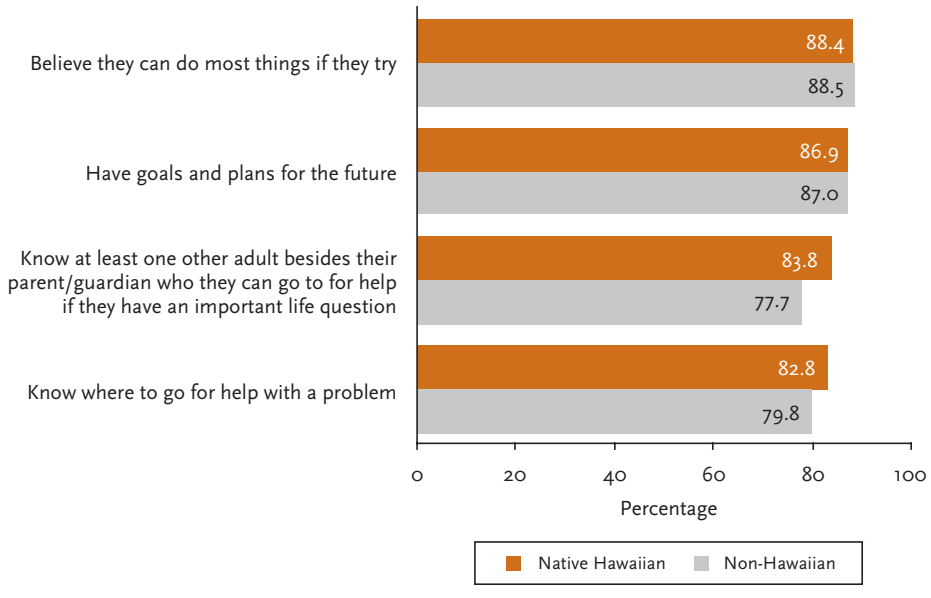
Emotional Support, Social Environments, and Children's Behavior

Despite the social disadvantages that affect many Native Hawaiian families, data from the Hawai'i Youth Risk Behavior Survey (YRBS) and the Alcohol, Tobacco, and Other Drug Use (ATOD) survey of Hawai'i students[3] indicate that Native Hawaiian children have positive attitudes and strong, supportive relationships with their families and communities. However, Native Hawaiian youths often live in difficult social environments with heavy exposure to substance abuse and antisocial behaviors. Such dysfunctional settings can undermine children's emotional stability and negatively influence their behavior, resulting in depression and delinquency among many Native Hawaiian youths.

Figure 4.12 shows that Native Hawaiian students express positive feelings about themselves and have strong emotional support networks through their close ties to family and community. Results from the YRBS indicate that the beliefs and attitudes of Native Hawaiian students mirror those of non-Hawaiian students and that Native Hawaiian students more often have places and people to turn to for help (Hawai'i Department of Health 2001).

- Almost 90 percent of both Native Hawaiian and non-Hawaiian students said they can do most things if they try. Roughly 87 percent of students in both groups reported having goals and plans for the future.
- A total of 83.8 percent of Native Hawaiian students reported knowing a nonparental adult they could turn to for help, compared with 77.7 percent of non-Hawaiian students.
- Native Hawaiian students were slightly more likely than non-Hawaiians to "know where to go for help" (82.8 percent compared with 79.8 percent, respectively).

FIGURE 4.12 Students with selected positive attitudes as a percentage of all high school students [by Native Hawaiian ethnicity, state of Hawai'i, 2001]



Data source: Hawai'i Department of Health, YRBS 2001.

3. The Hawai'i YRBS is administered biannually in odd-numbered years by the Hawai'i Department of Health. Hawai'i YRBS data are based on a sample of 1,495 public middle school students (Grades 6 to 8) and 1,076 public high school students (Grades 9 to 12). ATOD is administered biannually in even-numbered years by the Alcohol and Drug Abuse Division of the Hawai'i Department of Health. Data reflect the responses of 27,995 students from 181 public and 34 private schools, Grades 6, 8, 10, and 12.

Table 4.1 presents indicators of individual social behavior among Native Hawaiian youths. The data are organized as risk factors (i.e., factors that increase the risk that children will engage in self-destructive behaviors) and protective factors (i.e., factors that may help deter children from engaging in self-destructive behaviors). The results suggest that Native Hawaiian youths exhibit relatively high rates of problem behaviors, rebelliousness, and gang involvement.

- Nearly half of the Native Hawaiian respondents (48.0 percent) reported early initiation of problem behaviors, compared with the statewide rate of 37.3 percent.
- Almost one in three Native Hawaiian students (32.7 percent) admitted having antisocial behaviors such as violence and delinquency, and more than half (50.5 percent) stated that their friends approve of such behavior.
- Compared with students of other major ethnicities, Native Hawaiians reported the highest rate of gang involvement (14.2 percent, compared with a statewide rate of 11.1 percent).
- Several protective factors that typically discourage high-risk and antisocial behaviors among students were less prevalent in the Native Hawaiian population than among other ethnic groups. Native Hawaiian students were the least likely of the major ethnic groups to report either postsecondary educational aspirations (36.4 percent) or belief in the moral order (39.0 percent).

TABLE 4.1 Students who report individual-level risk and protective factors as a percentage of all students [public and private school students in Grades 6 to 12 (combined), by race/ethnicity, state of Hawai'i, 2002]

	Native Hawaiian	Chinese	Filipino	Japanese	White	State Total
Risk Factors						
Early initiation of problem behaviors	48.0	20.3	36.0	23.7	41.0	37.3
Favorable attitudes toward ATOD use	40.4	27.0	32.0	31.0	42.3	35.8
Low perceived ATOD use risk	31.8	20.0	28.6	23.0	30.9	28.7
Antisocial behaviors	32.7	12.5	23.0	14.2	25.5	24.8
Favorable attitudes toward ASB	46.3	41.3	41.8	41.7	51.9	45.6
Friends' ATOD use	56.2	23.9	45.4	30.9	47.0	45.0
Interaction with antisocial peers	56.1	26.9	44.9	32.6	47.9	46.2
Rewards for antisocial involvement	50.5	34.4	40.6	37.9	54.1	45.4
Rebelliousness	37.7	27.6	33.4	28.5	35.6	34.3
Sensation seeking	49.5	32.0	38.4	37.1	53.1	43.8
Gang involvement	14.2	4.6	12.2	5.0	8.7	11.1
Depression	44.0	43.6	46.2	39.8	36.1	42.9
Protective Factors						
Peer disapproval of ATOD use	47.4	66.2	57.5	61.1	48.3	53.6
Religiosity	46.5	32.6	55.6	31.4	41.1	45.5
Belief in the moral order	39.0	46.5	45.0	47.9	39.2	42.2
Educational aspirations	36.4	54.7	39.4	50.0	43.6	42.7

Source: Klingle 2003.
Note: ATOD = alcohol, tobacco, and other drugs; ASB = antisocial behavior.

- Religiosity, as a protective factor, was more common among Native Hawaiian students than in the larger student population. Native Hawaiians exhibited the second highest rates of religiosity (46.5 percent), exceeded only by Filipinos (55.6 percent).
- Among Native Hawaiian students, 54.1 percent had strong family attachments, compared with 50.9 percent of students statewide (Table 4.2). Compared with students of other ethnic backgrounds, Native Hawaiians were among the most likely to describe their families as providing opportunities and rewards for positive involvement. However, Native Hawaiian students also had the highest rate of reported family conflict at 52.0 percent.
- The percentage of Native Hawaiian students who reported having siblings with a history of antisocial behaviors (44.6 percent) was roughly double the rate among Chinese and Japanese students (20.1 percent and 24.1 percent, respectively).

TABLE 4.2 Students who report family-level risk and protective factors as a percentage of all students [public and private school students in Grades 6 to 12 (combined), by race/ethnicity, state of Hawai'i, 2002]

	Native Hawaiian	Chinese	Filipino	Japanese	White	State Total
Risk Factors						
Poor family supervision	40.8	44.9	44.6	41.6	42.4	42.8
Family conflict	52.0	43.9	47.3	42.2	46.9	47.2
Lack of parental sanctions for ASBs	33.5	23.4	26.9	20.8	31.5	28.2
Parental attitudes favorable toward ATOD use	24.9	17.7	16.7	18.5	25.2	20.8
Exposure to family ATOD use	54.5	36.3	44.8	44.4	56.9	48.8
Parental attitudes favorable toward ASB	31.5	23.2	24.4	22.6	30.3	27.1
Family (sibling) history of ASB	44.6	20.1	32.4	24.1	37.3	34.0
Protective Factors						
Family attachment	54.1	46.2	47.3	51.4	52.9	50.9
Family opportunities for positive involvement	45.4	33.6	34.8	37.9	41.9	39.6
Family rewards for positive involvement	51.7	39.7	41.3	48.5	53.9	47.7

Source: Klingle 2003.
Note: ASB = antisocial behavior; ATOD = alcohol, tobacco, and other drugs.

- Table 4.3 shows that Native Hawaiian students were more likely to report that their communities encourage and reward them when they engage in positive activities than were students statewide (40.5 percent compared with 36.9 percent, respectively).
- A large proportion of Native Hawaiian students (52.5 percent) characterized their communities as "disorganized," with high rates of crime, violence, and delinquency. A similarly high proportion (52.3 percent) indicated that the predominant norms within their communities were favorable toward alcohol, tobacco, and other illicit substances.

TABLE 4.3 Students who report community-level risk and protective factors as a percentage of all students [public and private school students in Grades 6 to 12 (combined), by race/ethnicity, state of Hawai'i, 2002]

	Native Hawaiian	Chinese	Filipino	Japanese	White	State Total
Risk Factors						
Low neighborhood attachment	43.1	43.1	48.9	35.7	44.9	45.1
Community disorganization	52.5	43.9	52.4	40.1	46.0	48.8
Transition & mobility	46.0	36.2	39.7	25.1	57.6	44.3
Exposure to community ATOD use	47.2	35.2	42.9	36.8	50.7	44.4
Laws & norms favorable to ATOD use	52.3	24.8	38.8	29.8	43.7	40.8
Perceived availability of drugs & handguns	55.4	39.3	44.0	44.0	59.3	50.0
Ability to purchase alcohol or tobacco	13.6	7.6	8.9	8.0	12.4	11.4
Protective Factors						
Community opportunities for positive involvement	49.5	41.0	42.4	49.6	51.0	47.1
Community rewards for positive involvement	40.5	31.8	35.0	37.4	36.7	36.9

Source: Klingle 2003.
Note: ATOD = alcohol, tobacco, and other drugs.

How can the seemingly contradictory trends among Native Hawaiian families and communities—strong and supportive, yet prone to conflict and abuse—be explained? Cross, Earle, and Simmons (2000) address similar questions about American Indian families and make two arguments relevant to the Native Hawaiian experience.

First, as with disadvantaged minorities throughout the nation, much of the dysfunctional behavior in Native Hawaiian families may be explained by the prevalence of socioeconomic stressors. As discussed elsewhere in this report, many Native Hawaiian families struggle with financial insecurity and limited opportunities, as evidenced by low income and high rates of poverty. Although fundamental to health and well-being, the strength of Native Hawaiian families and communities cannot fully offset the frustrations and disappointments of social marginalization. The result is either outbursts of self-destructive behavior (e.g., family violence, substance abuse) or a subconscious decision to pursue opportunities for advancement outside of what society deems acceptable (e.g., criminal activity) (Sullivan 1989).

Second, Cross, Earle, and Simmons (2000) suggest that domestic violence and community disorder may be caused by the disconnection of indigenous peoples from the traditional social systems that historically helped individuals cope with family conflict and social problems. For example, Pukui et al. (1972) report that child abuse is inconsistent with traditional Native Hawaiian ways and values. They note that the kapu system forbade physical attacks on the parts of the body that were most crucial to both physical and spiritual health, and that the most common form of punishment for children was the use of a *pūlumi nīʻau* (broom made of coconut leaf midribs) against their ankles and legs (Pukui et al. 1972). When children were abused, other members of the ʻohana were responsible for intervening and, if need be, removing the child to be raised as their own. They also report that "mistreatment of a child sometimes called for the supreme ʻohana punishment of *mō ka piko*"—severing of the symbolic umbilical cord or being cut off from the family (Pukui et al. 1972, pp. 220–22).

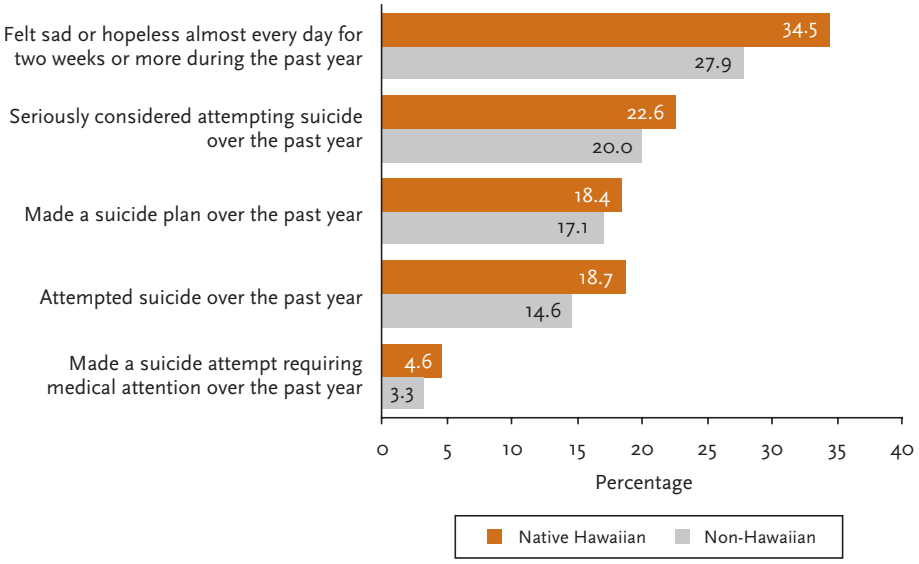
These examples underscore the important role that ʻohana, the kapu system, and cultural traditions played in protecting children and maintaining social order. Although the ʻohana remains a source of strength, there is no doubt that colonialism and social adversity have taken a toll on Native Hawaiian families. The erosion of both extended family structures and the social systems that traditionally supported and regulated child-rearing may be an important factor in the symptoms of dysfunction found in Native Hawaiian homes and communities today.

Emotional Stability

The unstable and dysfunctional environments in which many Native Hawaiian children are raised may negatively affect their emotional health (Gilman et al. 2002; Gore, Aseltine, and Colton 1992), resulting in high rates of depression and suicide ideation. Although depression and suicidal tendencies can have a significant impact on children's education (Aluja and Blanch 2004; Chen and Li 2000; Van Ameringen, Mancini, and Farvolden 2003), the greater concern is the risk that such emotionally troubled youths will harm themselves. A statewide study of high school students found that Native Hawaiians are at a greater risk for depression than are non-Hawaiians (Hawaiʻi Department of Health 2001). Figure 4.13 shows the percentage of students with depressive symptoms and suicidal tendencies.

- More than one-third of Native Hawaiian high school students (34.5 percent) reported frequent feelings of sadness or hopelessness, compared with 27.9 percent of non-Hawaiian students.
- Native Hawaiian high school students were slightly more likely to have suicidal thoughts than were their non-Hawaiian peers. Almost one in four Native Hawaiian high school students (22.6 percent) reported having seriously considered suicide during the past year, and almost one in five (18.4 percent) had formulated a suicide plan.
- Actual suicide attempts were more common among Native Hawaiians than among non-Hawaiians. Almost one in five Native Hawaiian high school students (18.7 percent) reported having attempted suicide during the previous year, compared with 14.6 percent of non-Hawaiian students.
- Native Hawaiian high school students were more likely to require medical treatment for a suicide attempt than were non-Hawaiian students (4.6 percent versus 3.3 percent).

FIGURE 4.13 Students with depressive symptoms and suicidal tendencies as a percentage of all public high school students [by Native Hawaiian ethnicity, state of Hawai'i, 2001]



Data source: Hawai'i Department of Health, YRBS 2001.

In a study on the causes of Native Hawaiian suicide, Yuen et al. (2000) concur that Native Hawaiian high school students are at greater risk for attempting suicide than are non-Hawaiian students, although the suicide attempt rates they find in their 1993–94 data are lower than those presented above: 13 percent for Native Hawaiians and 10 percent for non-Hawaiians.

Yuen et al. (2000) explored a possible explanation for the increased risk of suicide among Native Hawaiian youths. Based on earlier literature finding an inverse relationship between suicide rates and cultural identity among American Indian groups, Yuen et al. hypothesized that stronger cultural identification among Native Hawaiian teens would predict lower rates of attempted suicide. In other words, culture may provide the social and emotional support indigenous adolescents need to withstand the stress of being a marginalized minority. Alternatively, indigenous adolescents who feel stronger ties to their cultural heritage may be less vulnerable to societal pressures urging assimilation into the dominant culture and thereby avoid the stress that accompanies such acculturation. The findings of Yuen et al.'s study seemingly contradicted their hypothesis. They concluded that "Hawaiian cultural affiliation increases risk for suicide attempts, independent of Hawaiian ethnicity, socioeconomic status, and pyschopathology" (p. 365).

McCubbin (2003) argues that Yuen et al.'s findings may reflect "increased cultural conflict and increased stress engendered by being culturally Hawaiian in a Western environment." In other words, it is the combination of a strong ethnic identity set within a predominantly Western society that creates emotional distress and an increase in suicide attempts. McCubbin's own study (2003) incorporates "Native Hawaiian stressors" to examine the relationship between ethnic identity and mental health among adolescents. McCubbin finds that ethnic identity is associated with lower levels of depression and anxiety and may act

as a protective factor that promotes emotional well-being among Native Hawaiian adolescents. However, in many instances, the weight of the stressors with which Native Hawaiian children must cope overwhelms the positive influence of strong ethnic identification, resulting in emotional instability.

Although depression and suicide ideation are the most obvious signs of psychological distress, emotional issues may also manifest themselves in other unhealthy behaviors. Self-destructive acts such as substance abuse, high-risk sexual activity, and criminal behavior all may be indicative of underlying emotional problems.

High-Risk and Antisocial Behaviors

Native Hawaiian children are disproportionately prone to high-risk and self-destructive behaviors such as drug use, violence, drunk driving, and early and unprotected sexual activity. Such reckless actions are typically associated with high dropout rates and poor educational outcomes (Lynskey et al. 2003; Ripple 1994; Robins and Ratcliff 1978–79). At a more basic level, these self-destructive behaviors can threaten the very lives of our children.

Table 4.4 shows the lifetime prevalence of drug use among participants of the ATOD study of Hawai'i students. Results indicate that Native Hawaiian children are more vulnerable to drug use than are other students, with rates of alcohol, tobacco, and drug use that almost consistently exceed statewide rates.

- By tenth grade, 53.0 percent of Native Hawaiians had used some type of drug, compared with 40.4 percent across all ethnic groups.
- Among eighth graders, 15.9 percent of students statewide and 26.6 percent of Native Hawaiians had smoked marijuana.
- The drugs for which statewide prevalence rates (at Grade 12) slightly exceeded the Native Hawaiian rates were heroin, cocaine, and rohypnol.

TABLE 4.4 Students who report alcohol, tobacco, and other drug use as a percentage of all students [public and private school students in Grades 6 to 12, by grade level, by Native Hawaiian and state total, 2002]

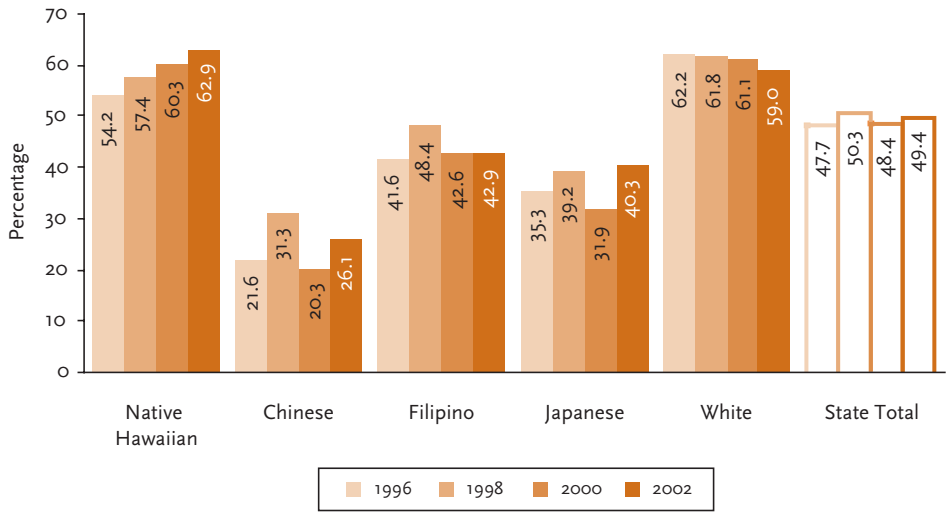
	Grade 6		Grade 8		Grade 10		Grade 12	
	Native Hawaiian	State Total	Native Hawaiian	State Total	Native Hawaiian	State Total	Native Hawaiian	State Total
Any illicit drug, including inhalants	11.2	9.5	31.3	22.0	53.0	40.4	62.9	49.4
Any illicit drug, excluding inhalants	8.0	5.2	28.9	18.2	52.0	38.6	62.0	48.5
Marijuana	5.0	2.6	26.6	15.9	48.9	35.8	60.2	46.2
Inhalants	4.9	5.6	9.1	9.1	10.4	8.4	8.6	7.3
Cocaine	0.4	0.4	2.2	2.1	3.8	3.1	4.0	4.5
Methamphetamine	0.6	0.4	2.0	2.0	4.3	4.2	5.6	5.3
Heroin or other opiates	0.5	0.3	1.0	1.0	1.7	1.3	1.0	1.4
Sedatives/tranquilizers	0.5	0.5	2.5	1.9	4.4	4.5	6.2	5.8
Hallucinogens	0.6	0.4	3.6	2.5	6.0	5.6	9.4	9.1
Steroids	2.5	2.0	3.1	2.1	4.6	2.6	3.4	2.8
Ecstasy/MDMA	0.1	0.2	4.2	3.0	8.9	7.2	11.3	10.6
GHB	0.2	0.1	1.7	1.4	2.5	2.0	3.1	2.6
Rohypnol	0.4	0.2	1.3	0.9	1.2	1.3	0.7	0.9
Ketamine	0.3	0.2	0.6	0.8	0.7	1.4	1.8	1.7
Any alcohol use	24.9	20.0	54.4	42.5	72.6	64.7	80.9	75.4
Beer or wine	24.2	19.3	53.2	41.1	70.1	62.6	77.2	72.5
Hard liquor	7.8	5.1	34.1	23.6	59.4	49.6	74.6	65.6
Been drunk	5.4	3.3	27.2	17.1	49.0	37.8	63.3	53.5
Any tobacco use	14.2	10.5	37.9	28.2	49.7	43.2	53.4	50.5
Cigarettes	13.5	9.9	37.6	27.6	48.7	42.1	51.3	49.4
Regular cigarette use	3.8	2.2	13.6	9.4	17.9	15.3	23.1	21.1
Smokeless tobacco	1.6	1.3	3.1	3.5	6.4	5.9	10.7	8.0

Source: Klingle 2003.
Note: Percentages represent the use of the substance at least once in a person's lifetime. GHB = gamma-hydroxybutyrate.

Not only is drug use among Native Hawaiian children disproportionately high, but it is also, in some cases, on the rise. Figure 4.14 shows the lifetime prevalence of illicit drug use among high school seniors.

- The statewide prevalence of illicit drug use has remained fairly stable since 1996, while the rate among White, Filipino, and Chinese students has declined since a 1998 peak.
- The rate of illicit drug use among Native Hawaiian students has steadily increased, from 54.2 percent in 1996 to 62.9 percent in 2002.

FIGURE 4.14 Trends in students reporting use of any illicit drug as a percentage of all Grade 12 students [by race/ethnicity, state of Hawai'i, 1996 to 2002]

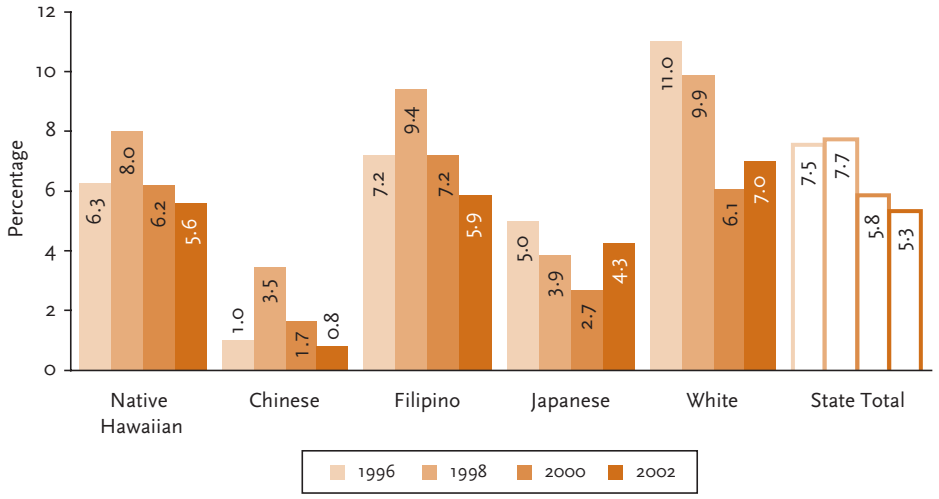


Source: Klingle 2003.

Trends in substance abuse among Native Hawaiian children are not entirely negative. Lifetime prevalence rates among Native Hawaiian students have decreased for a number of drugs including cocaine, heroin, hallucinogens, alcohol, and even tobacco (not shown). Figure 4.15 shows the encouraging decline in methamphetamine (ice) use, a problem that has plagued the state for years.

- Between 1998 and 2002, the total rate of ice use among high school seniors in Hawai'i decreased from 7.7 percent to 5.3 percent.
- Among Native Hawaiian high school seniors, the prevalence of ice use declined from 8.0 percent in 1998 to 5.6 percent in 2002.
- Japanese and White students were the only major ethnic groups that exhibited a slight increase in ice use between 2000 and 2002.

FIGURE 4.15 Trends in students reporting methamphetamine (ice) use as a percentage of all Grade 12 students [by race/ethnicity, state of Hawai'i, 1996 to 2002]



Source: Klingle 2003.

Findings from the YRBS for Hawai'i confirm that Native Hawaiian students are more likely than their peers to engage in high-risk and antisocial behaviors (Table 4.5).

- Native Hawaiian students more often engaged in drunk driving, violence, battery, suicide, and other high-risk behaviors than did other high school students.
- More than one-third (37.3 percent) of Native Hawaiian students had been in a physical fight in the past year, compared with slightly more than one-fourth (26.0 percent) of non-Hawaiians.
- Ten percent of Native Hawaiian students had been physically hurt by their boyfriend/girlfriend in the past year, compared with 7.2 percent of non-Hawaiians and 8.8 percent nationally.
- Native Hawaiian adolescents were more likely to experience early sexual intercourse, have multiple sexual partners, and become pregnant than were their peers, both locally and nationally.
- Roughly one out of ten Native Hawaiian children (9.6 percent) reported sexual intercourse before the age of thirteen, compared with one in twenty non-Hawaiian students (4.7 percent) in the state.

TABLE 4.5 Students who report high-risk behaviors as a percentage of all public high school students [by Native Hawaiian ethnicity, by state or national level, 1999]

	State of Hawai'i		
	Native Hawaiian	Non-Hawaiian	U.S.
1. Rode with driver who had been drinking alcohol, past 30 days	46.9	32.5	33.1
2. Drove after drinking alcohol, past 30 days	18.2	11.6	13.1
3. Carried a weapon, past 30 days	15.1	12.2	17.3
4. Carried a gun, past 30 days	5.4	2.9	4.9
5. In physical fight, past 12 months	37.3	26.0	35.7
6. Physically hurt by boyfriend/girlfriend on purpose, past 12 months	10.0	7.2	8.8
7. Forced to have sexual intercourse	9.8	7.9	8.8
8. Seriously considered attempting suicide, past 12 months	24.8	23.0	19.3
9. Made a suicide attempt	13.9	8.6	8.3
10. Ever had sexual intercourse	49.6	38.0	49.9
11. Had sexual intercourse before age 13	9.6	4.7	8.3
12. Had 4 or more sexual partners	16.6	9.8	16.2
13. Been pregnant or got someone pregnant	8.4	5.1	6.3

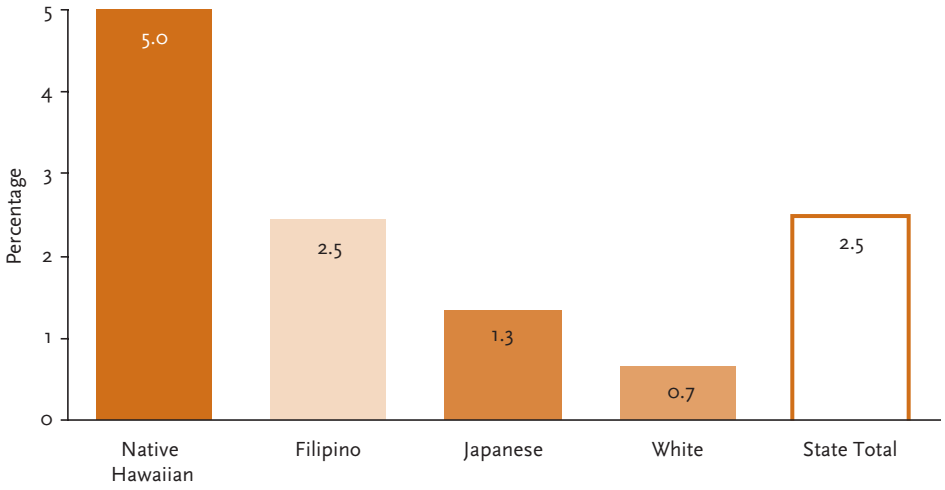
Data source: Hawai'i Department of Health, YRBS 1999.

High-risk sexual activity among teens can lead to pregnancy, the long-term consequences of which may include financial hardships, as well as limited educational opportunities and life choices.

Data for the year 2002 indicate that Native Hawaiians accounted for more than half (55.1 percent) of the 430 reported teen births statewide (Hawai'i Department of Health 2002). Figure 4.16 shows that in 2002 Native Hawaiians had the highest percentage of teen mothers and unwed mothers, compared with other major ethnic groups.

- Teen mothers accounted for roughly one of every twenty live births to Native Hawaiian women (5.0 percent).
- The Native Hawaiian rate for births to teenage mothers was twice the statewide rate and significantly higher than the rates reported by the state's other major ethnic groups.

FIGURE 4.16 Births to teenage mothers as a percentage of all live births [by race/ethnicity, state of Hawai'i, 2002]

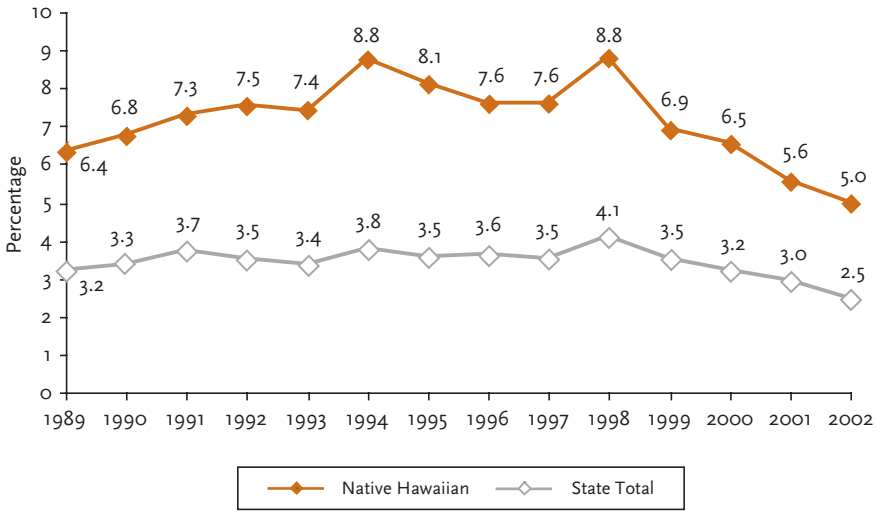


Data source: Hawai'i Department of Health, Vital Statistics Reports 2002.
Note: Data for the Chinese population not available.

It is encouraging that the rate of births to teens has steadily declined since the late 1990s. In fact, the decrease in the prevalence of teenage mothers has been more pronounced within the Native Hawaiian population than it has been statewide (Figure 4.17).

- The percentage of births to Native Hawaiian teen mothers has decreased from a high of 8.8 percent in 1998 to 5.0 percent in 2002.
- Statewide, the proportion of live births attributed to teen mothers has declined more modestly, from 4.1 percent in 1998 to 2.5 percent in 2002.

FIGURE 4.17 Trends in births to teenage mothers as a percentage of all live births [by Native Hawaiians and state total, state of Hawai'i, 1989 to 2002]



Data source: Hawai'i Department of Health, Vital Statistics Reports 1989 to 2002.

Juvenile Arrests and Family Court Cases

Risky behavior among Native Hawaiian children is often accompanied by early experiences with the criminal justice system. Once youths are involved in crimes and subject to the penal system, they may find it increasingly difficult to redirect their lives toward socially legitimized goals such as high school completion and adult employment (Freeman 1992; Laub and Sampson 1995; Sampson and Laub 1993). The brutality of incarcerated life can harden children and squash their hopes and aspirations. Furthermore, the social stigma that accompanies criminal involvement can limit children's opportunities for educational success.

Table 4.6 shows that among the major ethnic groups, Native Hawaiians had the highest juvenile arrest rates for nearly all types of index offenses.[4, 5]

- For all index offenses combined, the juvenile arrest rate among Native Hawaiians (187.4 per ten thousand) was more than twice that of all other major ethnic groups.
- Compared with Filipinos (who accounted for the second-highest arrest rate in most index offenses), Native Hawaiian juveniles were more than four times as likely to be arrested for aggravated assault or robbery, and twice as likely to be arrested for larceny-theft or motor vehicle theft.

TABLE 4.6 Rate of juvenile arrests for index offenses [children 10 to 17 years of age, rate per 10,000, by race/ethnicity, 2003]

	Native Hawaiian	Chinese	Filipino	Japanese	White	State Total
Total	187.4	11.6	74.4	36.5	81.7	159.3
Murder	0.2	0.0	0.3	0.0	0.0	0.2
Forcible rape	1.5	0.0	0.3	0.0	0.7	1.2
Robbery	14.4	0.4	2.8	0.3	2.5	10.2
Aggravated assault	10.8	0.8	2.5	2.0	2.0	8.3
Burglary	25.0	0.4	6.0	1.3	10.7	17.9
Larceny-theft	114.0	10.0	52.1	28.3	58.5	106.2
Motor vehicle theft	21.0	0.0	10.0	4.6	7.1	15.0
Arson	0.5	0.0	0.5	0.0	0.2	0.5

Data sources: Hawai'i Department of the Attorney General 2003; U.S. Census 2000, Summary File 2.

4. Index offenses are crimes that determine the standard crime index used to assess the status of crime in the nation and to compare the prevalence of crime across different regions.

5. Rates for Table 4.6 and Table 4.7 are calculated as the number of arrests per ten thousand individuals in the population ages ten to seventeen years. The population estimates used in calculating the rates were drawn from the U.S. Census 2000 and include both single-race and multirace members of each ethnic group. This methodology results in multirace individuals being counted more than once (e.g., a juvenile who is identified as both Native Hawaiian and Japanese would be counted twice—once in the Native Hawaiian population estimate and a second time in the Japanese population estimate) but allows for a better estimate of the ethnically diverse populations of Hawai'i.

Table 4.7 shows that Native Hawaiians also had the highest juvenile arrest rates for Part II offenses.[6]

- The Native Hawaiian rate of juvenile arrests for violent Part II crimes (e.g., negligent manslaughter, assault, sex offenses) was more than two and a half times the next-highest rate (112.3 per ten thousand among Native Hawaiians compared with 35.9 per ten thousand among Whites).
- Native Hawaiian juveniles were more likely than non-Hawaiians to be arrested for drug possession, drug manufacturing or sale, and property-related crimes.
- Among Native Hawaiians, the total rate of juvenile arrests for Part II offenses (852.8 per ten thousand) was more than twice the rates for the other major ethnic groups in the state.

TABLE 4.7 Rate of juvenile arrests for Part II offenses [children 10 to 17 years of age, rate per 10,000, by race/ethnicity, 2003]

	Native Hawaiian	Chinese	Filipino	Japanese	White	State Total
Total	852.8	38.0	370.0	161.9	372.1	726.3
Violent crime	112.3	3.2	43.1	14.7	35.9	89.3
Property-related	29.1	1.6	13.0	5.5	14.1	26.7
Drug manufacturing/sale	4.4	0.0	1.5	0.7	2.7	3.3
Drug possession	48.2	1.2	17.8	10.4	27.7	39.3
Gambling	2.7	0.0	1.0	0.3	0.4	1.4
Alcohol-related	28.1	1.6	10.8	9.8	25.3	29.6
Other	194.0	9.6	83.2	29.3	71.7	166.8
Status	433.8	20.8	199.5	91.2	194.4	369.9

Data sources: Hawai'i Department of the Attorney General 2003; U.S. Census 2000, Summary File 2.

Similarly, Table 4.8 shows that Native Hawaiians accounted for more than 40 percent of the 6,515 juvenile referrals to Family Court in 2000, despite constituting 31.0 percent of the total school-age population in the state (U.S. Census Bureau 2000).

- In 2000, 40.9 percent of juveniles referred to Family Court were Native Hawaiian.
- Native Hawaiian juveniles accounted for 44.5 percent of referrals for law violations and 69.0 percent of referrals for traffic offenses.
- Of the abuse and neglect cases in Family Court, 44.3 percent involved a Native Hawaiian juvenile.

6. Part II offenses encompass all crimes other than index offenses.

TABLE 4.8 Distribution of Family Court referrals among Native Hawaiian and non-Hawaiian juveniles [percentage distribution, by type of referral, state of Hawai'i, 2000]

	Native Hawaiian		Non-Hawaiian		Total	
	Number	Percent	Number	Percent	Number	Percent
Total	2,666	40.9	3,849	59.1	6,515	100.0
Law violations	911	44.5	1,135	55.5	2,046	100.0
Traffic offenses	20	69.0	9	31.0	29	100.0
Status offenses	1,158	38.5	1,849	61.5	3,007	100.0
Abuse and neglect	495	44.3	622	55.7	1,117	100.0
Requests for service	82	25.9	234	74.1	316	100.0

Data source: Hawai'i Family Court of the First Circuit 2001.

Once Native Hawaiian children enter the court system, their prospects for a healthy future grow even dimmer. A study by MacDonald (2003) found that Native Hawaiian youths receive harsher punishments than do youths of other ethnicities who are accused of comparable crimes. This disparity is evident in data from the Hawai'i Youth Correctional Facility (HYCF). Although Native Hawaiians accounted for approximately 40 percent of juvenile arrests in 2000 (Hawai'i Department of the Attorney General, Crime Prevention and Justice Assistance Division 2000), Native Hawaiian youths constituted more than half of the HYCF population from 1999 to 2000 (Kim et al. 2001).

In sum, the available statistics on the social well-being of Native Hawaiian youths are sobering. We find evidence of family support systems, decreases in births to teens, and substance abuse. We also find a tendency toward high-risk behaviors, criminal activity, and arrests, traits common to disenfranchised groups throughout the nation. Together, these findings attest to the insidious effects of limited opportunities and to the societal implications of multigenerational poverty and marginalization. The self-destructive and antisocial behaviors exhibited by many young Native Hawaiians hold lifelong consequences for the qualities of life commonly valued by society: happiness, education, employment, occupation, income, family formation, family stability, child-raising, and elderly well-being.

MATERIAL AND ECONOMIC WELL-BEING

Existing research shows a systematic relationship between socioeconomic status and educational outcomes. Studies have concluded that the lower educational performance of disadvantaged minority students is partly explained not by innate intelligence or intellectual ability, but by differences in school quality and in educational inputs related to income. Families with greater financial resources are better able to afford learning materials such as stimulating toys, books, computers, and Internet access, as well as educational luxuries such as private school tuition, after-school tutoring, and test preparation programs (Becker and Thomes 1986; Smith, Brooks-Gunn, and Klebanov 1997; Yeung, Linver, and Brooks-Gunn 2002). Income can also affect social resources like parental involvement, parenting practices, and stimulating family activities (Conger et al. 1992; Conger, Rueter, and Conger 2000; McLoyd 1989, 1990; Yeung, Linver, and Brooks-Gunn 2002).

Simple analyses of Native Hawaiian socioeconomic data and educational outcomes yield results that are consistent with this literature. Native Hawaiian children have the highest rates of poverty of all major ethnic groups in the state of Hawai'i. Within the public school system, in particular, Native Hawaiian children are significantly more likely than their non-Hawaiian peers to participate in the subsidized school meals program for low-income families. Using participation in the subsidized school meals program as a proxy for lower incomes, we find that income is significantly related to various measures of student success for both Native Hawaiians and non-Hawaiians. Specifically, the following analysis demonstrates that Native Hawaiian public school students with low family incomes score lower on tests of achievement and proficiency in both reading and math, are more likely to be retained in grade, and are less likely to complete high school in four years than are their non-Hawaiian counterparts. The economic challenges Native Hawaiian families and communities face appear to have significant effects on their children's performance in school.

However, while income is strongly correlated with educational outcomes, it does not entirely explain the academic gap between Native Hawaiians and non-Hawaiians. A comparison of educational outcomes between participants in the subsidized meal program and other students indicates that the disparities between Native Hawaiians and non-Hawaiians persist, even among low-income students.

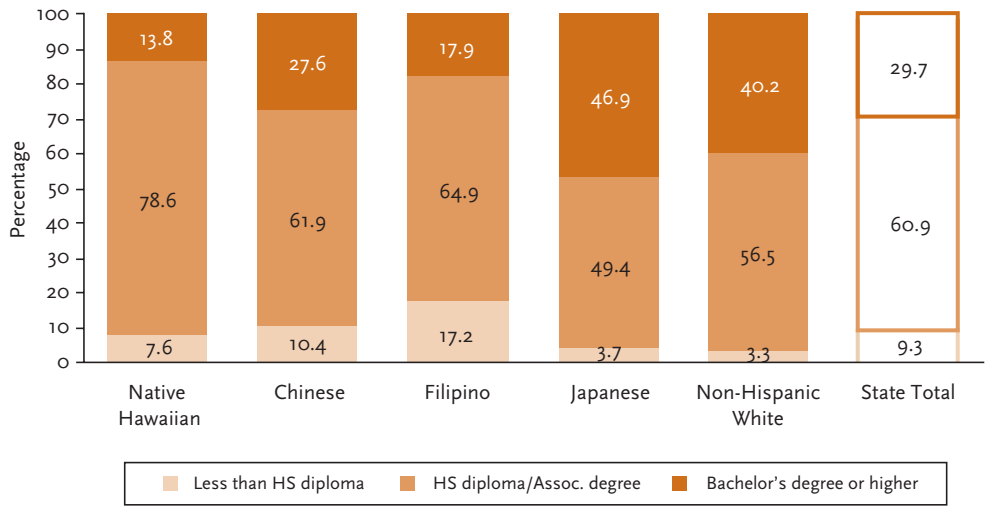
Parental Employment and Education

Before we assess the material and economic status of school-age Native Hawaiian children and their families, it is important to understand the factors that may affect their financial situations. What assets and resources do Native Hawaiians have that allow them to provide for their families and earn a decent living?

Education represents an extremely valuable financial asset. A substantial body of research ties educational attainment to higher earnings and greater job security (Bills 2003; Day and Newburger 2002; Kerckhoff 2001; Kerckhoff, Campbell, and Trott 1982; Perna 2003; Sewell, Haller, and Hauster 1972; Sewell, Haller, and Ohlendorf 1970; Sewell, Haller, and Portes 1969). Although Native Hawaiians may be likely to engage in informal or "invisible" educational pursuits, such as the practice of ocean traditions, environmental and community stewardship, and varied forms of cultural arts and traditional customs (Crabbe 2002), the parents of school-age Native Hawaiian children exhibit lower levels of formal education than do members of other ethnic groups (Figure 4.18).

- In 2000, parents in Native Hawaiian families with school-age children were half as likely to have obtained a bachelor's degree as were all parents statewide (13.8 percent versus 29.7 percent). The prevalence of bachelor's degrees among Native Hawaiian parents was the lowest of the major ethnic groups in the state.
- Conversely, the rate of high school completion among Native Hawaiian parents was higher than that of Filipinos, Chinese, and the statewide rate. Just 7.6 percent of parents in Native Hawaiian families with school-age children had not obtained a high school diploma, compared with 9.3 percent of parents statewide.

FIGURE 4.18 Educational attainment* of parents with school-age children [percentage distribution, families with children ages 5 to 17, by race/ethnicity, by education level, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.

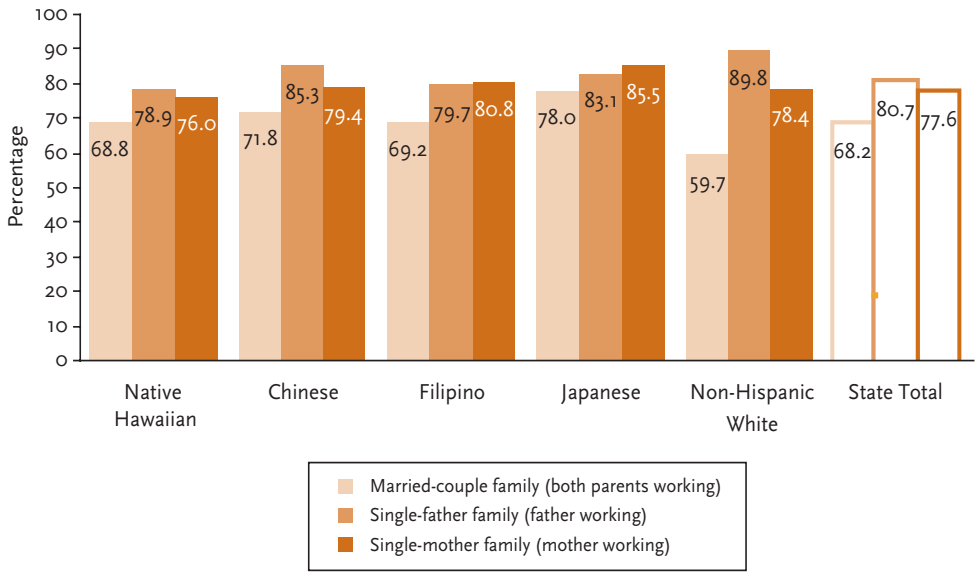
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

* Educational attainment refers to the parent with the highest attainment within the family.

Much of the monetary value of postsecondary education derives from its effect on employment. Individuals with lower levels of educational attainment may face greater instability in their jobs and lower wages. However, Figure 4.19 shows that, although Native Hawaiian parents are less likely to have obtained postsecondary degrees than are their non-Hawaiian counterparts, the employment rates among Native Hawaiian parents with school-age children are on par with state averages.

- In 2000, more than two-thirds (68.8 percent) of school-age Native Hawaiian children in married couple families had both parents working in the labor force. This rate of dual parental employment was roughly comparable with the statewide rate (68.2 percent) and significantly higher than that of non-Hispanic White children (59.7 percent).
- School-age Native Hawaiian children in single-parent families were slightly less likely to have their parent working in the labor force than were their non-Hawaiian peers. In single-mother families with children, the rate of employment was 76.0 percent for Native Hawaiians and 77.6 percent statewide.

FIGURE 4.19 Children with working parents as a percentage of all school-age children [children ages 6 to 17, by race/ethnicity, by family type, state of Hawai'i, 2000]



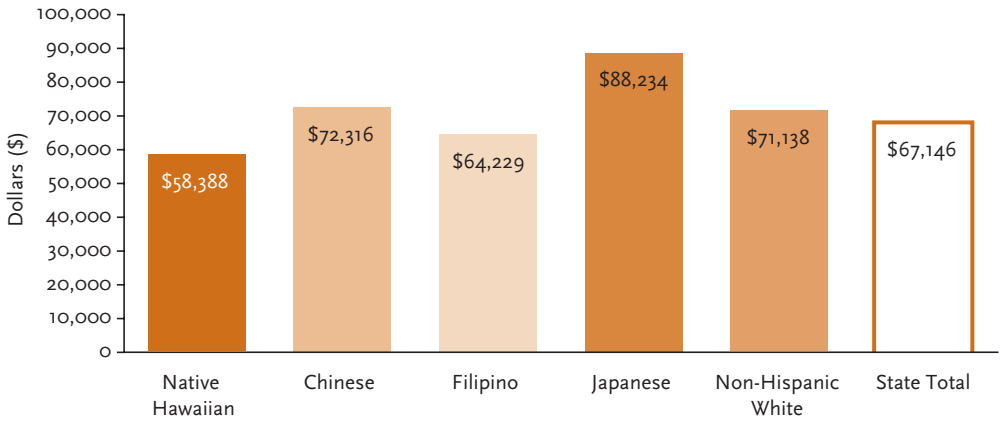
Data source: U.S. Census 2000, Summary File 4.
Note: For the sake of brevity, families headed by a single male with no wife present are referred to as "single-father families," and families headed by a single female with no husband present are generalized as "single-mother families." However, the individuals or couples who head these families are not necessarily the biological parents of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

Family Income and Poverty

Although employment rates among the parents of school-age Native Hawaiian children are comparable with statewide rates, Native Hawaiian families do not have the same earning power as do families of other ethnic backgrounds, as evidenced by the population's low mean income and high poverty rates. Figure 4.20 shows that the mean income in Native Hawaiian families with school-age children was the lowest among the major ethnic groups in the state.

- The statewide mean income of $67,146 for families with school-age children exceeded the Native Hawaiian average by $8,758, or 15.0 percent.
- The mean income among Native Hawaiian families amounted to less than two-thirds (66.2 percent) of the average among Japanese families ($58,388 versus $88,234).

FIGURE 4.20 Mean family income of families with school-age children [families with children ages 5 to 17, by race/ethnicity, state of Hawai'i, 1999]



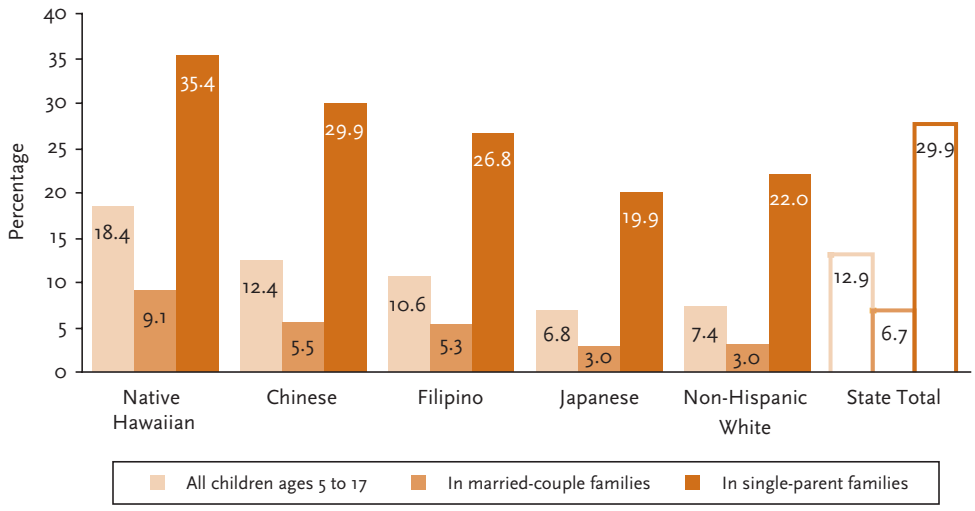
Data source: U.S. Census 2000, PUMS.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

The low mean income among Native Hawaiian families—in spite of their comparable employment rates—suggests that parents of school-age Native Hawaiian children face ongoing occupational and wage disparities in the workforce.

The economic disadvantages facing many school-age Native Hawaiian children are also apparent in federal poverty statistics and rates of participation in the subsidized school meals program. Each year, the U.S. Census Bureau sets poverty thresholds to estimate the prevalence of financial hardship and need across the nation. However, because these poverty thresholds are set so low, financial need is commonly defined using a multiple of the threshold (e.g., 185 percent). Even this practice may inadequately measure need in Hawai'i, where the high cost-of-living undercuts the buying power of each dollar.[7] Figure 4.21 shows the percentage of school-age children whose families have incomes that fall below the poverty threshold.

- Among school-age children, Native Hawaiians had the highest poverty rates of all major ethnic groups in the state in 1999. Nearly one of every five Native Hawaiian children (18.4 percent) lived in poverty. Statewide, the poverty rate for school-age children was 12.9 percent.
- Children with single parents are particularly vulnerable to poverty. In 1999, more than one in three Native Hawaiian children in single-parent families (35.4 percent) lived below the poverty line.
- The comparatively high risk of poverty for school-age Native Hawaiian children extends even to married-couple families. Almost one in ten Native Hawaiian children being raised by a married couple (9.1 percent) lived in poverty, compared with one in fifteen such children (6.7 percent) statewide.

FIGURE 4.21 Children living in poverty as a percentage of all school-age children [children ages 5 to 17, by race/ethnicity, by family type, state of Hawai'i, 1999]



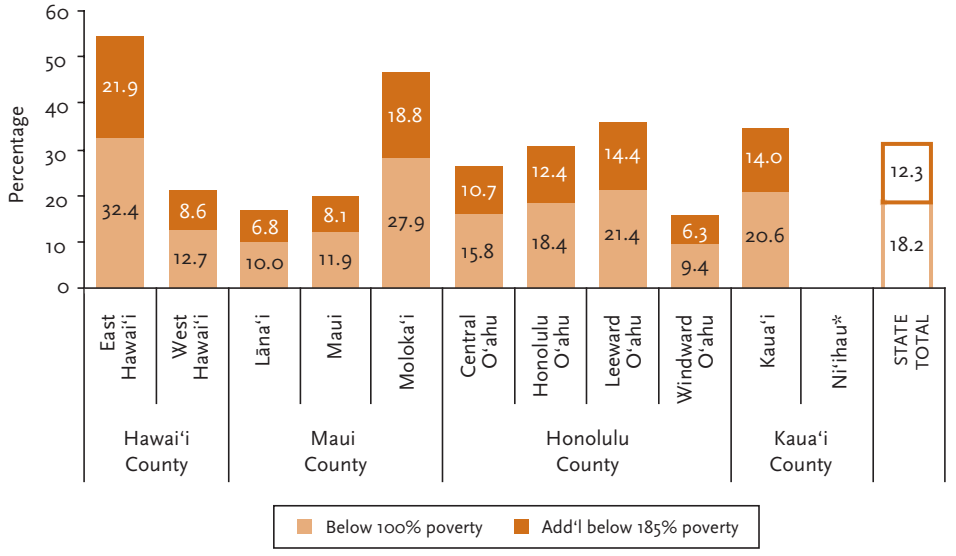
Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

7. Although the federal government issues separate poverty guidelines for the state of Hawai'i to account for the higher cost of living in the islands, poverty statistics in this report are based on the poverty thresholds set by the U.S. Census Bureau, which make no such cost-of-living adjustments and, therefore, underestimate the true level of need in the state.

Poverty rates are often closely tied to regional economic factors such as the availability of jobs, local industries, wages, housing costs, and access to social services. Thus, Native Hawaiian poverty is not evenly distributed across the islands. Figure 4.22 shows regional variations in the percentage of school-age children living either below the poverty threshold or below 185 percent of the poverty threshold. The 185-percent measure is used to more closely approximate the eligibility guidelines used by public assistance programs. However, because this statistic is based on the U.S. Census Bureau's poverty thresholds—which fail to account for the high cost of living in Hawai'i—it continues to underestimate the prevalence of need in the state.[8]

- In 1999, poverty rates among Native Hawaiians were highest on the island of Moloka'i and the eastern half of Hawai'i Island. In East Hawai'i, almost one-third of school-age Native Hawaiian children (32.4 percent) lived in poverty, and more than half (54.3 percent) had family incomes below 185 percent of the poverty threshold. Poverty rates on Moloka'i were only slightly better, with more than one-quarter of school-age Native Hawaiian children (27.9 percent) living in poverty and almost half (46.7 percent) below 185 percent of the poverty threshold.
- The Windward district of O'ahu had the lowest rates of Native Hawaiian poverty. Fewer than one in ten school-age Native Hawaiian children in Windward O'ahu (9.4 percent) was impoverished, and just 15.7 percent had family incomes below 185 percent of the poverty threshold.

FIGURE 4.22 Children living in poverty as a percentage of all school-age Native Hawaiian children [children ages 5 to 17, by geographic region, by poverty threshold, state of Hawai'i, 1999]



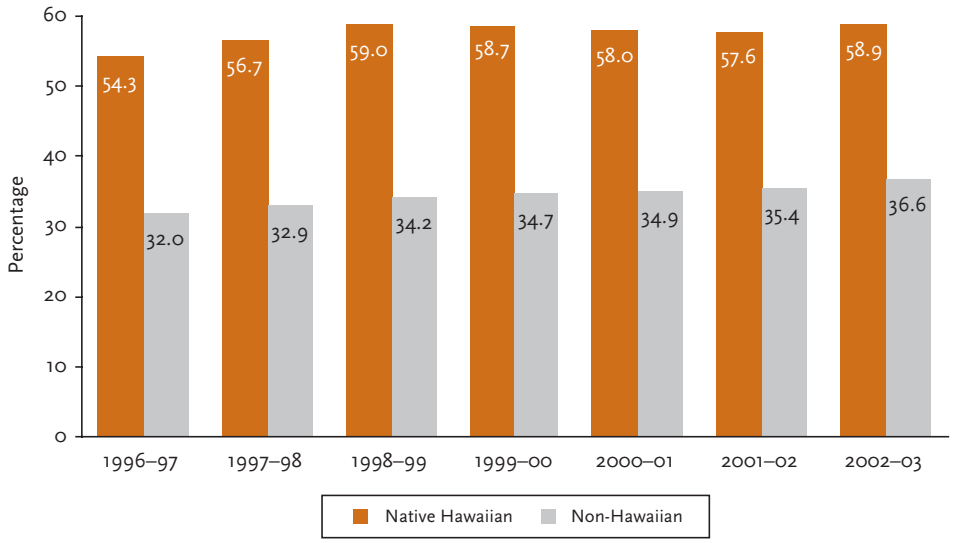
Data source: Kamehameha Schools, Aloha Counts 2003.
Note: Poverty statistics presented here are estimates based on rounded sample data and may differ slightly from poverty statistics cited directly from Census products.
* Data for Ni'ihau are either unavailable or too limited to yield reliable results.

8. In 2000, income levels for a family of four at 185 percent of the federal government's Hawai'i-specific poverty guidelines exceeded comparable figures at 185 percent of the U.S. Census Bureau's poverty thresholds by more than 10 percent.

One indication of income and poverty is participation in the federal school meals program for low-income children. The program subsidizes the school meals of children from families with incomes that are less than 185 percent of the federal poverty guideline.[9] Not all students who are eligible for the program choose to enroll; however, in the absence of detailed income and household information for each child, program participation serves as a crude proxy for poverty. Figure 4.23 shows the percentage of Native Hawaiians and non-Hawaiians in the public school system who participate in the school meals program.

- During each academic year (from 1996–97 to 2002–03) more than half of all Native Hawaiian students in the public school system participated in the subsidized meals program. Since school year 1996–97, participation rates among Native Hawaiian students have consistently been more than one and a half times the rates among non-Hawaiians.
- In recent years, Native Hawaiian participation in the subsidized meals program has increased, from 54.3 percent in school year 1996–97 to 58.9 percent in school year 2002–03.

FIGURE 4.23 Trends in children participating in the subsidized school meals program as a percentage of all public school students [by Native Hawaiian ethnicity, state of Hawai'i, school years 1996–97 to 2002–03]



Data source: Hawai'i Department of Education 2002–03.

These statistics highlight the systematic disadvantages that many Native Hawaiian children carry from their homes into the classroom, the implications of which stack the educational odds against Native Hawaiian learners.

9. Children with family incomes below 185 percent of the federal poverty guidelines are eligible for reduced-price school meals; those with family incomes below 130 percent of the poverty guidelines are eligible for free school meals.

Income and Children's Educational Outcomes

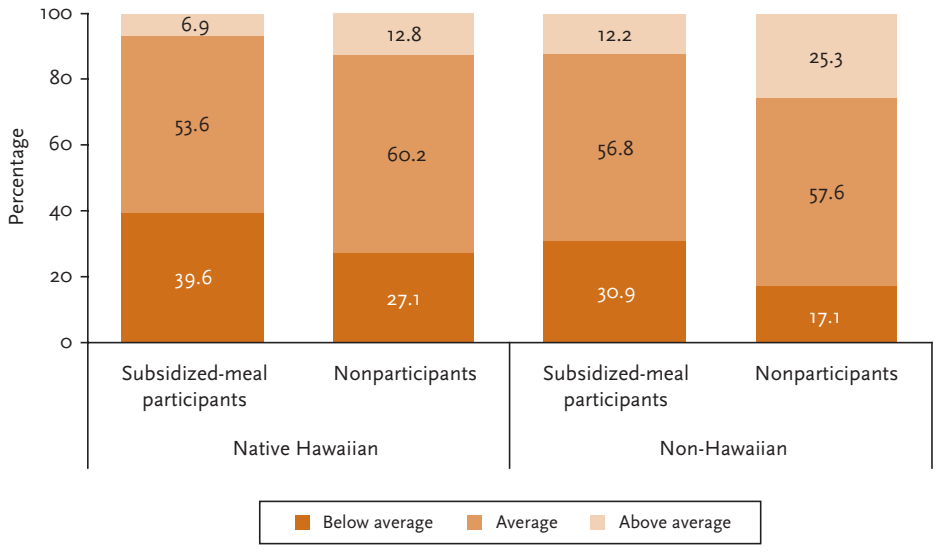
The preceding statistics on subsidized meals and poverty reflect the disadvantages Native Hawaiian children face while navigating academic pursuits. These disadvantages have a direct effect on educational inputs such as the availability of school supplies and learning materials, as well as indirect inputs such as the stigma of poverty, restricted access to external educational opportunities, and socioeconomic distractions from learning (such as the necessity of holding a wage-earning job during high school). Such inequities and disadvantages are reflected in the correlations between subsidized meal participation and students' educational outcomes.

Income and Reading Scores

Figure 4.24 shows the percentage of Native Hawaiians and non-Hawaiians who scored in the below-average, average, and above-average brackets on the Stanford Achievement Test, Ninth Edition (SAT-9) of reading by the students' participation in the subsidized school meals program.

- Regardless of ethnicity, students who participated in the subsidized meals program did not perform as well in reading as did nonparticipating students.
- Nonparticipating students were twice as likely to score in the above-average range in reading as were students enrolled in the subsidized meals program.
- Disparities between Native Hawaiians and non-Hawaiians are apparent, even among subsidized meal program participants, who presumably all share a low-income background. Almost two in five Native Hawaiian participants (39.6 percent) scored in the below-average bracket in reading, compared with 30.9 percent of non-Hawaiian students enrolled in the program.

FIGURE 4.24 Distribution of reading achievement levels among public school students, by participation in the subsidized school meals program [SAT-9, percentage distribution across performance levels, students tested in Grades 3, 5, 8, and 10, by Native Hawaiian ethnicity, state of Hawai'i, school year 2002–03]

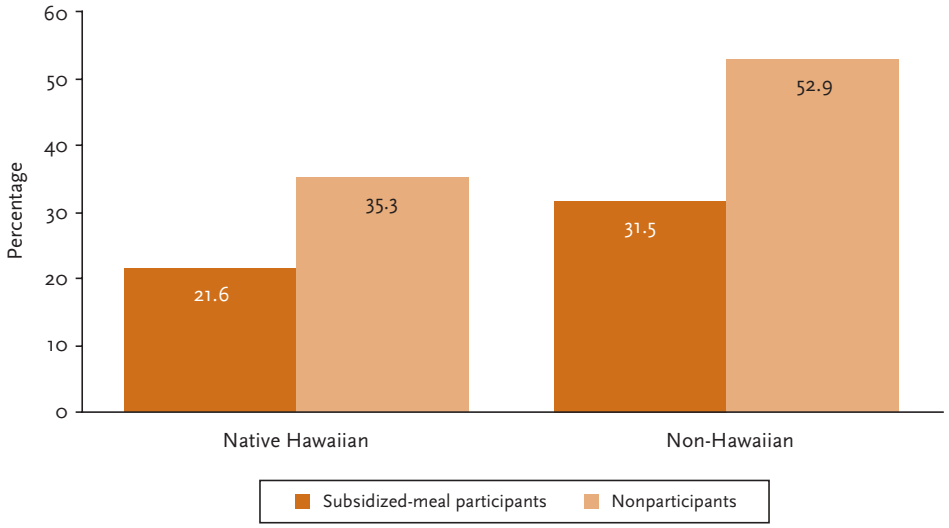


Data source: Hawai'i Department of Education 2002–03.

Figure 4.25 shows the relationship between participation in the subsidized meals program and reading proficiency rates, as measured by the Hawai'i State Assessment (HSA).

- One in five Native Hawaiian participants in the subsidized meals program (21.6 percent) was deemed reading proficient by the HSA test; for Native Hawaiian students who were not enrolled in the program, one in three (35.3 percent) was reading proficient.
- Among Native Hawaiian and non-Hawaiian students, the reading proficiency rates of subsidized meal participants were less than two-thirds the rate of nonparticipants.

FIGURE 4.25 Students with reading scores at or above "proficient" level as a percentage of all public school students tested, by participation in the subsidized school meals program [HSA, students tested in Grades 3, 5, 8, and 10, by Native Hawaiian ethnicity, school year 2002–03]



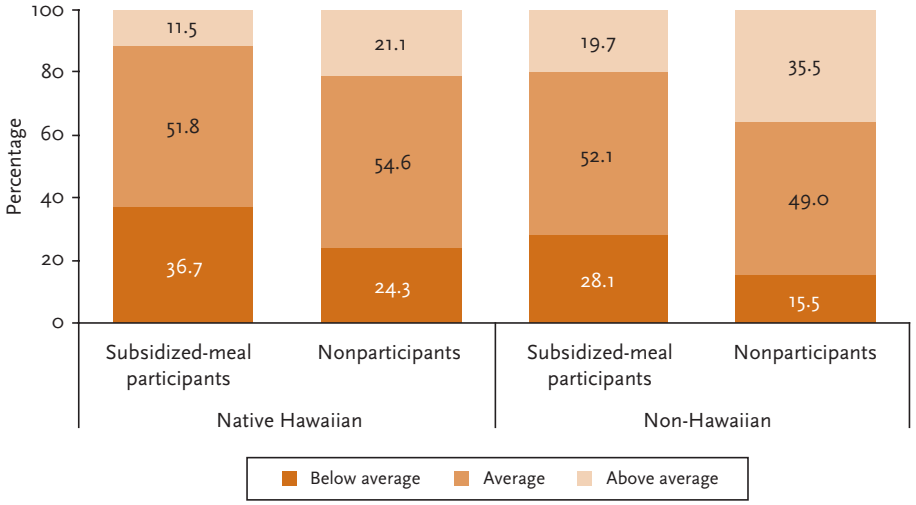
Data source: Hawai'i Department of Education 2002–03.

Income and Mathematics Scores

Similar to reading outcomes, the SAT-9 math scores shown in Figure 4.26 underscore the strong correlation between income (as measured by participation in the subsidized meals program) and student achievement.

- More than one in every three Native Hawaiian participants in the subsidized meals program (36.7 percent) scored in the below-average range on the SAT-9 math test. For Native Hawaiian nonparticipants, one in four (24.3 percent) performed in the below-average bracket.
- Among subsidized meal program participants, non-Hawaiians performed better on the SAT-9 math test than did Native Hawaiians. Approximately one in five non-Hawaiian program participants (19.7 percent) earned above-average scores, compared with 11.5 percent of Native Hawaiian participants.

FIGURE 4.26 Distribution of mathematics achievement levels among public school students, by participation in the subsidized school meals program [SAT-9, percentage distribution across performance levels, students tested in Grades 3, 5, 8, and 10, by Native Hawaiian ethnicity, state of Hawai'i, school year 2002–03]

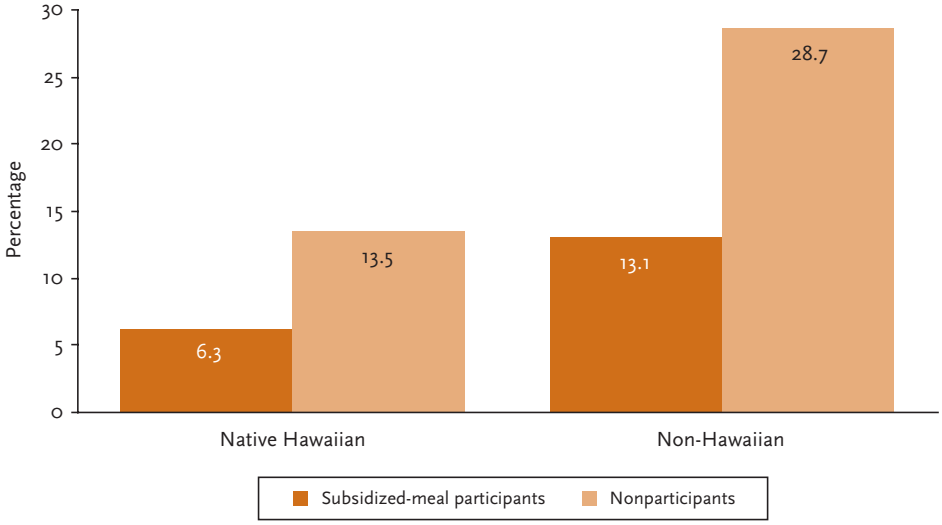


Data source: Hawai'i Department of Education 2002–03.

HSA math proficiency rates exhibit the largest disparities between participants and nonparticipants of the subsidized meal program, as shown in Figure 4.27.

- Math proficiency rates of participants in the subsidized meal program were less than half the rates of nonparticipants among both Native Hawaiians and non-Hawaiians.
- Non-Hawaiian subsidized meal participants were twice as likely to earn math proficient scores as were Native Hawaiian participants. The ratio was similar for students who did not participate in the subsidized meals program.

FIGURE 4.27 Students with mathematics scores at or above "proficient" level as a percentage of all public school students tested, by participation in the subsidized school meals program [HSA, students tested in Grades 3, 5, 8, and 10, by Native Hawaiian ethnicity, school year 2002–03]



Data source: Hawai'i Department of Education 2002–03.

Income and Timely Completion of High School

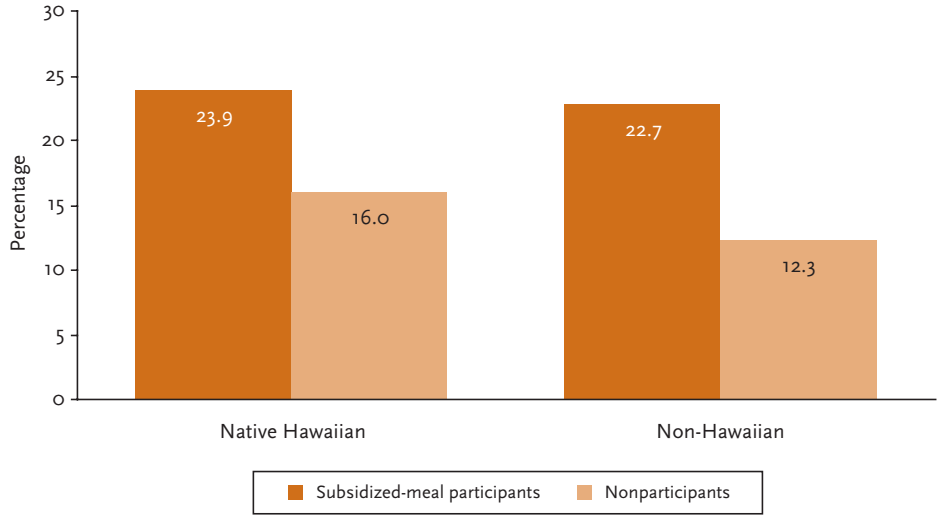
Poverty and income not only are related to children's performance on achievement tests but also may affect their likelihood of being retained in grade. We tracked the data for public school students who entered Grade 9 in the year 1999 and then compared their outcomes four years after they began high school (in 2003). Figure 4.28 shows the percentage of these students who were retained in grade at some time during their four years of high school.

- Of the Native Hawaiian students in the subsidized meal program, 23.9 percent were retained in grade during high school, compared with 16.0 percent of Native Hawaiian nonparticipants.
- Among participants of the subsidized meal program, the retention rates of Native Hawaiian and non-Hawaiian students were similar (23.9 percent for Native Hawaiians and 22.7 percent for non-Hawaiians), suggesting that socioeconomic status is more highly related to grade retention in high school than is ethnicity.

Graduation rates are also correlated with income and poverty. We tracked the data for public school students from the Class of 2003 and calculated "timely" graduation rates as the percentage of students who graduated within four years of starting high school. Figure 4.29 shows these rates for Native Hawaiian and non-Hawaiian students by participation in the subsidized school meals program.

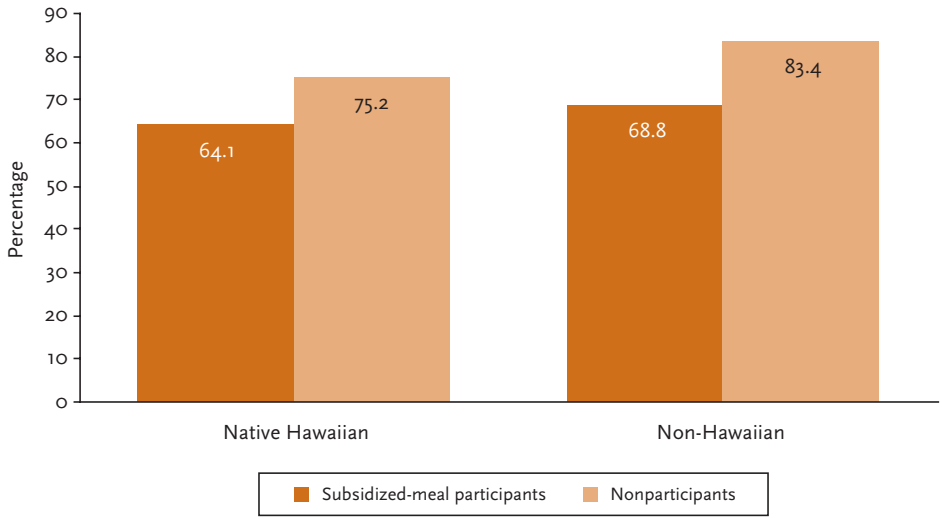
- Among both Native Hawaiian and non-Hawaiian students, subsidized meal participants were less likely than nonparticipants to complete high school within four years. Timely graduation rates for Native Hawaiian participants of the subsidized meal program were roughly 10 percentage points lower than comparable rates for Native Hawaiian nonparticipants (64.1 percent versus 75.2 percent).
- Among subsidized meal participants, Native Hawaiians were slightly less likely to graduate from high school in four years than were non-Hawaiians (64.1 percent versus 68.8 percent). Similarly, the timely graduation rate among Native Hawaiian nonparticipants was lower than that of their non-Hawaiian counterparts (75.2 percent versus 83.4 percent).

FIGURE 4.28 Students retained in grade during four years of high school as a percentage of all public high school students, by participation in the subsidized school meals program [students expected to graduate in 2003, by Native Hawaiian ethnicity, 2003]



Data source: Hawai'i Department of Education 1999–00 to 2002–03.

FIGURE 4.29 Students who achieve timely high school graduation as a percentage of all public high school students, by participation in the subsidized school meals program [students expected to graduate in 2003, by Native Hawaiian ethnicity, 2003]



Data source: Hawai'i Department of Education 1999–00 to 2002–03.

PHYSICAL WELL-BEING

Research concretely links the physical health of children to their educational outcomes. Caughy (1996) found that health problems in early childhood had long-term effects on the reading performance of school-age children. A meta-analysis by the nonprofit organization, Action for Healthy Kids (2004), concluded that students with poor eating habits and/or low levels of physical activity performed poorly on tests, had difficulty concentrating, and were more likely than other students to be absent from school. Conversely, children who engaged in regular physical exercise exhibited stronger academic performance, decreased absenteeism, and more positive attitudes about school (Action for Healthy Kids 2004).

Physical health, as measured by student weight, may also be indirectly related to social well-being. Williams et al. (2005) found that children who were overweight or obese reported a greater degree of emotional problems and a lower quality of life than did other students, all of which can affect children's performance in school.

Indicators of physical health among Native Hawaiian children are mixed. Analyses of a statewide survey of middle school and high school students found that Native Hawaiian children are more likely than their non-Hawaiian peers to struggle with asthma and weight problems. However, the reason for the prevalence of weight problems among school-age Native Hawaiian children is unclear. Self-reported data from the same study indicated that Native Hawaiian children are no less likely than their peers to eat a nutritious diet (high in fruits and vegetables), and are actually more likely than non-Hawaiians to regularly engage in physical activity and exercise on a daily basis.

Perhaps more troubling than weight issues and asthma is the prevalence among Native Hawaiian youths of behavioral problems that endanger their health, such as smoking and early onset of sexual activity. Both behaviors carry serious implications for children's education. More importantly, however, they represent potential risks to children's lives and long-term health.

The fact that there are relatively few indicators of disease prevalence among school-age Native Hawaiian children—as well as the unexplained predominance of overweight and obesity—highlights the need to more actively track the physical health of school children for a more comprehensive picture of the factors affecting Native Hawaiian educational outcomes.

Asthma

Asthma not only poses serious health concerns but also affects children's educational prospects. A study by Milton, Whitehead et al. (2004) found that students with asthma are absent from school more often than children without the disease. Our findings show that Native Hawaiian children suffer a disproportionately high prevalence of asthma. Figure 4.30 shows the percentage of children diagnosed with asthma, averaged across three-year intervals for the years 1998 through 2002.

- Native Hawaiian children have sustained the highest rates of asthma of all the major ethnic groups in the state.
- In 1998, the three-year averaged rate of asthma diagnoses among Native Hawaiian children was 19.5 percent, meaning that nearly one in five Native Hawaiian children suffered from asthma.
- Asthma prevalence among Native Hawaiian children decreased slightly since 1998, but the 2002 rate of 16.9 percent was still the highest among all major ethnic groups in the state.

FIGURE 4.30 Trends in children with asthma as a percentage of all children [three-year averages, children younger than 18, by race/ethnicity, state of Hawai'i, selected years]

Data source: Hawai'i Department of Health, Hawai'i Health Survey 1997 to 2003.
Note: Because the sample of Chinese adolescents ages fifteen to seventeen was too small for statistical reliability, the Chinese rates presented do not include this age group.

Weight Problems and Physical Activity

Results from the Hawai'i YRBS indicate that Native Hawaiian students are more likely to have weight problems than are their non-Hawaiian peers. However, the same study reports that Native Hawaiian students are also more likely to engage in physical activity. These two apparently conflicting results are shown in Table 4.9.

- At the middle school level, 19.3 percent of Native Hawaiian students were overweight, compared with 13.5 percent of non-Hawaiians. Another 21.7 percent of Native Hawaiian middle school students were at risk for becoming overweight (i.e., with a body mass index slightly lower than the overweight threshold), compared with 12.3 percent of non-Hawaiians.
- Although the prevalence of weight problems was lower among high school students, significant disparities between Native Hawaiians and non-Hawaiians were still apparent. Approximately 12.4 percent of Native Hawaiian high school students were overweight and 19.1 percent were at risk for becoming overweight, compared with rates of 8.7 percent and 13.2 percent, respectively, among non-Hawaiian high school students.

- However, Native Hawaiian middle school students were more likely than their non-Hawaiian peers to exercise regularly and play on team sports.
- At the high school level, rates of regular exercise were roughly comparable among the two groups, but Native Hawaiian students were more likely to participate in organized physical activities (e.g., sports, dance classes, etc.).

TABLE 4.9 Students exhibiting selected indicators of weight problems and physical activity as a percentage of all public school students [middle and high school students, by school level, by Native Hawaiian ethnicity, state of Hawai'i, 2001]

	Middle School		High School	
	Native Hawaiian	Non-Hawaiian	Native Hawaiian	Non-Hawaiian
1. Overweight*	19.3	13.5	12.4	8.7
2. At risk for becoming overweight*	21.7	12.3	19.1	13.2
3. Trying to lose weight	55.1	46.2	56.2	46.1
4. Exercised vigorously for at least 20 minutes on 3 or more of 7 days	60.0	55.3	58.6	58.7
5. Played on sports teams, past 12 months	57.5	49.6	n/a	n/a
6. Participated in organized physical activity	n/a	n/a	59.5	53.8

Source: Saka and Lai 2004.

* For this study, "overweight" was defined as a body mass index (BMI) $\geq$ the 95th percentile of the BMI distribution for a child's particular age and sex, and "at risk for becoming overweight" was defined as a BMI $\geq$ the 85th percentile but < the 95th percentile.

Findings regarding the comparatively high levels of physical activity among Native Hawaiian youths are encouraging, particularly in light of recent research showing that physical activity has an independent and positive effect on health that may partially offset the risks associated with overweight and obesity (Hu et al. 2004). However, the simultaneously high rates of physical activity and weight issues among Native Hawaiian children suggest the need to better understand the causes of weight problems in this population.

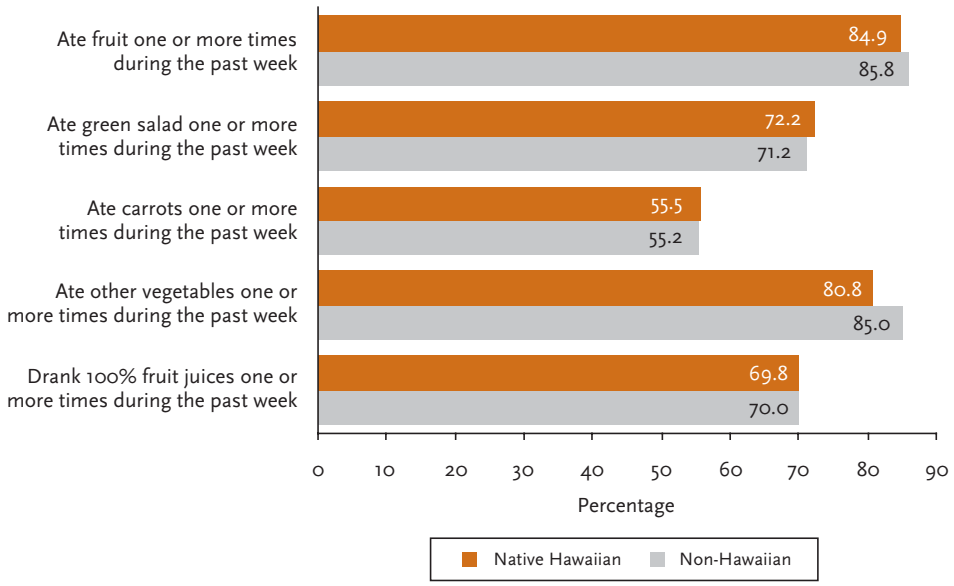
There are a number of possible explanations for the simultaneously high prevalence of weight problems and high levels of exercise among Native Hawaiian youths. Two potential causes of weight problems within the Native Hawaiian population are poor diets and family factors. Evidence to support these explanations may be found in the literature on overweight and obesity in the Native Hawaiian population. For example, an unpublished study on Native Hawaiian public high school students found that inactivity and exercise levels were not significantly correlated with weight problems but that overweight students were more likely than their non-overweight peers to have an obese parent (Robinson 2004). Such findings seemingly support a hereditary explanation. Alternatively, Shintani et al. (1991) found that obese Native Hawaiian adults achieved significant weight loss through the Wai'anae Diet program, a culture-based health intervention in which study participants were fed a traditional Hawaiian diet consisting of foods that were common in old Hawai'i, prior to Western contact. The effectiveness of Shintani et al.'s diet suggests that eating habits may be an underlying cause of weight problems among Native Hawaiians.

Eating Habits

Additional results from the YRBS contradict the evidence suggesting that poor diet explains the prevalence of weight problems among Native Hawaiians, at least as it relates to school-age Native Hawaiian children. Figure 4.31 and Figure 4.32 show the percentage of high school students who incorporate fruits, vegetables, and milk in their diets. Little variation is apparent between Native Hawaiian and non-Hawaiian students.

- Roughly equal percentages of Native Hawaiian and non-Hawaiian students had eaten fruit, salad, and carrots during the previous week.
- Native Hawaiian students were slightly less likely than non-Hawaiians to have eaten "other vegetables" during the previous week (80.8 percent compared with 85.0 percent), but this difference may reflect a lack of dietary variety rather than a lack of vegetable consumption.

FIGURE 4.31 Students reporting recent fruit and vegetable consumption in their diets as a percentage of all public high school students [by Native Hawaiian ethnicity, state of Hawai'i, 2001]

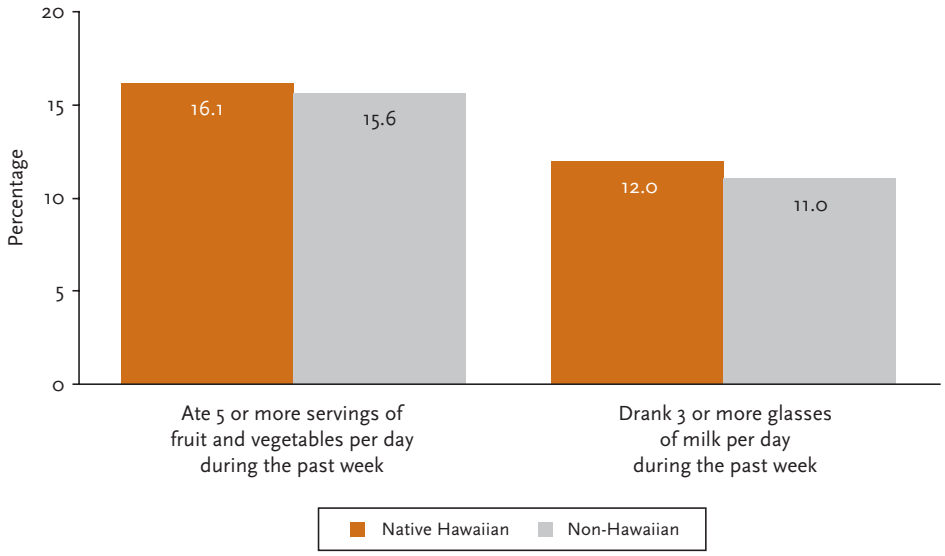


Data source: Hawai'i Department of Health, YRBS 2001.

The frequency and regularity with which high school students included fruits, vegetables, and milk in their diets were nearly equal for Native Hawaiians and non-Hawaiians (Figure 4.32).

- Fewer than one in every five high school students ate at least five servings of fruits and vegetables per day over the previous week. Approximately one in every ten drank at least three glasses of milk each day during the previous week.

FIGURE 4.32 Students who regularly incorporate fruits, vegetables, and milk in their diets as a percentage of all public high school students [by Native Hawaiian ethnicity, state of Hawai'i, 2001]



Data source: Hawai'i Department of Health, YRBS 2001.

Although no substantial differences were apparent in the frequency with which Native Hawaiian and non-Hawaiian high school students ate nutritious foods, these data do not address total caloric intake, which exerts an even stronger effect on children's weight. Further, these figures highlight a more pressing, widespread problem: Hawai'i's youths—both Native Hawaiian and non-Hawaiian—are not consuming sufficient amounts of fruits, vegetables, and milk to meet commonly accepted nutritional standards. Such dietary deficiencies may affect not only children's educational outcomes (Action for Healthy Kids 2004) but also their overall physical health.

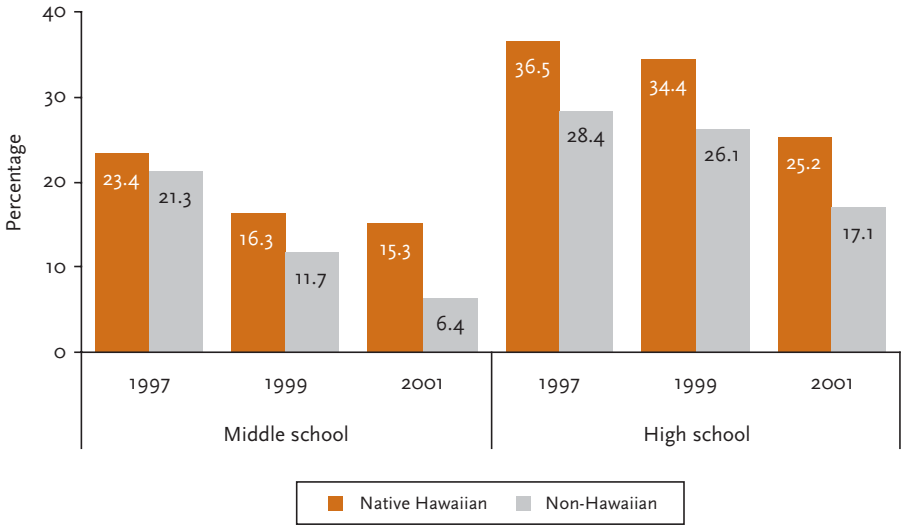
Smoking

Native Hawaiian students are significantly more likely than their non-Hawaiian peers to engage in high-risk behaviors such as smoking. However, smoking is more than an act of social defiance—it is a behavior that may result in a lifetime addiction and one that poses serious and potentially fatal physical risks. Smoking is also significantly correlated with key indicators of scholastic success. Conwell et al. (2003) find that, compared with nonsmokers, adolescents who smoke are more likely to exhibit problem behaviors, perform worse in school, and (among boys) score lower on measures of achievement.

As shown in Figure 4.33, YRBS data indicate that cigarette smoking among middle and high school students has decreased dramatically over the four-year period from 1997 through 2001.

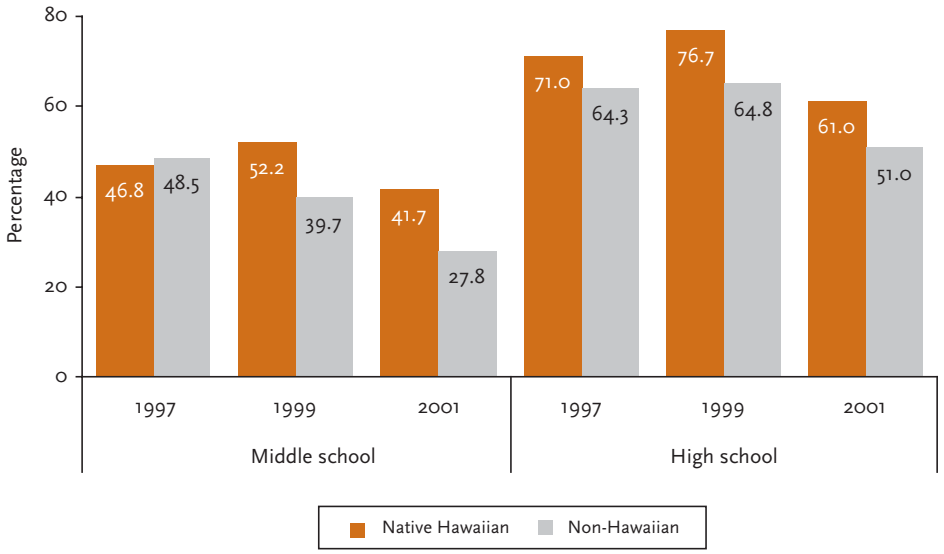
- The percentage of Native Hawaiian high school students who reported smoking during the past month decreased from 36.5 percent in 1997 to 25.2 percent in 2001.
- Among Native Hawaiian middle school students, the prevalence of smoking over the past month dropped from 23.4 percent in 1997 to 15.3 percent in 2001.

FIGURE 4.33 Trends in students who smoked cigarettes in the past 30 days as a percentage of all public school students [by Native Hawaiian ethnicity, by school level, state of Hawai'i, 1997 to 2001]



Source: Saka and Lai 2004.

FIGURE 4.34 Trends in students who have ever smoked cigarettes as a percentage of all public school students [by Native Hawaiian ethnicity, by school level, state of Hawai'i, 1997 to 2001]



Source: Saka and Lai 2004.

Figure 4.34 shows more modest decreases in the proportion of Native Hawaiian students who have ever tried cigarette smoking (i.e., the lifetime prevalence).

- Between 1997 and 1999, the proportion of Native Hawaiian students who had tried smoking increased slightly at both the middle school and high school levels.
- By 2001, however, the rates for Native Hawaiians had decreased to the point of being even lower than the rate in 1997 (41.7 percent versus 46.8 percent at the middle school level, and 61.0 percent versus 71.0 percent at the high school level).

The decline in smoking reflects a statewide trend. Thus, significant disparities between Native Hawaiian and non-Hawaiian students still exist. In fact, Figure 4.33 and Figure 4.34 show that smoking among non-Hawaiian students, particularly at the middle school level, has decreased more rapidly than among Native Hawaiian students, resulting in a *widening* of the gap over time. In Figure 4.33 for example, in 1997, the monthly prevalence of smoking among middle school students (the percentage of students who smoked cigarettes during the past month) was 23.4 percent among Native Hawaiians and 21.3 percent among non-Hawaiians—a difference of just 2.1 percentage points. By 2001, the rate was 15.3 percent for Native Hawaiians and 6.4 percent for non-Hawaiians—a difference of 8.9 percentage points.

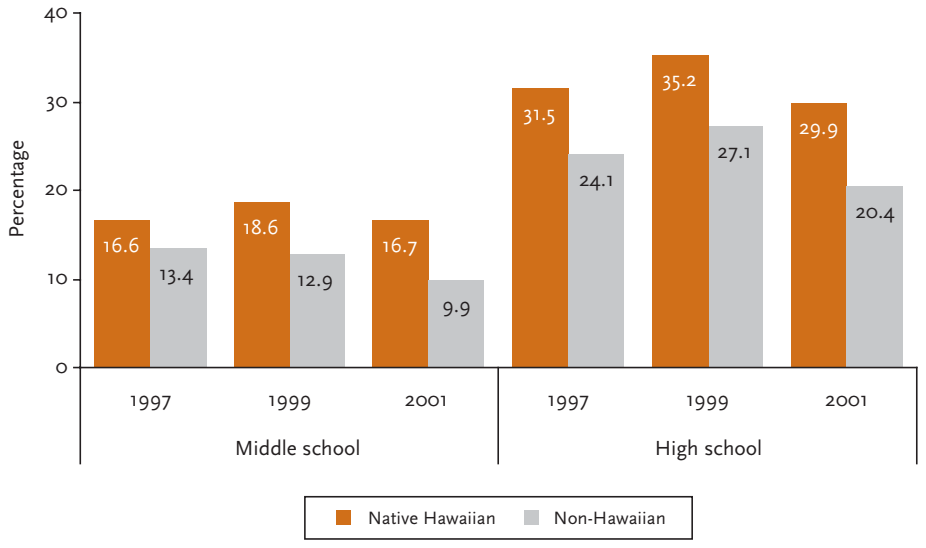
Sexual Behavior

As with smoking, sexual behavior was briefly discussed as a high-risk behavior earlier in this section. However, the potentially serious effect of sexual intercourse on children's physical health warrants further discussion. Children who engage in sex are at risk for teen pregnancy, the impact of which can last a lifetime, with consequences that may include limited educational options and opportunities. Even more serious is the potential for contracting sexually transmitted diseases, some of which are incurable and fatal. Data from the YRBS suggest that progress has been made; however, the prevalence of sexual behaviors remains alarmingly high, and significant disparities between Native Hawaiian students and non-Hawaiians remain.

Figure 4.35 compares the percentage of sexually active Native Hawaiian and non-Hawaiian students in middle school and high school.

- At both the middle school and high school levels, Native Hawaiian students were more likely to have engaged in sexual intercourse than were their non-Hawaiian peers.
- In 2001, approximately one in five Native Hawaiian middle school students (16.7 percent) and one in three Native Hawaiian high school students (29.9 percent) were sexually active.
- Some improvement is apparent. Survey data from 2001 showed a slight decrease in the percentage of sexually active students for both Native Hawaiians and non-Hawaiians at both the middle school and high school level.

FIGURE 4.35 Trends in students who have had sexual intercourse* as a percentage of all public school students [by Native Hawaiian ethnicity, by school level, 1997 to 2001]



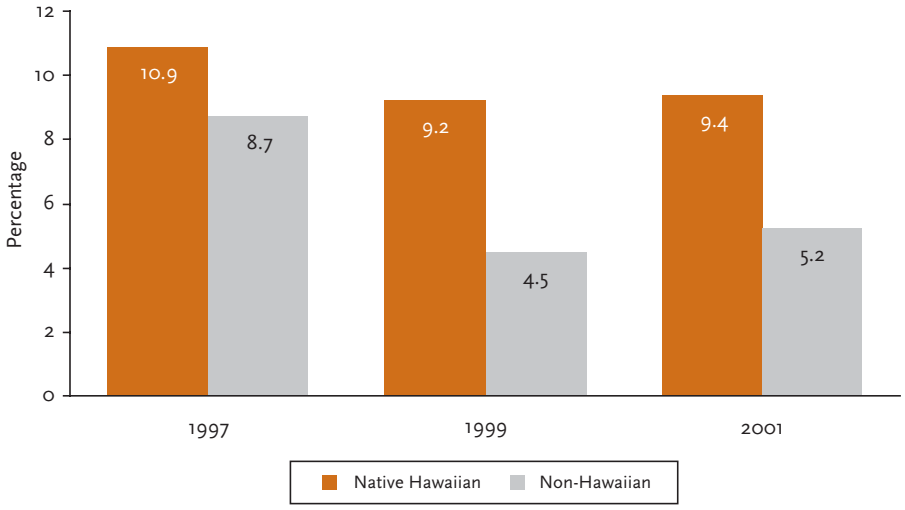
Source: Saka and Lai 2004.

* For high school students, this question was posed with a three-month time frame (i.e., "Have you had sexual intercourse within the past three months?"); for middle school students, no time frame was given (i.e., "Have you ever had sexual intercourse?").

Beyond the prevalence of sexual activity among school-age students, the young age at which children become sexually active is another indicator of physical well-being. Figure 4.36 highlights the percentage of students who engaged in sexual intercourse prior to the age of thirteen.

- Not only are Native Hawaiian students more likely than their non-Hawaiian peers to have engaged in sexual intercourse, but they also become sexually active at an earlier age. Roughly one in ten Native Hawaiian high school students had sexual intercourse before the age of thirteen.
- Although the percentage of students with preteen sexual experience has decreased slightly in recent years, the decline within the Native Hawaiian population has been particularly small—just 1.5 percentage points between 1997 and 2001.
- In 1999 and 2001, Native Hawaiian high school students were almost twice as likely as non-Hawaiians to have become sexually active before the age of thirteen.

FIGURE 4.36 Trends in students who had sexual intercourse before the age of 13 as a percentage of all public high school students [by Native Hawaiian ethnicity, state of Hawai'i, 1997 to 2001]



Source: Saka and Lai 2004.

Overall, children's health in Hawai'i has seen improvements in recent years, as evidenced by lower rates of smoking, declines in the prevalence of asthma, and a lower incidence of preteen sexual activity. However, Native Hawaiian youths continue to face significantly greater risks to physical well-being than do other students, particularly with respect to weight problems and high-risk behaviors.

EDUCATIONAL WELL-BEING

On the whole, this analysis shows that Native Hawaiian children in the public school system perform poorly in school compared with their non-Hawaiian peers. On standardized measures of achievement such as the SAT-9 and HSA, the reading and math scores of Native Hawaiians are lower than those of all other major ethnic groups, and longitudinal data suggest that Native Hawaiian students fall even further behind as they grow older. These findings also show that Native Hawaiian students have disproportionately high rates of special education and excessive absences and are the least likely of the state's major ethnic groups to complete high school within four years. Compared with other students, Native Hawaiians have the highest retention rates and are the most likely to either be missing from or drop out of the public school system.

What factors contribute to underachievement among school-age Native Hawaiian children? One place to look for explanations is the school system itself. Research shows that predominantly Native Hawaiian public schools (i.e., schools in which more than half of the student population is Native Hawaiian) suffer resource inequities that may impede the learning and development of the students they serve. Statistically speaking, Native Hawaiian public school students are more likely to attend schools with less stable and less experienced administrative and teaching staff. Principal turnover rates are higher in schools with high concentrations of Native Hawaiians than in other schools, and parent ratings of their principals' ability to foster teamwork are lower in schools where Native Hawaiian children accounted for a majority of the student population. Similarly, the teaching staff in predominantly Native Hawaiian schools is less stable, with fewer years of experience and fewer credentials, compared with teaching staff at other schools. At a more basic level, schools that serve predominantly Native Hawaiian populations have historically had lower-quality facilities and less classroom space than schools with smaller concentrations of Native Hawaiian students (Hawai'i Department of Education 2002, n.d.).

Given their limited resources, it is not surprising that predominantly Native Hawaiian schools are also less likely than other public schools to meet the standards for student achievement required by the federal government, and are therefore more likely to be subject to "corrective action" and school restructuring—interventions intended to improve the quality of schools and the performance of their students. Existing data show that schools in which Native Hawaiians accounted for more than half of the student population are more than three times as likely to require corrective action as were other schools. With respect to stakeholder opinions, parents and teachers in predominantly Native Hawaiian schools have less positive views of their schools' quality than do other parents and teachers. Parent satisfaction rates for schools with high concentrations of Native Hawaiian students are significantly lower than the satisfaction rates for other schools.

Many of these statistics raise the question of cause and effect: Do low-quality schools breed poor educational outcomes for Native Hawaiians, or do the disadvantages Native Hawaiian children struggle with affect classroom outcomes? Research shows that much of the lag in minority achievement can be attributed to factors outside the school—factors related to student background (Becker and Luthar 2002; Brooks-Gunn and Klebanov 1996; Hughes 2003; Phillips et al. 1998; Rothstein 2004; Steele and Aronson 1998). Prior analyses in Part Four describe the systematic disadvantages to which many school-age Native Hawaiian children are subject, including unstable families and communities, financial insecurity, health problems, and high rates of depression and suicide. Although strong ties to family and community provide important support for Native Hawaiian children, such strengths are often overwhelmed by a web of persistent and interconnected problems.

Furthermore, both school-level resource inequities and student-level underachievement might be explained, in part, by the types of disadvantaged communities in which many Native Hawaiian children reside. Native Hawaiians tend to be concentrated in rural and isolated areas with high rates of poverty, substance abuse problems, and limited access to social and economic resources. Such community traits may increase staff turnover, impede efforts to recruit experienced school staff, and be more taxing on the infrastructure of schools in these areas. A regional analysis of reading and math scores also highlights the role that geography may play in achievement disparities. Areas such as Moloka'i, Leeward O'ahu, and East Hawai'i—with standardized test scores that are consistently among the lowest in the state—are also characterized by high concentrations of Native Hawaiians and high rates of poverty.

Both cause and effect can be argued for either side of the issue. It is likely that disadvantaged student backgrounds and problems within the overburdened public school system both contribute to the poor educational outcomes of Native Hawaiian children.

Conversely, improvements in Native Hawaiian achievement may also be attributed to school reform efforts as well as action on the part of the community. Promising and hopeful signs are apparent in some areas. The analysis that follows in this section highlights the changes in the achievement gap between Native Hawaiians and non-Hawaiians over the past ten years and offers hope that the gap may be narrowing, at least at the secondary level. Similarly, a ten-year analysis shows that the prevalence of excessive absences among Native Hawaiian students has increased at a slightly slower pace than the growth in total Hawaiian enrollment. Other improvements are difficult to document because of shortcomings in the data collected, which often reflect government reporting requirements rather than indigenous educational goals. This points to an ongoing need to develop educational measures of Native Hawaiian children in areas such as cultural identity formation, Hawaiian language proficiency, and self-esteem.

Although efforts within the public school system may have prompted some of the recent educational gains achieved by Native Hawaiians, increasingly change is being driven from within the Native Hawaiian community itself. This section also examines the emerging role of charter schools in developing innovative models of education that incorporate the innate strengths of the Native Hawaiian community—the wealth of social support available to Native Hawaiian children through family and community, as well as the positive influence of cultural identity. Building on these strengths may be an important strategy for promoting educational progress and counteracting the ongoing challenges and disparities that inhibit Native Hawaiian education.

Tracking Outcomes by Ethnicity

Appropriate data systems are essential for assessing the progress of Native Hawaiian children, for identifying the forces and trends that affect that progress, and for understanding Native Hawaiian educational needs. Until recently, racial/ethnic categories in federal statistics were traditionally structured around five broad categories of race/ethnicity: Black, White, Hispanic, Native American, and Asian/Pacific Islander (Office of Management and Budget, 1977). This classification scheme was never an appropriate fit for the state because Hawai'i's population is dominated by groups that are relatively small minorities on the U.S. continent. A good example of the challenge this presents is the Asian/Pacific Islander (API) category, which groups Native Hawaiians together with socially, economically, and educationally distinct ethnic groups like Japanese and Chinese. Historically, aggregating statistics for such dissimilar groups has obscured

the disparate social, economic, educational, and health trends of each particular group (Malone 2003). In recognition of these distinct trends, the federal Office of Management and Budget (OMB) established new guidelines in 1997 for racial/ethnic classifications that separated Asians from Native Hawaiians and Other Pacific Islanders (NHOPI), creating two distinct categories (Office of Management and Budget 1997).

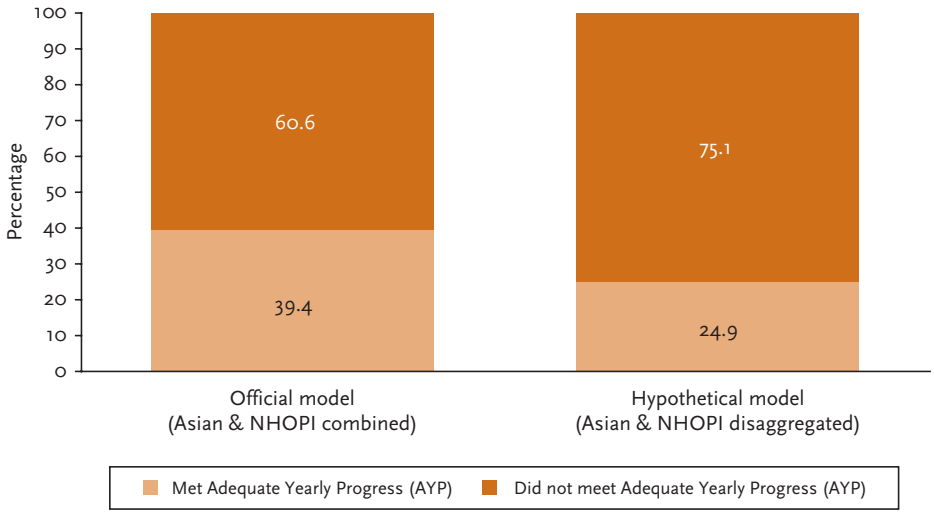
Early to recognize this need, the Hawai'i Department of Education has maintained an even more detailed ethnic categorization of its data to better reflect Hawai'i's unique ethnic diversity.[10] This disaggregation highlights trends particular to certain ethnicities, allows for the identification of educational risk factors that are correlated with ethnic background, and thereby assists educators in addressing the particular needs of certain groups of children. From our perspective, this practice is critical for enabling insights into the outcomes of Native Hawaiian students who represent the largest ethnic group in Hawai'i's public schools.

Nevertheless, aggregated API data are sometimes still used at all levels of government, and such practices may have very real implications for understanding and addressing inequities within the public school system. To measure those implications, we compared the results of two different analyses of the same educational data—one analysis used an ethnic breakdown that included the API category, and the second split API into two groups: (1) Asians and (2) Native Hawaiians and Other Pacific Islanders. The data used were the adequate yearly progress (AYP) targets mandated under the No Child Left Behind (NCLB) Act. Each year, AYP targets for achievement tests, retention rates, and graduation rates are set as the standards for satisfactory academic progress in Hawai'i schools. Schools that chronically fail to meet AYP targets may be "restructured." The NCLB Act further requires that AYP targets be met by all reported subcategories of students, including racial/ethnic groups. Currently, the racial/ethnic groups for which Hawai'i submits NCLB reports include Black, White, Hispanic, Native American/American Indian, and Asian/Pacific Islander.

To underscore the importance of using appropriate ethnic categories in this analysis, we asked the question: How would disaggregating the Asian/Pacific Islander category currently used in NCLB reporting affect the number of schools meeting their AYP targets? We developed a hypothetical scenario for this analysis in which the 2002–03 AYP status of schools depended on the progress Asians and Native Hawaiians and Other Pacific Islanders made as two separate groups.[11] The results show that the disaggregation of the Asian/Pacific Islander category would have had a dramatic effect on the number of schools achieving AYP in 2002–03 (Figure 4.37).

10. Currently public school students are asked to identify with one of the following fourteen categories: American Indian, Black, Chinese, Filipino, Hawaiian, Part-Hawaiian, Japanese, Korean, Portuguese, Spanish/Puerto Rican, Samoan, White, Indo-Chinese, or Other.
11. Currently the Hawai'i Department of Education tests only Grades 3, 5, 8, and 10. However, as of school year 2005–2006, the No Child Left Behind Act will require that schools test all students in Grades 3 through 8. We chose to build this upcoming requirement into our hypothetical model as well, incorporating test scores for Grades 3, 4, 5, 6, 7, 8, and 10, to increase the sample size and to ensure that our results are consistent with the NCLB reports for subsequent years. Because test data for Grades 4, 6, and 7 are not available, we used 2001–02 test data for third and fifth graders as a rough estimate of how these students would have performed as fourth and sixth graders in school year (SY) 2002–03, had they been tested. Thus, by combining data from school years 2001–02 and 2002–03, we have estimated scores for Grade 3 (SY 2002–03), Grade 4 (SY 2001–02), Grade 5 (SY 2002–03), Grade 6 (SY 2001–02), Grade 8 (SY 2002–03), and Grade 10 (SY 2002–03). Although this methodology has several flaws, it represents the best model available, given data constraints.

FIGURE 4.37 Comparison of adequate yearly progress (AYP) status of public schools, by race/ethnicity classification method [official status versus hypothetical scenario, state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education 2003b.
Data source: Hawai'i Department of Education 2002–03.
Note: NHOPI = Native Hawaiians and Other Pacific Islanders.

The official NCLB report for Hawai'i indicates that 109 schools (39.4 percent) achieved AYP in school year 2002–03 and that 168 schools (60.6 percent) did not. Under our hypothetical model separating Asians from Native Hawaiians and Other Pacific Islanders, just 69 schools (24.9 percent) would have met their AYP targets and 208 schools (75.1 percent) would not have.[12] Fully 40 of the 109 schools that officially achieved AYP in school year 2002–03 would not have if the Asian/Pacific Islander category were disaggregated.

Given the importance of ethnic classifications in the analysis of educational outcomes, the detailed ethnic data provided by the Hawai'i public school system are absolutely critical for appropriate student tracking. The diligence of the Hawai'i Department of Education in collecting data has enabled the analyses of educational inputs and outcomes that follow in this section.

12. Although AYP is based on participation rates (the percentage of relevant students who took the test) and proficiency rates (the percentage of those tested who met or exceeded proficiency levels), we did not calculate new participation rates for the Asian and Native Hawaiians and Other Pacific Islanders groups because these figures have been the subject of a number of school appeals and because the method of calculation may soon change under revised rules issued by the federal government. Since our analysis includes proficiency rates only, the result is a lower-bound estimate of the disaggregation effect.

School Staffing and Human Capital

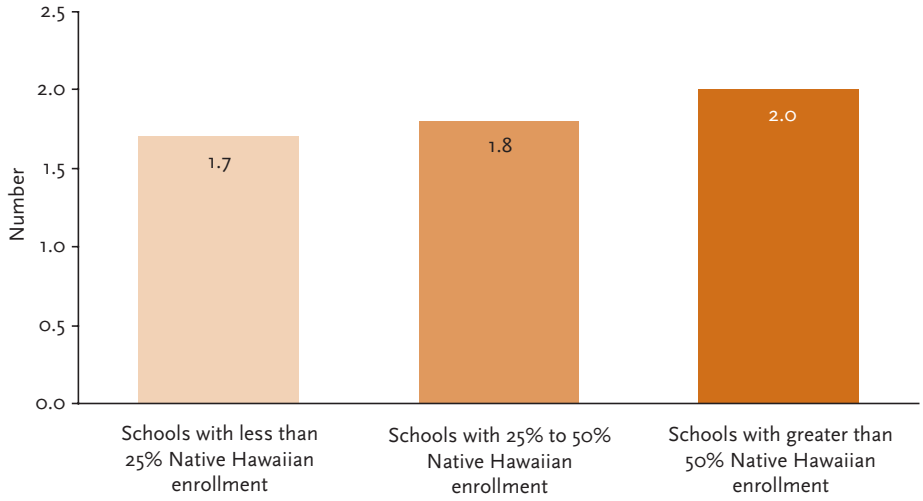
The quality of education in the public school system is closely tied to the quality of learning resources in schools and classrooms. We begin our assessment of the educational well-being of school-age Native Hawaiian children by examining the critical learning resources that support students through their development and growth. Perhaps the most important resources available to students are the school's staff—teachers who equip students with the knowledge and tools they need to succeed, and the principal, whose leadership guides teachers in their work and determines the direction and priorities of the school. The following analyses are focused on the quality and distribution of human capital within the public school system.

Principals and School Leadership

Education is a journey that relies on strong leadership and vision. As the heads of schools, principals provide direction and guidance. They make critical decisions about their schools' programs, services, and priorities, and create a sense of stability, purpose, and security. Where school leadership is unstable, the challenges include shifting priorities, a lack of vision and direction, and low staff morale. Figure 4.38 shows the average number of principals who have headed a school within the past five years.

- In 2002, predominantly Native Hawaiian schools (i.e., schools in which at least half the students are identified as Native Hawaiian) had slightly higher turnover rates among their principals than did schools with lower levels of Native Hawaiian enrollment.
- On average, predominantly Native Hawaiian schools had two different principals in the past five years. Among schools with low levels of Native Hawaiian enrollment, the average was 1.7. Though apparently small, this difference is statistically significant.

FIGURE 4.38 Average number of public school principals during previous five years, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2001–02]

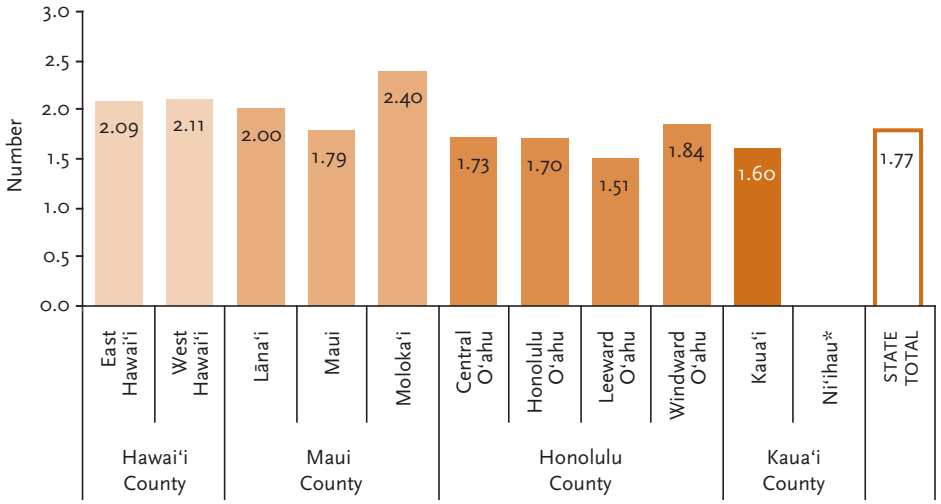


Source: Hawai'i Department of Education 2002.

Disparities in principal turnover are also apparent by geographic region. Figure 4.39 shows the average number of principals in the schools of each region.

- Schools on the island of Moloka'i, one of the most remote and rural regions in the state, had the highest principal turnover rate, with an average of 2.40 principals in five years.
- Despite its reputation as a troubled district, Leeward O'ahu had the lowest principal turnover. Leeward schools had, on average, just 1.51 principals over the past five years, suggesting strong community ties within the Leeward community and a high level of commitment among educators in Leeward O'ahu.

FIGURE 4.39 Average number of public school principals during previous five years, by geographic region [state of Hawai'i, school year 2001–02]



Source: Hawai'i Department of Education 2002.
* Data for Ni'ihau are either unavailable or too limited to yield reliable results.

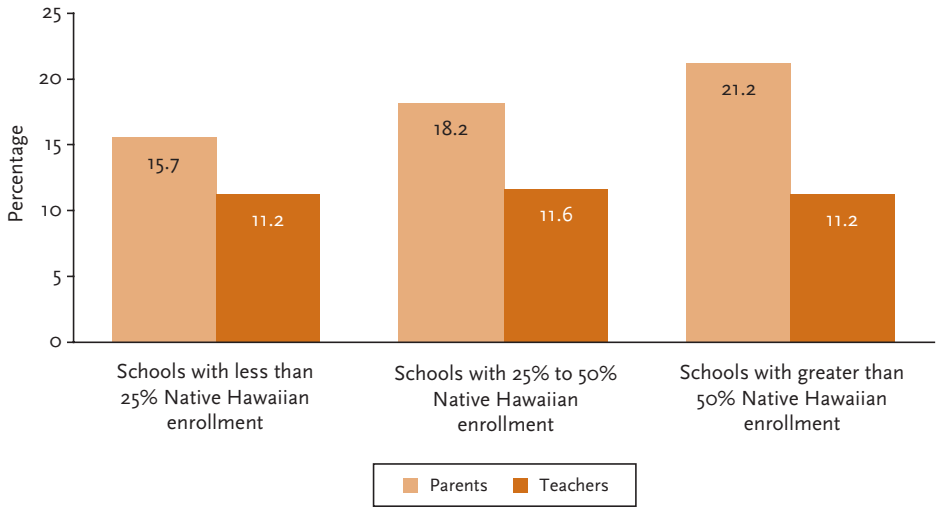
The Hawai'i Department of Education also administers a biannual School Quality Survey (SQS)[13] in which teachers, parents, and students rate six dimensions of school quality (i.e., standards-based learning, quality student support, professionalism and capacity of the system, coordinated teamwork, responsiveness of the system, and focused and sustained action), as well as three measures of school success (i.e., involvement of parents, students, and teachers; satisfaction of parents, students, and teachers; and safety and well-being).

To gauge the effectiveness of coordinated teamwork, the SQS asks teachers and parents about their school's leadership, governance, and resource management/development. Figure 4.40 shows the results for this item.

13. Note that the SQS is administered on a biannual basis only. Because significant changes in school quality may occur within a two-year period, the SQS may not reflect current school conditions.

- Regardless of Native Hawaiian enrollment levels, an equally small percentage of teachers (less than 12 percent) gave negative readings for leadership and teamwork in their schools.
- However, parent responses differ significantly by level of Native Hawaiian enrollment. About one in five parents at predominantly Native Hawaiian schools (21.2 percent) rated the team-building leadership at their schools negatively, compared with 15.7 percent of parents at schools with lower concentrations of Native Hawaiians.

FIGURE 4.40 Parents and teachers reporting negative ratings of their school's coordinated teamwork as a percentage of all public school parent and teacher respondents [by type of respondent, by level of Native Hawaiian enrollment, state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education 2003c.

Teachers

Just as principals are the head of the school, teachers are the head of the classroom. The close relationship between student performance and teacher quality is well documented. Darling-Hammond and Ball (1997) argue that teacher qualifications—level of education, licensing examination scores, and experience—are the primary determinants of student achievement, accounting for approximately 40 percent of the variation in student achievement measures. The researchers further find that, after accounting for differences in socioeconomic factors, teacher qualifications explain nearly all of the differences in achievement between White students and Black students.

Owing to limited resources and recent difficulties in teacher recruitment, the Hawai'i Department of Education has experienced a shortage of teachers (Hawai'i State Teachers Association 2004). This shortage has resulted in high student-to-teacher ratios, inexperienced and underqualified teaching staff, and the assignment of teachers to subject areas outside their fields of expertise (Kana'iaupuni and Ishibashi 2003). More disturbing than the overall shortage of teachers is the inequitable distribution of

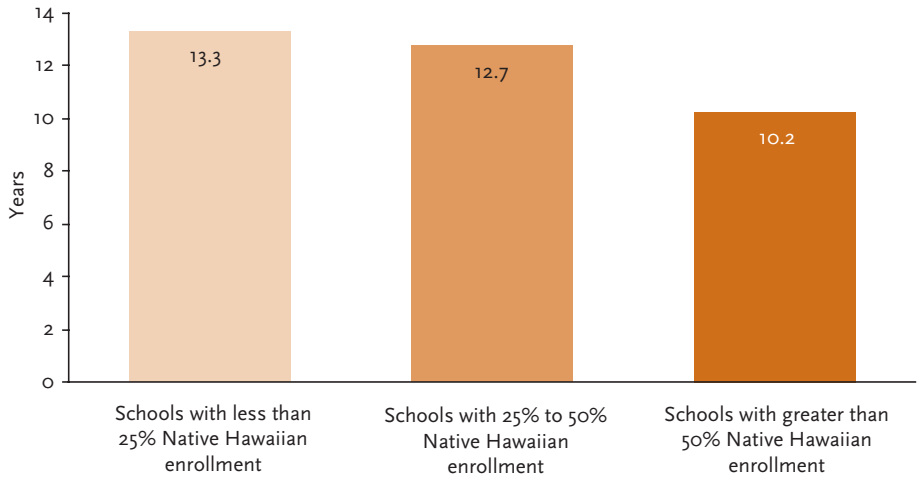
experienced, certified teachers, depending on the demographic and geographic characteristics of schools. The analyses in this section show that schools with high concentrations of Native Hawaiian students and schools in remote or economically depressed areas tend to employ teachers with less experience, fewer qualifications, and higher rates of turnover, compared with other schools. Such inequities are likely both a cause and an effect of the disadvantages in these communities. As a cause, the lack of quality educational resources means that children in these areas receive a different education from that of other children, impeding the development of social capital within these communities and thereby perpetuating the cycle of Native Hawaiian marginalization. As an effect, the unequal distribution of teaching resources might, in part, be attributed to a community's social, economic, and geographic disadvantages, all of which may discourage some highly qualified teachers from accepting positions in these areas. More research is needed to understand these dynamics.

To explore the apparent inequities in the overall quality of instruction for Native Hawaiians, we analyze the relationships between Native Hawaiian enrollment and teacher experience, turnover, and qualifications. Specifically, we examine the average years of teachers' experience, the proportion of teachers who have been at the same school for five years or more, and a breakdown of teaching credentials.

Figure 4.41 shows teachers' average years of experience in the public school system. Significant disparities are apparent in the distribution of experienced teaching staff, with many teachers in predominantly Native Hawaiian schools having significantly less experience than teachers in schools with lower levels of Native Hawaiian enrollment.

- Teachers in schools where Native Hawaiians constitute less than 25 percent of the student body had an average of 13.3 years of experience.
- Teachers in schools that serve disproportionately high numbers of Native Hawaiian students had, on average, 10.2 years of experience. The difference of 3.1 years in teacher experience among predominantly Native Hawaiian schools and schools with comparatively low levels of Native Hawaiian enrollment is statistically significant.

FIGURE 4.41 Average years of experience among teachers in public schools, by level of Native Hawaiian enrollment
[state of Hawai'i, school year 2001–02]



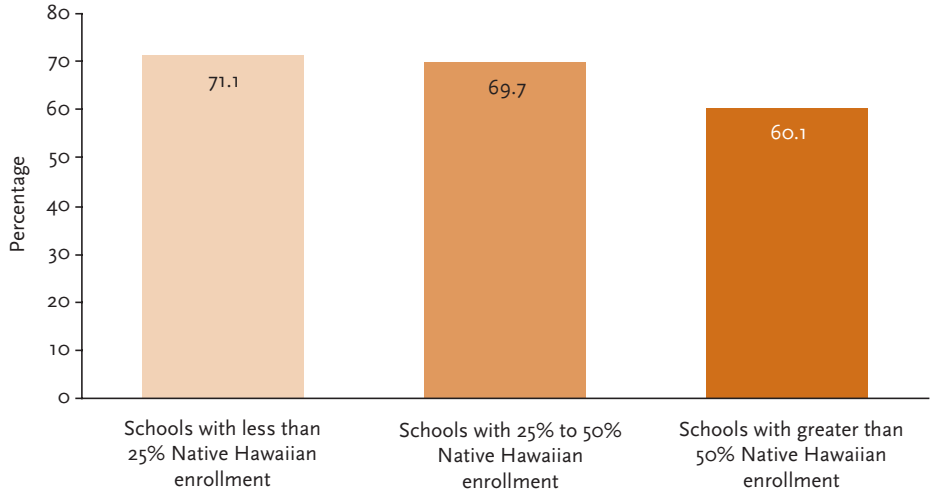
Source: Hawai'i Department of Education 2002.

Analyses of school staffing patterns are complicated by differences in student population and funding levels. For example, schools that serve primarily disadvantaged populations may receive both federal Title I funding and state "special needs" funding. These additional resources may allow schools to invest in greater numbers of teaching staff, compared with schools in which the student body is not primarily disadvantaged, thereby skewing patterns in the data. To examine these relationships with greater precision, Kana'iaupuni and Ishibashi (2003) performed regression analyses of teacher characteristics with variables representing (1) the proportion of Native Hawaiian students, (2) the proportion of students in special education, (3) the proportion receiving free and reduced-price lunch, (4) the proportion with limited English proficiency, and (5) the receipt of disadvantaged school funding. The results evidence a statistically significant relationship between the proportion of Native Hawaiian students and teacher experience, net of other factors. As the proportion of Native Hawaiian students enrolled at a school increases, the average number of years of teacher experience decreases. This relationship exists even after adjusting for factors such as poverty, limited English proficiency, special education, and disadvantaged school funding.

Turnover and longevity among teaching staff provide an indication of both school stability and teacher experience. The Hawai'i Department of Education reports school-level data on the number of teachers who have worked at their current school for at least five years. Basic descriptive statistics suggest a slight decrease in teacher longevity as Native Hawaiian enrollment increases (Figure 4.42).

- In 2002, three of every five teachers in predominantly Native Hawaiian schools (60.1 percent) had at least five years of experience at their current school.
- In schools where Native Hawaiians account for less than 25 percent of student enrollment, 71.1 percent of teachers had been employed at their respective schools for five years or more.

FIGURE 4.42 Teachers with at least 5 years of experience at current school as a percentage of all public school teachers, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2001–02]



Source: Hawai'i Department of Education 2002.

Kana'iaupuni and Ishibashi (2003) also analyzed teacher longevity using a simple regression that controlled for poverty, limited English proficiency, special education, and disadvantaged school funding. Results indicated a statistically significant relationship: The proportion of Native Hawaiian students enrolled in a school is negatively related to the proportion of teachers with five or more years of experience at that school. In other words, as Native Hawaiian enrollment increases, the percentage of teachers who have worked at their school for at least five years decreases.

Statewide data based on a national survey sample suggest that the public school system in Hawai'i suffers from a lack of qualified teachers in mathematics and science. For example, a report by the National Center for Education Statistics found that just 62 percent of Hawai'i public school mathematics teachers majored in their field—a figure well below the national average of 80 percent (Bandeira de Mello and Broughman 1996). Other research suggests that the problem is compounded by social and economic factors. A national study by the Education Trust (Jerald 2002) concluded that teachers are given out-of-field[14] assignments more often in high-poverty schools than in low-poverty schools.

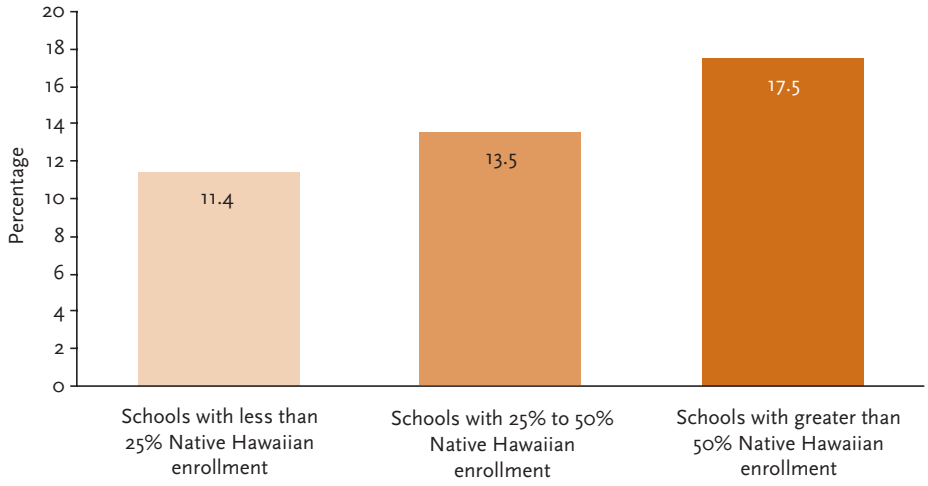
Data from the Hawai'i Department of Education reveal that similar patterns are evident within the state of Hawai'i. Public school teachers in the state are classified by whether they have a full license, provisional credentials, or emergency credentials. Fully licensed teachers are those who have completed a state-approved teacher education program and have passed a series of Praxis tests covering skills, teaching methods, and subject matter. Teachers with provisional credentials have completed a state-approved teacher education program but have not yet taken or passed the Praxis tests. Their licenses are provisional, pending successful completion of the Praxis requirements. Teachers with emergency credentials have neither completed a state-approved teacher education program nor passed the Praxis tests. Such teachers are in the process of obtaining their teaching credentials, and their continued employment is contingent on completing the full licensure requirements within a specified period of time.

Figure 4.43 shows the relationship between Native Hawaiian enrollment and teacher qualifications. Predominantly Native Hawaiian schools have a significantly higher proportion of emergency- or provisional-hire teachers than do schools with lower levels of Hawaiian enrollment.

- In school year 2001–02, teachers at predominantly Native Hawaiian schools were about one and a half times more likely to have provisional or emergency credentials than were teachers at schools in which Native Hawaiians constituted less than 25 percent of the student body (17.5 percent versus 11.4 percent, respectively).
- Schools with high concentrations of Native Hawaiians had a significantly lower proportion of fully licensed teachers than did schools that served comparatively small populations of Native Hawaiians. Fully licensed teachers accounted for 82.5 percent of teachers in predominantly Native Hawaiian schools, 86.5 percent of teachers in schools where Native Hawaiians constituted 25 to 50 percent of student enrollment, and 88.6 percent of teachers in schools where Native Hawaiians accounted for less than 25 percent of student enrollment (not shown).

14. Jerald classifies teachers as being assigned "out of field" when they are teaching a primary subject (e.g., math, English) outside their college major or minor. For the purposes of his study, Jerald focuses on middle schools and high schools, where knowledge of the subject matter being taught is particularly important. He acknowledges that even a college minor may be inadequate preparation to teach a subject but frames this study as a lower-bound estimate of the out-of-field teaching problem.

FIGURE 4.43 Teachers with emergency or provisional credentials as a percentage of all public school teachers, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2001–02]



Source: Hawai'i Department of Education 2003a.

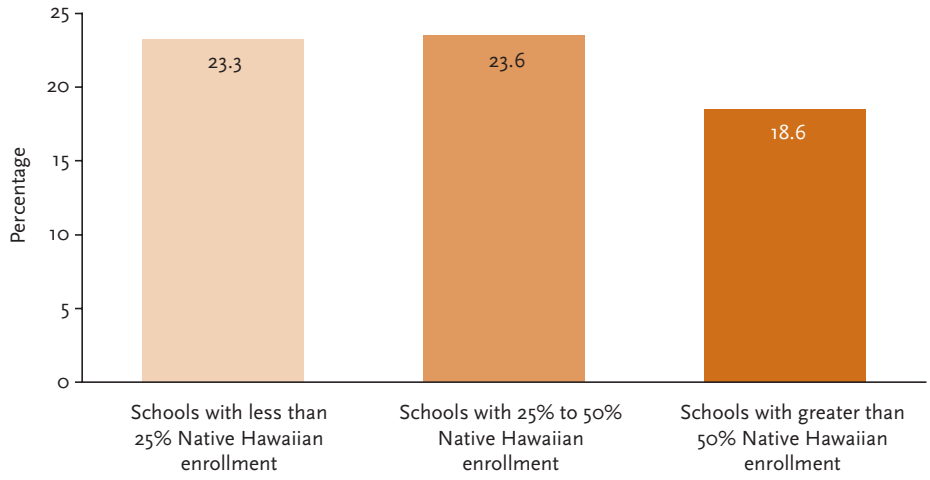
Kana'iaupuni and Ishibashi (2003) explored the issue of teacher qualifications with a simple regression that controlled for factors including poverty, special needs, limited English proficiency, disadvantaged school funding, and school level to isolate potentially confounding correlations between educational variables.[15] The results point to a statistically significant relationship between teacher qualifications and Native Hawaiian enrollment at the elementary-school level. The higher the Native Hawaiian enrollment in elementary schools, the lower the teacher qualifications. While the relationship is not statistically significant at the secondary-school level, this may reflect the relatively small number of middle schools and high schools in the state.

Another measure of teacher qualifications is educational attainment. Having spent more time learning and training in postsecondary schools, teachers with advanced degrees—master's and doctorate level—may have a stronger background in the subject matter they are teaching or a fuller understanding of instructional methods and strategies, compared with teachers with less formal education. Figure 4.44 shows that teachers in predominantly Native Hawaiian schools were less likely to have obtained an advanced degree than were their counterparts in schools with low levels of Native Hawaiian enrollment.

- In schools where fewer than half the students enrolled were identified as Native Hawaiian, almost one-fourth of teachers had earned an advanced postsecondary degree.
- Fewer than one in five teachers in predominantly Native Hawaiian schools (18.6 percent) had obtained a master's or doctorate degree.

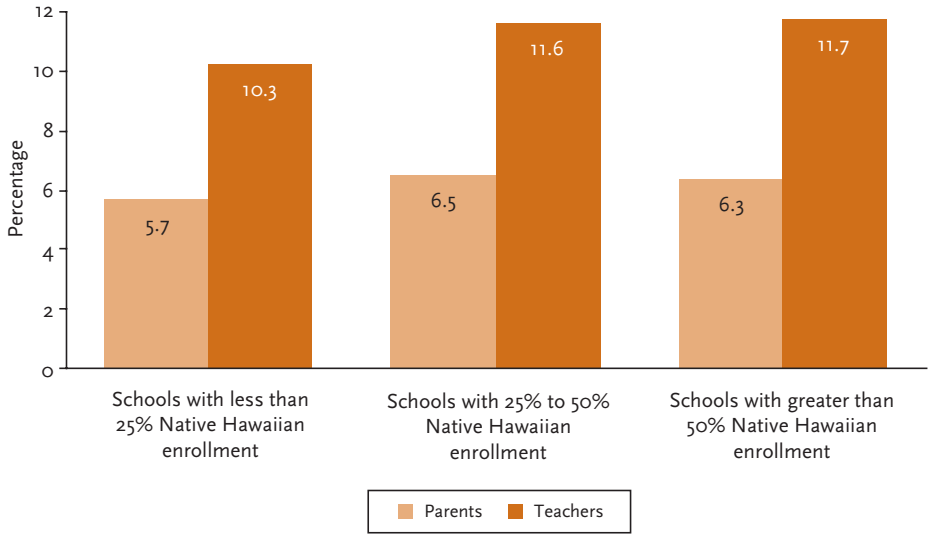
15. School level (i.e., elementary, middle, and high) is included as an independent variable in this analysis because the licensure requirements differ for primary and secondary school teachers. Teachers in elementary school must be trained in early education, whereas teachers in middle school and high school must know the subject matter for which they are providing instruction (e.g., mathematics, physics, etc.).

FIGURE 4.44 Teachers with advanced degrees as a percentage of all public school teachers, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2001–02]



Source: Hawai'i Department of Education 2002.

FIGURE 4.45 Parents and teachers reporting negative ratings of their school's professionalism and capacity as a percentage of all public school parent and teacher respondents [by type of respondent, by level of Native Hawaiian enrollment, state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education 2003c.

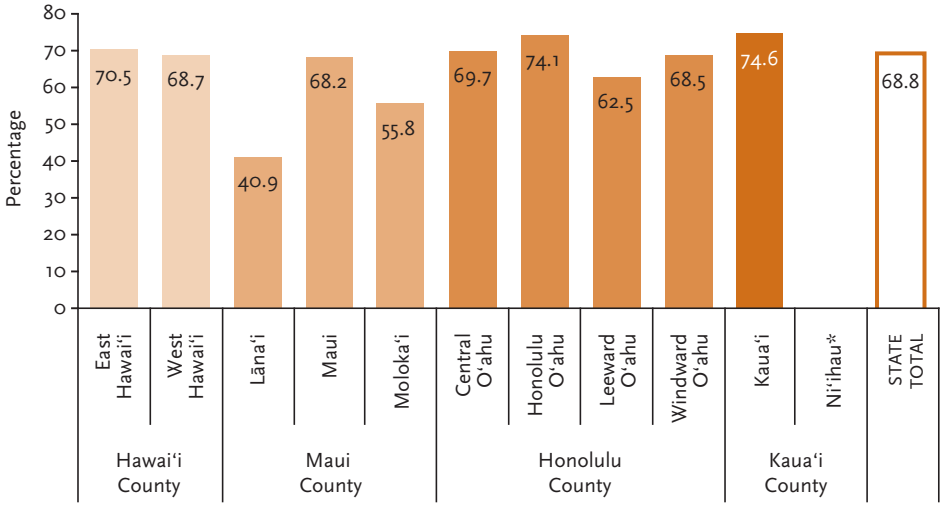
Data from the Hawai'i Department of Education's biannual SQS offer a different perspective on the disparities in instructional quality. Figure 4.45 shows the percentage of teachers and parents who gave a negative response when asked about the professionalism and capacity of teachers and school staff.

- When asked how well prepared and competent their children's teachers were, parents in predominantly Native Hawaiian schools were only slightly more likely to answer with a negative response than were parents from schools with small numbers of Native Hawaiian students (6.3 percent versus 5.7 percent).
- Differences in the proportion of teacher respondents who favorably rated professional development opportunities at their schools were similarly small, regardless of Native Hawaiian enrollment levels.

A geographic analysis of teacher traits highlights resource inequities in the state's most remote and economically depressed areas.[16] For example, Figure 4.46 shows the percentage of public school teachers in each region who had served at their current school for at least five years.

- Honolulu, the most urban region in the state, had the second-highest percentage of teachers with five or more years at their current school (74.1 percent).
- Aside from the privately owned island of Ni'ihau, the regions with the lowest tenure rates were Leeward O'ahu (62.5 percent), Moloka'i (55.8 percent), and Lāna'i (40.9 percent).
- The low percentage of Leeward O'ahu teachers with five years at their current school contrasts with figures on principal turnover, which indicate greater stability in the leadership of Leeward schools (Figure 4.39).

FIGURE 4.46 Teachers with at least 5 years of experience at current school as a percentage of all public school teachers, by geographic region [state of Hawai'i, school year 2001–02]



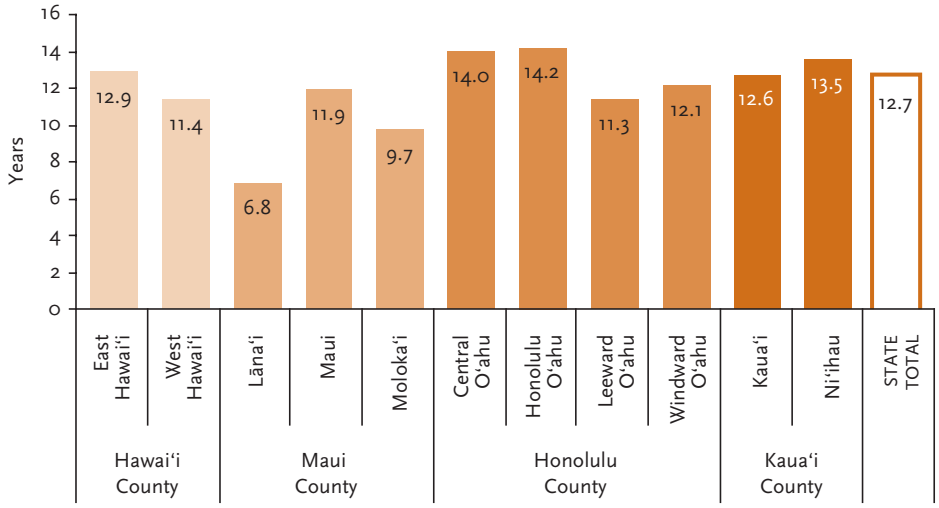
Source: Hawai'i Department of Education 2002.
* Data for Ni'ihau are either unavailable or too limited to yield reliable results.

16. See footnote 2 earlier in this section.

Inequities in teaching staff are also apparent in the experience level of teachers in various regions. Figure 4.47 shows teachers' average years of experience within the public school system. Not surprisingly, the regional comparison of teacher experience mirrors the results regarding teacher longevity, suggesting the systematic nature of the disparities in instructional staff.

- Moloka'i, Lāna'i, and Leeward O'ahu had the lowest average years of teacher experience.
- Teachers at Lāna'i High and Elementary had an average of 6.8 years of experience—half that of teachers in the Honolulu district (14.2 years).

FIGURE 4.47 Average years of experience among public school teachers, by geographic region [state of Hawai'i, school year 2001–02]

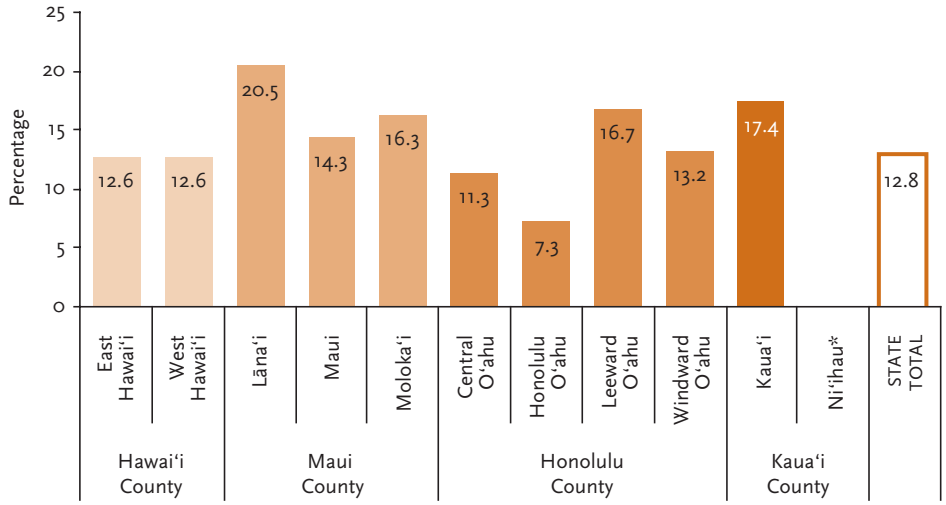


Source: Hawai'i Department of Education 2002.

Statistics on teacher licensing and credentials further highlight the disadvantages faced by remote schools with high concentrations of Native Hawaiians. Figure 4.48 shows the percentage of teachers within each region that have provisional or emergency credentials, highlighting the need for professional development opportunities.

- Teachers on Lānaʻi, Kauaʻi, Leeward Oʻahu, and Molokaʻi were among the most likely to have provisional or emergency credentials.
- Fully 20.5 percent of Lānaʻi teachers, 17.4 percent of Kauaʻi teachers, 16.7 percent of Leeward Oʻahu teachers, and 16.3 percent of Molokaʻi teachers were not fully licensed, compared with 7.3 percent in the Honolulu district.

FIGURE 4.48 Teachers with emergency or provisional credentials as a percentage of all public school teachers, by geographic region [state of Hawaiʻi, school year 2001–02]



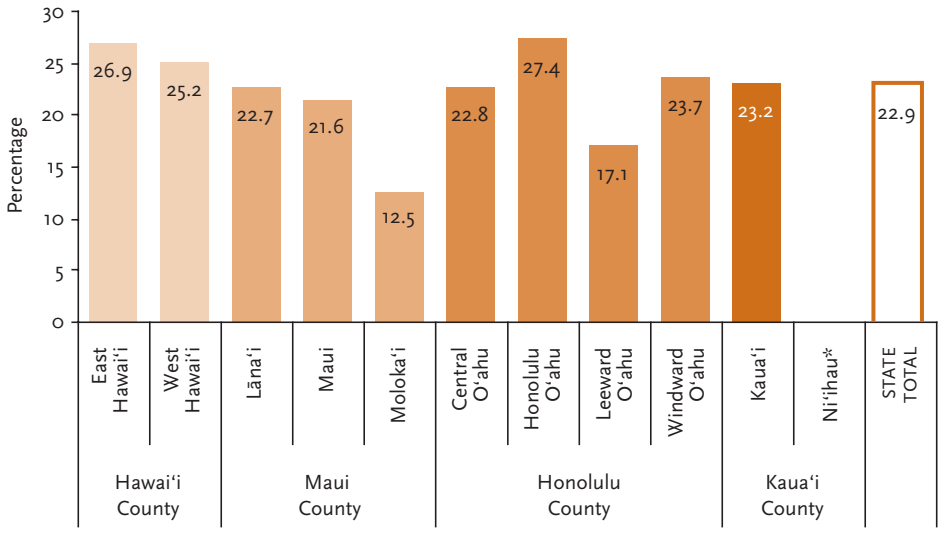
Source: Hawaiʻi Department of Education 2003a.

* Data for Niʻihau are either unavailable or too limited to yield reliable results.

The educational attainment of teaching staff also has bearing on educational resources available to learners. Figure 4.49 shows regional variations in the percentage of teachers with advanced degrees (i.e., graduate or doctorate degrees).

- Moloka'i and Leeward O'ahu had the lowest proportion of teachers with advanced degrees. A total of 12.5 percent of teachers on the island of Moloka'i and 17.1 percent in Leeward O'ahu had graduate degrees or higher, compared with 27.4 percent in Honolulu.
- On this particular indicator, Lāna'i was on par with statewide statistics, with 22.7 percent of its teaching staff holding advanced degrees.

FIGURE 4.49 Teachers with advanced degrees as a percentage of all public school teachers, by geographic region [state of Hawai'i, school year 2001–02]



Source: Hawai'i Department of Education 2002.
* Data for Ni'ihau are either unavailable or too limited to yield reliable results.

Throughout our examination of teaching resources, three areas—Moloka'i, Lāna'i, and Leeward O'ahu—have almost consistently had the poorest indicators. These three regions number among the state's most remote areas. In Moloka'i, the population is little more than seven thousand; Lāna'i's population is about three thousand, with just one school servicing all of the island's children. Both Moloka'i and the Leeward O'ahu regions have high rates of poverty and a high proportion of Native Hawaiian students. The island of Moloka'i has the highest concentration of Native Hawaiians in the state: 75.5 percent of public school students on the island identify themselves as Native Hawaiian. Leeward O'ahu incorporates the Nānākuli and Wai'anae school complexes, in which 70 percent and 56 percent of students are Native Hawaiian, respectively.

Kaua'i County also experiences resource inequities. Although teachers on Kaua'i Island are relatively stable and highly experienced—74.6 percent have at least five years of experience at their current schools, and together they average 12.6 years of experience in the public school system—Kaua'i public schools have a high proportion of teachers with provisional or emergency credentials (17.4 percent) and a high proportion of classes headed by teachers who are not fully credentialed (13 percent).

The island of Ni'ihau has only one school with a total enrollment of twenty-nine students (school year 2001–02). Two teachers staff the school and, as of school year 2001–02, averaged 13.5 years of experience. By school year 2002–03, both teachers had worked at the school for five years or more with no administrative staff support.

By contrast, the highly urbanized Honolulu district has the strongest base of teaching resources. Compared with other areas, Honolulu attracts the highest percentage of teachers with advanced degrees; the highest average years of experience among its teaching staff; the lowest percentage of teachers with provisional or emergency credentials; the lowest percentage of elementary school classes taught by underqualified teachers; and, other than Kaua'i, the highest percentage of teachers with at least five years of experience at their current school.

The consistency of these data—which show great advantage in the Honolulu district and serious disadvantages in remote, high-poverty, and predominantly Native Hawaiian regions of the state—demonstrates the challenges in (and need for) achieving equity in quality teaching resources across the islands.

The bottom line is that schools with high levels of Native Hawaiian enrollment have less experienced teachers with fewer credentials and less stability among their teaching staff. Research literature indicates that being educated in an environment with inexperienced and transitional faculty places children at a distinct disadvantage (Darling-Hammond and Ball 1997). These conditions likely contribute to the poor academic performance and low levels of school engagement common to many Native Hawaiian children.

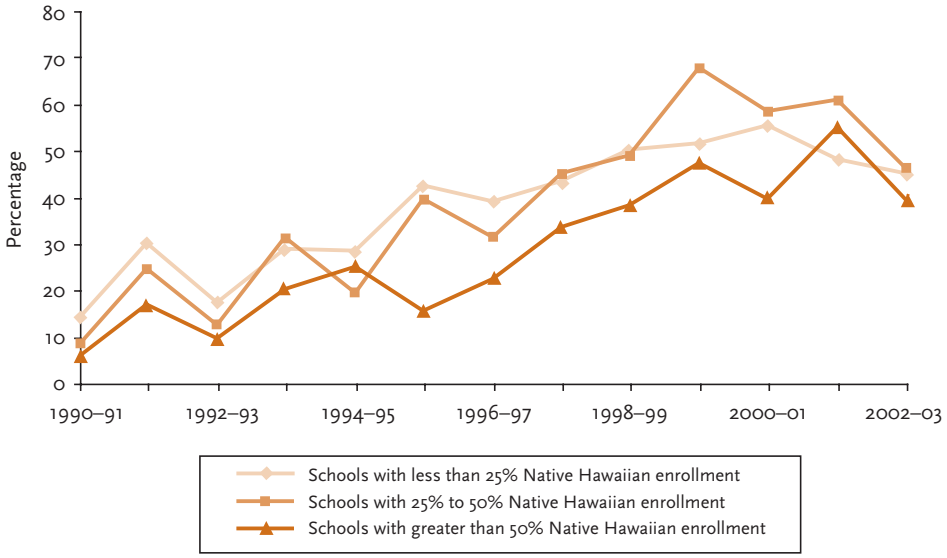
School Infrastructure

The quality of a school's learning environment includes not only interactions in the classroom but also the physical environment where children study, learn, socialize, and play. Poorly maintained or overcrowded facilities at a school may impair children's ability to focus, limit teacher capabilities, and deflate morale levels among faculty, staff, and students. In addition, a poor physical environment may pose a health or safety hazard. Given the importance of infrastructure to a quality learning environment, the Hawai'i Department of Education incorporates a review of school facilities and equipment during its annual assessments.

Figure 4.50 provides a visual summary of the relationship between infrastructure and Native Hawaiian enrollment. The graph shows promising trends in the percentage of schools that received an overall infrastructure rating of "very good" over the last ten years.[17]

- Regardless of Native Hawaiian enrollment levels, school infrastructure ratings have increased steadily in the last decade.
- From 1995 to 2000, predominantly Native Hawaiian schools lagged behind others in facilities maintenance but have since caught up.
- Disparities in infrastructure were most apparent in school exteriors, interiors, and health and safety conditions (not shown).

FIGURE 4.50 Trends in schools with "very good" infrastructure as a percentage of all public schools, by level of Native Hawaiian enrollment [state of Hawai'i, school years 1990–91 to 2002–03]



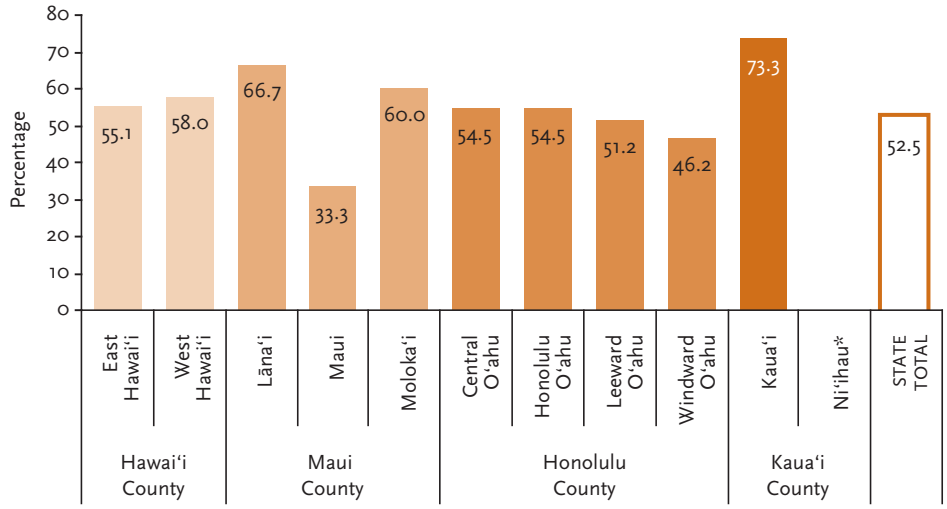
Source: Hawai'i Department of Education n.d.

17. For this analysis, we use the proportion of schools receiving a "very good" rating as the basis for analyses. This approach allows a simplified means of tracking trends over time, using a single variable. Further, the number of schools with "unacceptable" ratings is extremely low, making it unsuitable for analytical purposes. Most of the variation in scores occurs between the "satisfactory" and "very good" ranges; we therefore concentrate our analytical efforts on these differences.

By contrast, a regional comparison of infrastructure ratings suggests relative geographic equity. Figure 4.51 shows the most recent three-year average in the percentage of schools receiving "very good" infrastructure ratings.

- Infrastructure ratings were lowest on the predominantly urban island of O'ahu. Just 54.5 percent of Honolulu schools and 46.2 percent of Windward O'ahu schools were judged "very good."
- Time trend data for the past decade (not shown) suggest an upward trend in infrastructure ratings that is consistent across all regions.
- Trend data also indicate that regions with the poorest infrastructure ratings in the early 1990s (i.e., Kaua'i and West Hawai'i) were those with the highest proportion of top-rated schools in later years. Moloka'i and East Hawai'i, each of which began to fall behind other regions in the mid-1990s, emerged in 2001 with a comparatively high percentage of "very good" schools.

FIGURE 4.51 Schools with "very good" infrastructure as a percentage of all public schools, by geographic region
[state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education n.d.
* Data for Ni'ihau are either unavailable or too limited to yield reliable results.

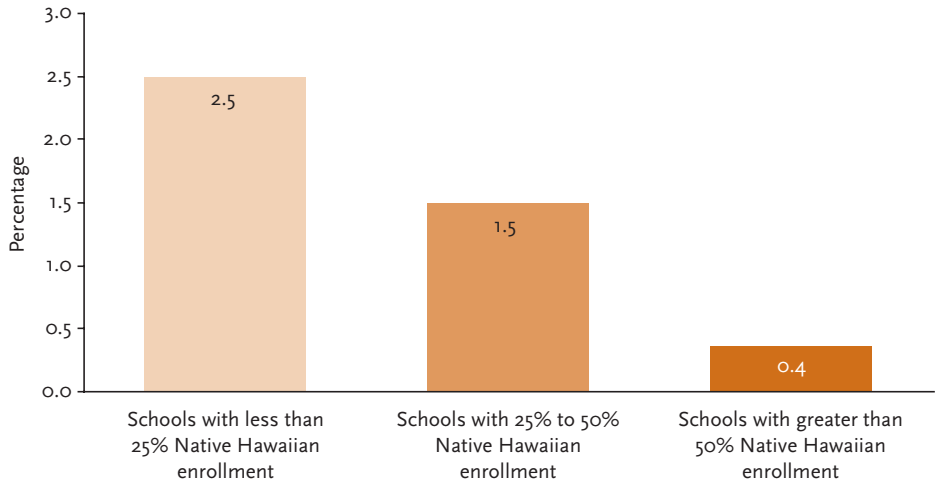
The patterns in regional infrastructure rankings in recent years (not shown) suggest a concerted effort by the Hawai'i Department of Education to pump capital resources into its most needy schools. The region with the poorest school infrastructure receives an influx of resources and, five years later, will likely have the best school infrastructure, at which point other areas that have foregone improvements in recent years will receive their own capital funds. In essence, capital resources are channeled into those regions that need it most in any given year, ensuring that, at some point, all schools receive necessary upgrades to their infrastructure. However, the need to rotate capital funds between regions suggests that the Hawai'i Department of Education lacks sufficient resources to simultaneously maintain all school facilities at a high level.

Although the *quality* of school facilities is important, the *quantity*—the adequacy of space for student, teacher, and staff needs—is another measure of school infrastructure that may affect student learning experiences. As the population in a given community grows, so too do the spatial requirements of that community's schools.

Overcrowded classrooms have been a common complaint within public schools. It is a problem that may have very real consequences for student learning, especially low-income and minority students who benefit from smaller class sizes (e.g., see Ferguson 1998a). Figure 4.52 and Figure 4.53 show the shortage or surplus of school classrooms as a percentage of the total number of classrooms needed. As with previous analyses, data are aggregated by the size of a school's Native Hawaiian population and by the region in which a school is located. As a result of its broad breakdown, Figure 4.52 masks much of the classroom space problem that becomes apparent in Figure 4.53.

- In school year 2001–02, the three school groups shown in Figure 4.52 were not, in the aggregate, short on classrooms. This does not mean that all individual schools within each group had space to spare, but rather that the sum of all surplus classrooms in each group exceeded the total unmet classroom needs within that group.
- Differences in the size of classroom surpluses were apparent. Of the thirty-four predominantly Native Hawaiian schools, only four had surplus classrooms, amounting to 0.4 percent of their total estimated classroom needs. By contrast, schools with low levels of Native Hawaiian enrollment (less than 25 percent) had 2.5 percent more classrooms than their aggregate classroom space needs.

FIGURE 4.52 Surplus of classrooms as a percentage of public school classrooms needed, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2001–02]

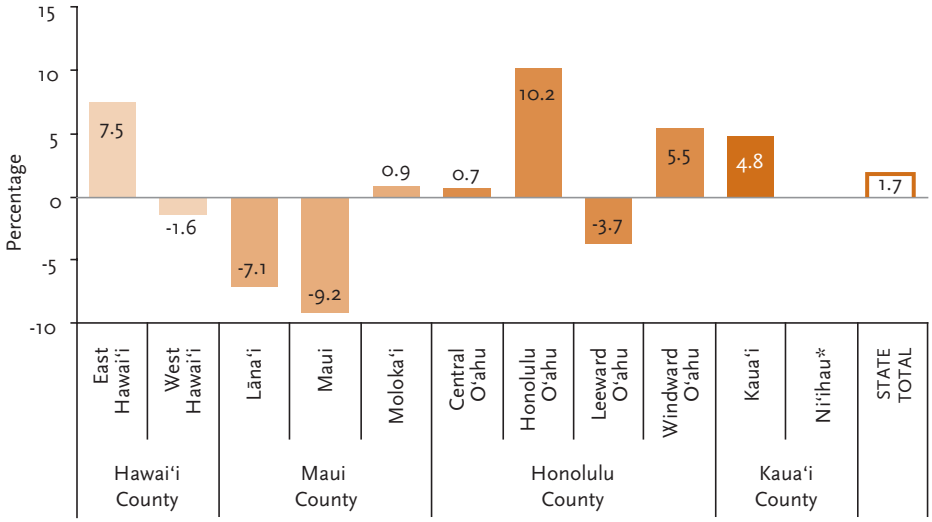


Source: Hawai'i Department of Education 2002.

Figure 4.53 illustrates substantial regional inequities with respect to classroom space.

- The number of classrooms in Honolulu exceeded the region's requirements by 10.2 percent—the highest classroom surplus among the eleven geographic areas shown.
- Maui Island was 9.2 percent short of its classroom needs. Lāna'i, Leeward O'ahu, and West Hawai'i also suffered a shortage of classrooms, though none as extreme as that of Maui.

FIGURE 4.53 Shortage/surplus of classrooms as a percentage of public school classrooms needed, by geographic region [state of Hawai'i, school year 2001–02]



Source: Hawai'i Department of Education 2002.
* Data for Ni'ihau are either unavailable or too limited to yield reliable results.

Overall, the steady increase in school infrastructure ratings over time suggests that the public school system has made substantial progress in maintaining older school buildings and coordinating the capital expansions necessary to meet the needs of a growing population. However, a cursory inventory of physical resources and school facilities points to a number of spatial inadequacies. Such shortages suggest that the tightly budgeted public school system is in need of additional resources. Despite such limitations, Hawai'i schools appear to be equipped with the facilities necessary to accommodate classroom learning for Native Hawaiian children.

School Characteristics and Status

As a prelude to measuring individual student success, we assess the educational system at the school level. Based on available data, we find that schools with the highest concentrations of Native Hawaiian students are often furthest behind in meeting the state benchmarks required under the No Child Left Behind Act.

The Hawai'i Department of Education issues an annual report that reviews indicators of overall school performance for each public school. These regular assessments serve a dual purpose. First, they allow systematic tracking to identify schools in need of assistance. Second, the reviews fulfill federal reporting requirements mandated under the No Child Left Behind Act.

The yearly assessments of adequate yearly progress (AYP) result in schools being assigned to one of three categories: (1) corrective action, (2) needs improvement, or (3) good standing.[18] Whereas schools in good standing require no changes in a specific year, schools that do not achieve AYP for two consecutive years are classified as in need of improvement. If such schools do not achieve AYP for another two years, they are classified as requiring corrective action and must develop a plan for comprehensive school reform. Corrective action schools that continue to fall short of their AYP targets are eventually subject to restructuring. Thus, school status serves as an indicator not only of academic standards and student achievement but also of progress over time. Corrective action schools represent those schools that have repeatedly failed to meet benchmarks set by the state.

Figure 4.54 shows the percentage of schools that achieved AYP for the 2002–03 academic year. Schools with high concentrations of Native Hawaiian students struggle more to meet NCLB benchmarks than do other public schools.

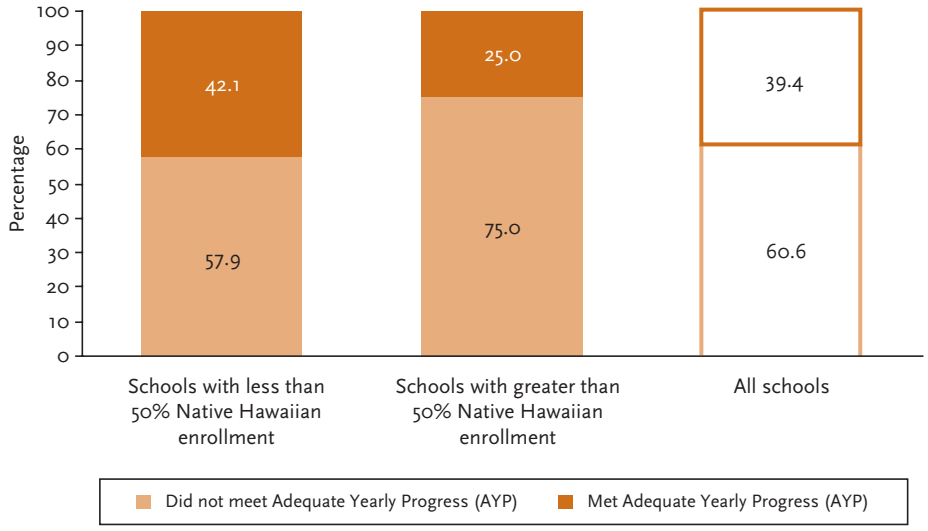
- Schools with smaller concentrations of Native Hawaiians were more than one and a half times as likely to achieve AYP than were schools in which Native Hawaiians accounted for the majority of students.
- One in every four predominantly Native Hawaiian schools (25.0 percent) met AYP goals for the 2002–03 academic year.

Figure 4.55 illustrates similar patterns with respect to the relationship between Native Hawaiian enrollment levels and NCLB status.

- Predominantly Native Hawaiian schools were twice as likely to be in "corrective action" status as were schools with lower levels of Native Hawaiian enrollment (38.6 percent compared with 17.6 percent).
- More than half of all predominantly Native Hawaiian schools (55.9 percent) earned the "good standing" status. By contrast, more than three out of four schools that served smaller Native Hawaiian populations (76.8 percent) were in good standing.

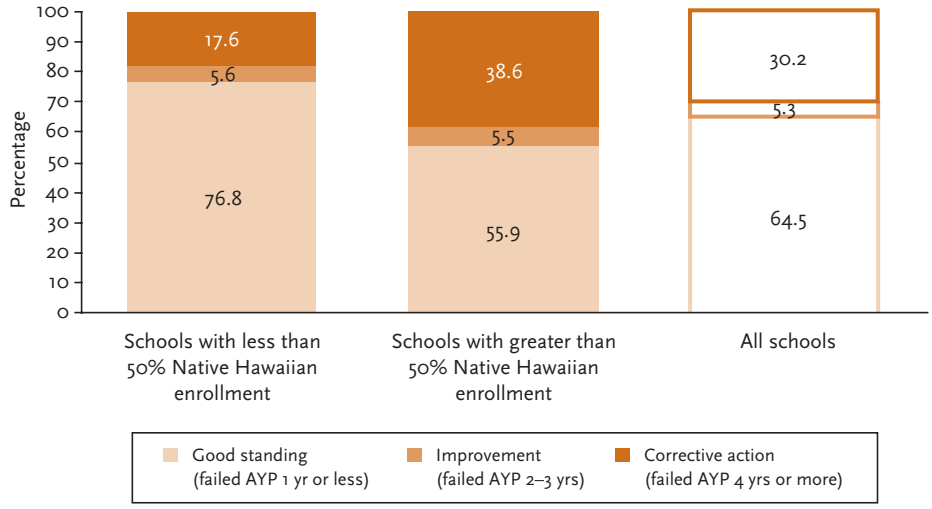
18. AYP is measured by up to thirty-seven criteria based primarily on the school's academic assessments and educational outcomes, such as student test scores, retention, and graduation rates. Statewide benchmarks are set for each indicator of student success. Benchmarks are increased over time to promote ongoing improvement. To achieve AYP, schools must meet or exceed those benchmarks. Furthermore, subsets of the student body, representing racial/ethnic groups and economically disadvantaged, disabled, or Limited English Proficient students, must each meet the benchmarks.

FIGURE 4.54 Adequate yearly progress status of public schools, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education 2003b.

FIGURE 4.55 Distribution of NCLB status among public schools, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2002–03]

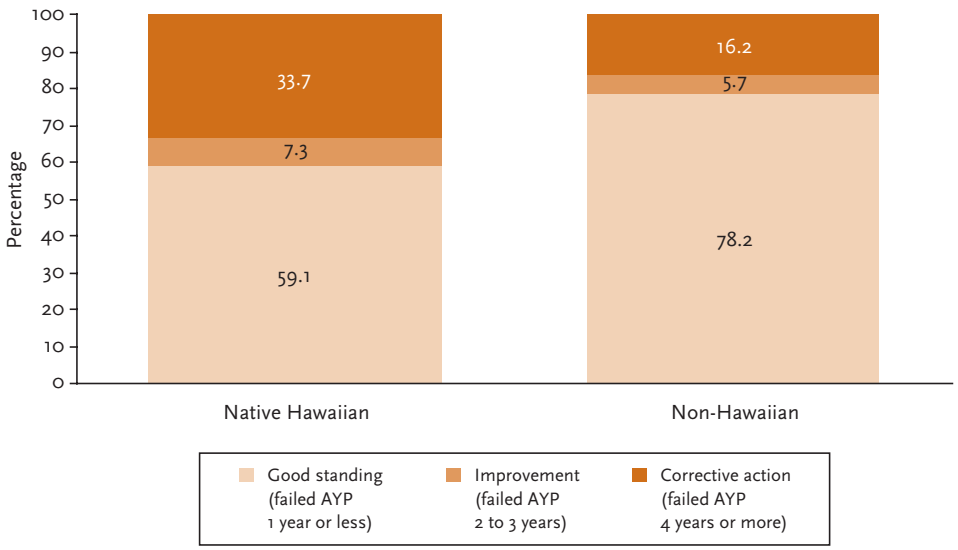


Source: Hawai'i Department of Education 2003b.

Figure 4.56 shows a different perspective: a comparison of the NCLB status of the schools that Native Hawaiian and non-Hawaiian students attend.

- About one-third (33.7 percent) of Native Hawaiian students in the public school system attended corrective-action schools, compared with 16.2 percent of non-Hawaiian students. This means that Native Hawaiian children were twice as likely as their peers to attend a school that struggled to meet government standards.
- Approximately three in five Native Hawaiian students (59.1 percent) and four in five non-Hawaiian students (78.2 percent) were enrolled in schools deemed in "good standing."

FIGURE 4.56 Distribution of public school students according to their school's NCLB status [by Native Hawaiian ethnicity, state of Hawai'i, school year 2002–03]

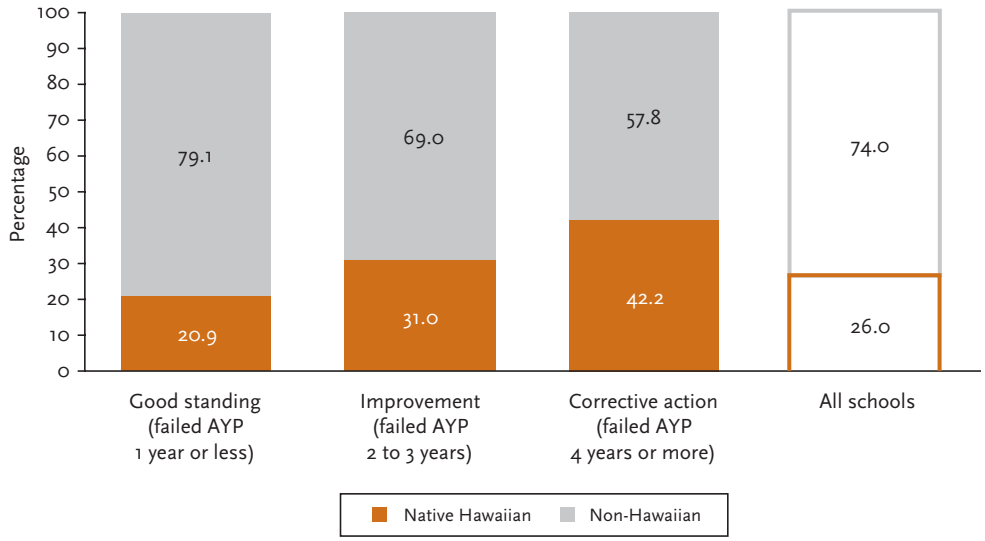


Source: Hawai'i Department of Education 2003b.

Figure 4.57 depicts the student population among schools that are in good standing, in need of improvement, and in corrective action.

- Corrective-action schools were populated by a disproportionately high number of Native Hawaiian students. In the 2002–03 academic year, 42.2 percent of students in corrective-action schools were Native Hawaiian.
- Although Native Hawaiians accounted for 26.0 percent of statewide student enrollment, they constituted just 20.9 percent of students in "good standing" schools. In corrective-action schools, the percentage of students who are Native Hawaiian was more than double that of schools in good standing (42.2 percent versus 20.9 percent).

FIGURE 4.57 Native Hawaiians as a percentage of all public school students, by NCLB status of school
[by Native Hawaiian ethnicity, state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education 2003b.

In March of 2005, the Hawai'i Department of Education announced that twenty-four public schools would be restructured under the No Child Left Behind Act (Hawai'i Department of Education 2005). Because these schools have been unable to meet their AYP targets for five consecutive years, they will receive additional support from the Hawai'i Department of Education and the active involvement of complex area superintendents in administrative, curricular, and instructional affairs. Table 4.10 and Table 4.11 show that Native Hawaiian students are more likely to attend public schools targeted for restructuring than are their non-Hawaiian peers.

- Almost half of the twenty-four schools targeted for restructuring (eleven schools or 45.8 percent) serve predominantly Native Hawaiian student populations. Among the 261 other schools not targeted for restructuring, just thirty-nine (14.9 percent) are predominantly Native Hawaiian (Table 4.10).
- More than one in five predominantly Native Hawaiian schools (22.0 percent) is targeted for restructuring. Just 5.5 percent of schools in which Native Hawaiians account for less than half of the student population are targeted for restructuring.

TABLE 4.10 NCLB restructuring status of public schools, by level of Native Hawaiian enrollment [state of Hawai'i, school year 2004–05]

	Less than 25% of students are Hawaiian	25% to 50% of students are Hawaiian	More than 50% of students are Hawaiian	All schools
All schools	135	100	50	285
Schools to be restructured	7	6	11	24
Other schools	128	94	39	261

Data source: Hawai'i Department of Education 2004–05.

- Native Hawaiian public school students are twice as likely to attend a school targeted for restructuring as are their non-Hawaiian peers (Table 4.11). Roughly one in eight Native Hawaiian students (12.7 percent) attends restructuring schools, compared with approximately one in seventeen non-Hawaiian students (6.2 percent).
- Native Hawaiian students are overrepresented in schools targeted for restructuring. Native Hawaiians account for 42.4 percent of the students enrolled in the twenty-four restructuring schools, but just 26.4 percent of total public school enrollment (not shown).

TABLE 4.11 Distribution of public school students according to their school's NCLB restructuring status [by Native Hawaiian ethnicity, state of Hawai'i, school year 2004–05]

	Schools to be restructured	Other schools
All students	7.9	92.1
Native Hawaiian students	12.7	87.3
Non-Hawaiian students	6.2	93.8

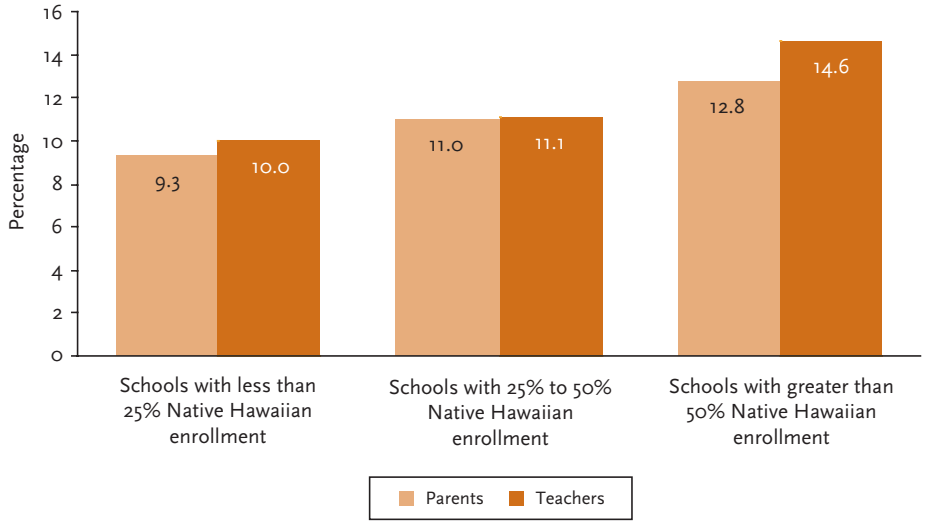
Data source: Hawai'i Department of Education 2004–05.

Results from the Hawai'i Department of Education's SQS shed light on the strengths and weaknesses of Hawai'i schools from the perspective of teachers and parents. Figure 4.58 through Figure 4.60 indicate that parents and teachers at predominantly Native Hawaiian schools may have more negative views of their schools than do parents and teachers at schools with fewer Native Hawaiian students.

Although SQS results generally show that the proportion of negative responses increased with higher levels of Native Hawaiian enrollment, in most cases the differences were not statistically significant. Ratings of schools' responsiveness, standards-based learning practices, and efforts at focused and sustained action all became increasingly negative as Native Hawaiian enrollment increased, but not by statistically significant margins. We therefore show only those figures that yielded statistically significant results.

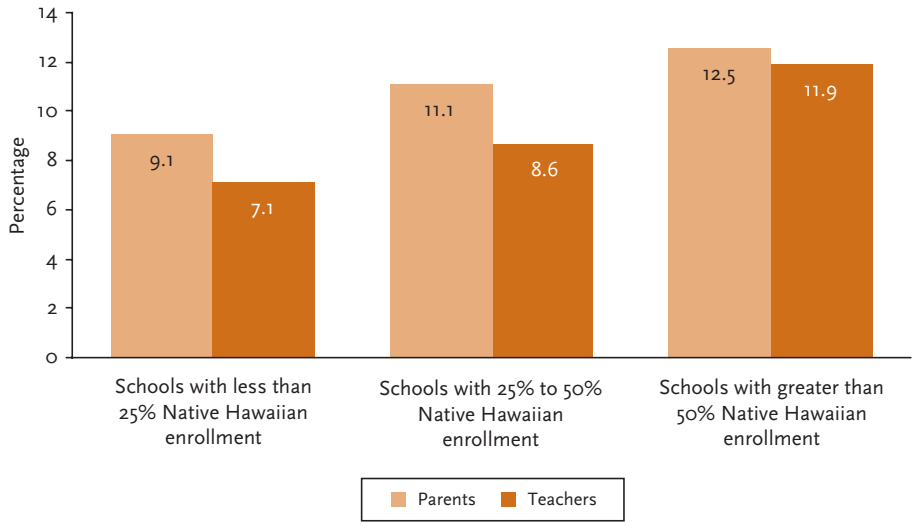
- When asked about the quality of student support services at their schools (Figure 4.58), both parents and teachers in predominantly Native Hawaiian schools were significantly more likely to answer with a negative response than were parents and teachers in schools with lower levels of Native Hawaiian enrollment.
- The safety and well-being ratings (Figure 4.59) among both parents and teachers in predominantly Native Hawaiian schools were significantly more negative than the ratings of parents and teachers in schools with smaller concentrations of Native Hawaiian students.
- The parent satisfaction rates for predominantly Native Hawaiian schools were significantly lower than those for schools with smaller concentrations of Native Hawaiian students (Figure 4.60). Approximately one-fifth (18.6 percent) of parents in predominantly Native Hawaiian schools responded in the negative when asked about satisfaction with their school. By comparison, the negative response rate was 14.2 percent among parents from schools with lower concentrations of Native Hawaiians.

FIGURE 4.58 Parents and teachers reporting negative ratings of their school's student support systems as a percentage of all public school parent and teacher respondents [by type of respondent, by level of Native Hawaiian enrollment, state of Hawai'i, school year 2002–03]



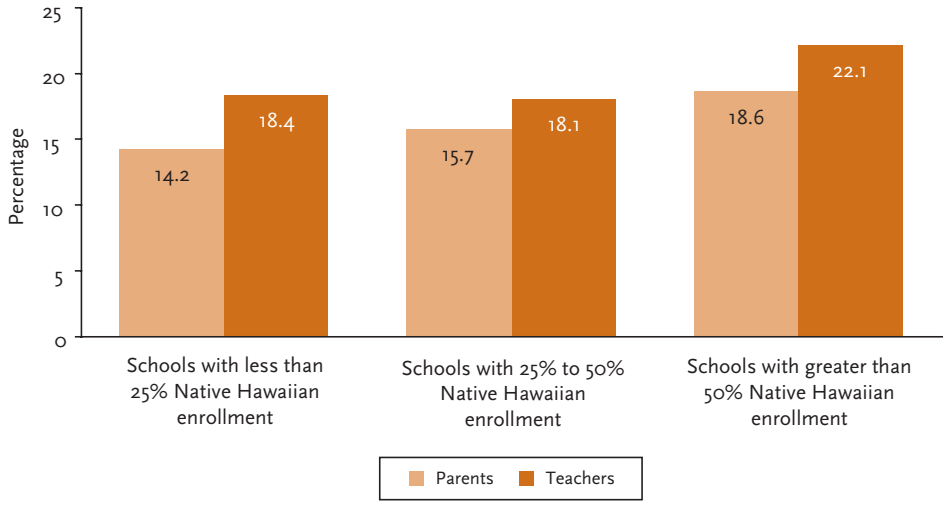
Source: Hawai'i Department of Education 2003c.

FIGURE 4.59 Parents and teachers reporting negative ratings of student safety and well-being in their school as a percentage of all public school parent and teacher respondents [by type of respondent, by level of Native Hawaiian enrollment, state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education 2003c.

FIGURE 4.60 Parents and teachers reporting dissatisfaction with their school as a percentage of all public school parent and teacher respondents [by type of respondent, by level of Native Hawaiian enrollment, state of Hawai'i, school year 2002–03]



Source: Hawai'i Department of Education 2003c.

Simply put, data from the state's NCLB reports and the SQS show that Native Hawaiian students are disproportionately enrolled in struggling schools. These findings suggest the need for strong collaborative partnerships to help schools provide high-quality educational opportunities for all students, especially Hawai'i's indigenous children.

Multivariate Analysis: Identifying Successes

Our analysis has thus far highlighted significant challenges in Native Hawaiian education. There are, however, pockets of especially bright hope within the Hawai'i public school system where, perhaps against the odds, Native Hawaiian students achieve significant and positive academic outcomes. For example, we performed a simple regression on the test scores of Native Hawaiian students to allow us to estimate the effects of certain basic school characteristics on achievement. Specifically, we examined school size, level of Native Hawaiian enrollment, and the percentage of students in a school who receive subsidized lunches (a common proxy for poverty). From these estimates, we calculated a predicted test score average for Native Hawaiians in each school, based on that school's characteristics. We then looked at the difference between the predicted test score value for Native Hawaiians and the actual value. In some schools, Native Hawaiian students were performing significantly better than predicted, given the schools' background traits. The results highlighted a number of schools—ten at the high school level, nine at the middle school level, and fourteen at the elementary level—where Native Hawaiian students are beating the odds and achieving great success. These promising schools span a broad socioeconomic range and include schools in which more than 85 percent of students were Native Hawaiian and more than 85 percent were low income. Such results suggest that many public schools foster high achievement among Native Hawaiian students and offer hope that similarly positive outcomes can be achieved for all Native Hawaiian children. Further research is needed to identify how these schools and communities are supporting their students differently.

Achievement Test Data

The Role of Race and Ethnicity in Student Achievement

The educational challenges Native Hawaiians face are mirrored by a larger struggle taking place both nationally and internationally, the causes of which are too complex and multidimensional to be traced to a single offending source. At the global level, a study by the United Nations found that educational achievement gaps between dominant majorities and disadvantaged minorities are apparent in all developed nations, with the United States sustaining some of the largest inequities (United Nations Children's Fund 2002). Throughout the United States, the achievement gap between Whites and disadvantaged racial/ethnic minorities is a topic of wide discussion and heated debate in education policy circles. The ongoing nature of this broad and contentious discourse suggests that the achievement gap between Native Hawaiians and other students in the state is not just a problem with the Hawai'i public school system, nor is it a problem confined to the Native Hawaiian community. Rather, it is part of a global issue with larger societal forces at its root.

The differences in achievement by students' race or ethnicity are widespread in American education. The National Assessment of Educational Progress (NAEP) results for the last twenty years provide evidence of this problem. For example, in Grade 4 and Grade 8, the average reading score gaps between White and African-American/Black students and between White and Hispanic students in 2003 were not found to differ significantly from those in 1992 or 2002 (National Center for Education Statistics 2003b). In mathematics, the average difference in scores between White and African-American/Black students narrowed between 1990 and 2003, although the gap remains substantial. The gap in mathematics between White and Hispanic students in 2003 did not differ significantly from that in 1990 (National Center for Education Statistics 2003a).

An extensive body of literature has documented the U.S. gap over time and puzzled over its causes. Yet, despite the public attention and intellectual resources focused on the achievement gap, no clear consensus has been reached as to its source or its resolution. Stakeholders and researchers argue different—and often equally compelling—explanations for the gap. From these varied perspectives, the most prominent theories can be roughly grouped into two schools of thought: one that points to family and background characteristics as the cause of the achievement gap and the other that focuses on school-based factors. The following discussion is a brief review of recent literature on the achievement gap.

Family and Background Factors. In a society in which all aspects of well-being are intertwined with race/ethnicity and socioeconomic status, it is difficult to distinguish cause from effect. Many educational researchers and policymakers assert that the achievement gap echoes broader inequities in our society—socioeconomic disparities that underlie educational gaps and convert the financial and social problems of the disadvantaged into measurable lags in children's achievement (Brooks-Gunn and Klebanov 1996; Hughes 2003; Phillips et al. 1998; Rothstein 2004). According to this theory, the underperformance of Native Hawaiian children in school is due to financial insecurity at home, exposure to substance abuse or domestic violence, the presence of dangerous or isolated communities, and the disengagement that results from discrimination. In a society characterized by social and economic gaps, should schools be expected to overcome the larger problems children bring from home into the classroom? An extensive body of work contends that the achievement gap will narrow when the larger social and economic rifts in our society begin to close (Brooks-Gunn and Klebanov 1996; Hughes 2003; Phillips et al. 1998; Rothstein 2004).

Several studies find that income and poverty are powerful factors in minority achievement, primarily through their effect on parenting practices. Rothstein (2004) points out that poor and working-class parents are less likely than their middle-class and affluent counterparts to read to their children and to initiate developmentally stimulating conversations with their children. Hughes (2003) argues that socioeconomic status and ethnicity act on mathematics achievement by determining choice of early childhood education arrangements, parenting practices, and types of parental involvement in school. Although Brooks-Gunn and Klebanov (1996) use intelligence test outcomes rather than achievement, their study confirms the strong influence of family and background traits on children's development, showing that poverty (both family and neighborhood), home environment, and parenting practices explain away nearly all differences in the IQ scores of Black and White children. Phillips et al. (1998) find that the effect of income is surprisingly small but conclude that the bulk of the Black–White gap in vocabulary scores can be explained by educational attainment of parents and parenting practices, along with a broader range of family traits such as "grandparents' educational attainment, mothers' household size, mothers' high school quality, mothers' perceived self-efficacy, children's birthweight, and children's household size" (p. 138).

Other forces outside the classroom that may contribute to depressed minority achievement include peer values and mental health (Becker and Luthar 2002), as well as perceptions of bias and discrimination (Steele and Aronson 1998). Steele and Aronson argue that the Black–White gap in test scores disappears when one removes for Black students the perceived threat of being negatively stereotyped. Their findings are not an accusation of bias in the classroom so much as a reminder that students' personal experiences and their understanding of social injustices have a powerful effect on their performance.

School Factors. Other researchers and educational stakeholders are unwilling to absolve school systems of responsibility, arguing that a student's family life and background may, indeed, offer mitigating circumstances, but that the learning environment still matters. Fryer and Levitt (2004) found that even when Black and White children enter school on equal footing,[19] a gap begins to emerge within the first two years of schooling. Their results suggest that something within the schooling process itself initiates and sustains the lag in Black students' achievement. Cook and Evans (2000) look to the past for answers, trying to determine the reasons for the substantial decrease in the achievement gap between Black and White children since the 1970s. They conclude that only a small portion of the reduction can be attributed to changes in family traits and that the narrowing of the gap primarily occurred within schools, among White and Black students with similar family characteristics.

But if the achievement gap is grounded at least partially in schools, what are the specific mechanisms by which it emerges? Ferguson argues in a number of studies that teacher qualifications, training, and certification are important determinants of student achievement (Ferguson 1998a, 1998b; Ferguson and Mehta 2004). Specifically, a shortage of high-quality teachers in low-ability tracks and in high-minority/high-poverty schools contributes greatly to the gap between Whites and disadvantaged minorities (Ferguson 1998a; Ferguson and Mehta 2004).

Other studies suggest that teachers hold lower expectations and develop less challenging curricula for minority students, which may inadvertently depress their achievement levels (Ferguson 1998b; Holloway 2004). For example, Ferguson (1998b) concludes:

> Stereotypes of black intellectual inferiority are reinforced by past and present disparities in performance, and this probably causes teachers to underestimate the potential of black children more than that of whites. If they expect black children to have less potential, teachers are likely to search with less conviction than they should for ways to help these children to improve, and hence miss opportunities to reduce the black–white test score gap. (p. 312)

Becker and Luthar (2002) similarly argue for the importance of teacher–student relationships, attributing significant portions of the achievement gap to differences in "academic and school attachment" (i.e., motivation to learn) and "teacher support." Ferguson (1998a) also finds that class size affects the difference in Black and White achievement scores, and proposes that smaller classes may benefit Blacks more than Whites, in part because disjunctions in the relationships between teachers and Black students improve when teachers can work with smaller and more manageable groups.

19. Fryer and Levitt do not argue that the achievement gap never existed among toddlers and very young children, but rather that social progress over the last century has finally culminated in a level playing field at the time of entry into formal education.

Ikpa (2003) looks to the school environment as a source of the gap. Ikpa's study examines an increasingly resegregated school district and finds that, in contrast to national trends showing greater parity between minority and majority students, the achievement gap in the resegregated district is actually growing. Ikpa concludes that differences in the social composition, economic and educational resources, and overall quality of a school setting all matter and tend to mirror race-based inequities apparent in the larger society.

Kober (2001) argues that resolution of the achievement gap requires comprehensive school reform that increases access to academically rigorous courses, improves teacher training, reduces class size, enhances access to early childhood education, expands after-school support systems, and channels additional educational resources (i.e., both funds and high-quality teachers) into high-minority, high-poverty schools.

In summary, although some common themes have emerged from the achievement gap literature, there is no clear consensus on the causes of the achievement gap. From our literature review, the most scientifically rigorous studies suggest that the gap cannot be traced to a single source but rather that a multitude of family, social, and school factors contribute to the gap in varying degrees. Many of the authors and researchers cited above focused on one set of potential causes for the achievement gap but implicitly acknowledged the influence of other factors, both within the home and within the classroom. Several studies that attempt to develop comprehensive strategies for narrowing the gap target the school and home environment as arenas for action (Barton 2003; Bennett et al. 2004). In an attempt to reduce and eventually eliminate this persistent gap, the No Child Left Behind Act requires that student outcomes be reported by race or ethnicity and insists that all students in each group achieve full reading and mathematics proficiency by 2014 (Hawai'i Department of Education 2003a). In Hawai'i this mandate has particular implications for Native Hawaiians and predominantly immigrant ethnic groups who find themselves on the lower rungs of the socioeconomic and educational ladder.

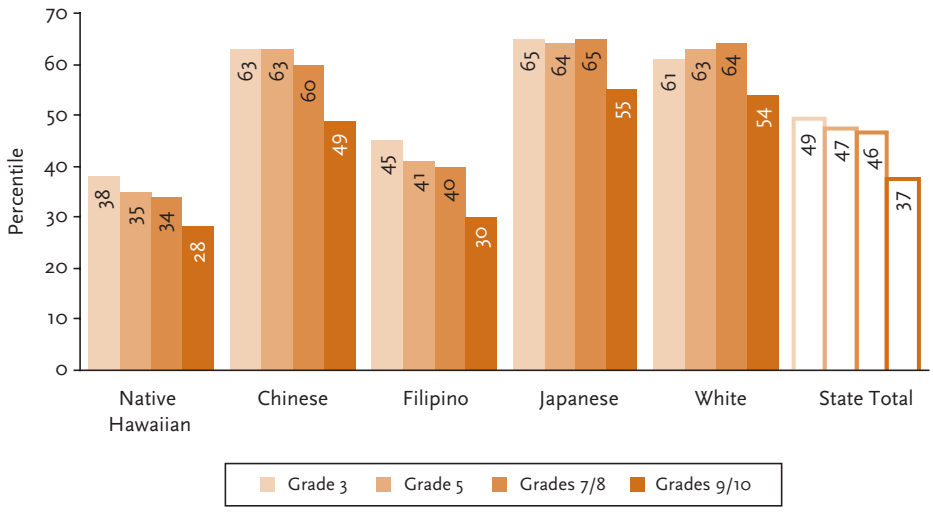
Because the achievement gaps that are shown in the following pages cannot be attributed to any single institution or social problem, the responsibility for equitable reform rests with all stakeholders. In Hawai'i, resolution of the gap requires an unflinching look at the current status of Native Hawaiian students and a willingness to explore the shared responsibility for curtailing the perpetuation of educational disparities. The goal of such an exploration is not to lay blame but rather to identify factors that contribute to or sustain achievement gaps and, from that understanding, to seek solutions.

Racial/Ethnic Differences in Achievement

Reading. Achievement outcomes for Native Hawaiian children remain the lowest of all major ethnic groups in Hawai'i public schools throughout elementary and secondary school. Figure 4.61 shows SAT-9 reading data aggregated across years 1999, 2000, 2002, and 2003.[20]

- Native Hawaiian reading scores lagged behind total public school averages by 9 to 12 percentiles across all grade levels tested.
- The reading scores of Native Hawaiian students were consistently about 30 percentiles lower than the highest scoring ethnic groups in the public school system, Japanese students.
- Native Hawaiian students at the middle and high school level tended to score lower compared with national norms than did their elementary school counterparts. Native Hawaiian third graders scored, on average, at the 38th percentile in reading, while Native Hawaiian tenth graders scored at the 28th percentile. This pattern of declining scores in successively higher grade levels was also apparent among Chinese, Filipinos, and the statewide averages.

FIGURE 4.61 Percentile rank of average reading score among public school students, by race/ethnicity [SAT-9, by grade level, state of Hawai'i, school years 1998–99 to 2002–03 (combined)*]



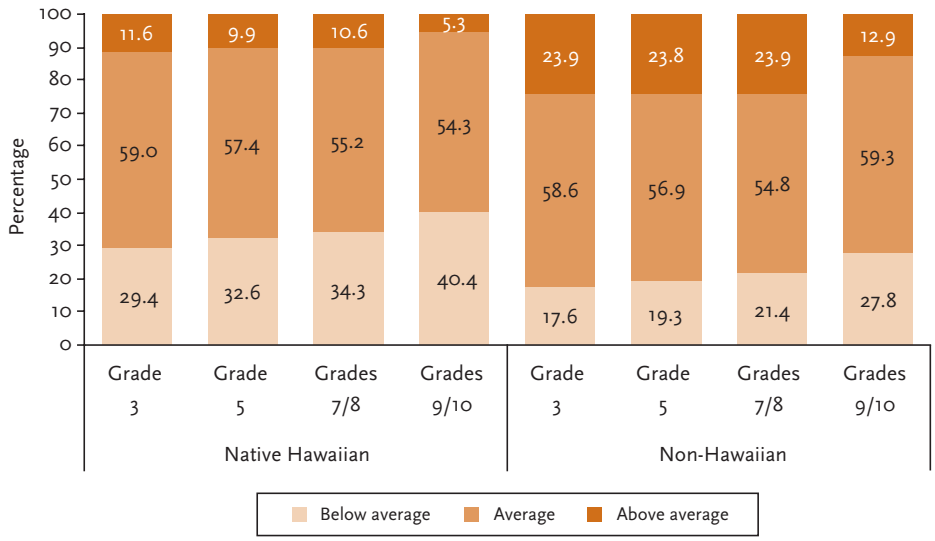
Data source: Hawai'i Department of Education 1998–99 to 2002–03.
* No test data are available for school year 2000–01 owing to a teacher's strike that year.

20. The years listed appear different from those in Figure 4.61 because test scores are recorded in the spring (e.g., 1999) of the school year (e.g., 1998–99).

Figure 4.62 separates the scores of Hawai'i public school students into three ranges—below average, average, and above average—based on how they compare with national norms.[21] Figure 4.62 shows a steady decline of scores in higher grade levels and further highlights the significant disparities between the scores of Native Hawaiian students and those of non-Hawaiians. In reading, Native Hawaiian students were consistently more likely than non-Hawaiians to score in the below-average range and less likely to score in the above-average range.

- Across all grade levels, Native Hawaiian students earned above-average scores at less than half the rate of non-Hawaiian students.
- Native Hawaiian students were significantly more likely than their non-Hawaiian peers to perform below average in reading. Among high school students, 40.4 percent of Native Hawaiians earned scores in the below-average range, compared with 27.8 percent of non-Hawaiians.
- Among Native Hawaiians, higher grade levels were associated with lower reading scores. Tenth graders were less than half as likely to score in the above-average range in reading as were third graders (5.3 percent versus 11.6 percent, respectively). This pattern was generally consistent with the distribution of reading scores among non-Hawaiians.

FIGURE 4.62 Distribution of reading achievement levels among public school students, by Native Hawaiian ethnicity
[SAT-9, percentage distribution across performance levels, by grade level, state of Hawai'i, school years 1998–99 to 2002–03 (combined)*]



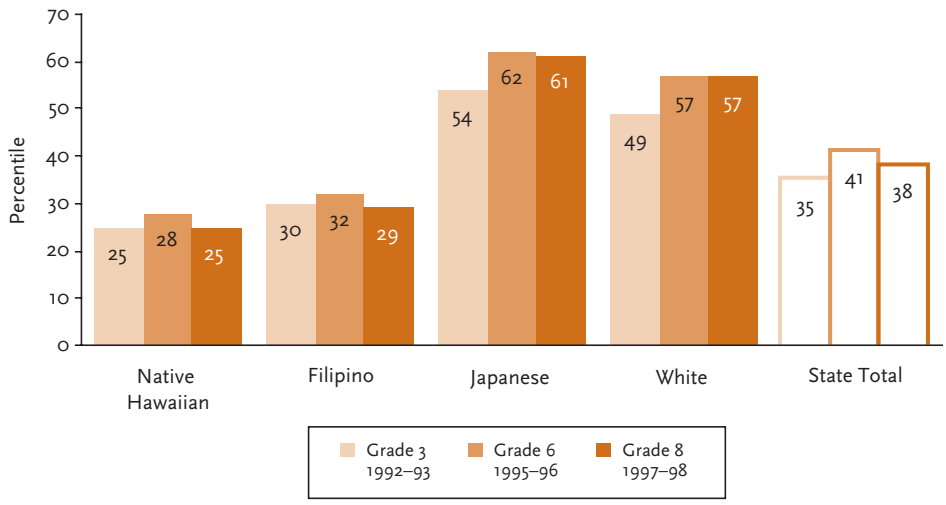
Data source: Hawai'i Department of Education 1998–99 to 2002–03.
* No test data are available for school year 2000–01 because of a teacher's strike that year.

21. In the national norm group, 23 percent of students score in the below-average range, 54 percent score in the average range, and 23 percent score in the above-average range.

Figure 4.63 depicts multiyear reading scores for a single cohort of students from Grade 3 through Grade 8. The results highlight the consistency of the Native Hawaiian disadvantage and the widening of the achievement gap as children age, even after removing students who leave the public school system from the analysis.

- From 1993 to 1998, the average reading score of Native Hawaiian students ranked lowest among the major ethnic groups in the state.
- The gap between the reading scores of Native Hawaiian students and the total public school average increased slightly, from 10 percentiles in Grade 3 to 13 percentiles in Grade 8.

FIGURE 4.63 Trends in percentile rank of average reading score within a single cohort of public school students, by race/ethnicity [SAT-8, by grade level, selected years]



Source: Tibbetts 2002.

These data indicate that Native Hawaiian students consistently score lowest in reading among the major ethnic groups in the state and that Native Hawaiian children may actually fall further behind in reading as they age. But, have Native Hawaiian students achieved any tangible improvement over time? Have Native Hawaiian students begun to close the gap and catch up with their more advantaged peers?

To answer these questions, we examine the gap between the average test scores of Native Hawaiians and those of non-Hawaiians. The comparison is complicated by the fact that the public school system used three different SAT versions over the last ten years, and the scoring for each test version differs slightly because of updates to test content and differences in norm groups.[22] The problem is particularly salient when assessing achievement scores for the year 2002, at which point Hawai'i public school students began taking the abbreviated version of the SAT. Because it has fewer items on which to base scores, the abbreviated version may be less able to distinguish between different achievement levels. To address such potential scoring distortions between different test versions, our analysis relies on both local norms and national norms to estimate the average percentile ranking for each group.[23] (Local norms may be less vulnerable to potential scoring distortions between different test versions.)

Figure 4.64, Figure 4.65, and Figure 4.66 show reading achievement gaps between Native Hawaiians and non-Hawaiians over the last ten years for elementary, middle, and high school, respectively. The data indicate that Native Hawaiian students in the state of Hawai'i have made little progress toward performing at the level of their more advantaged peers.

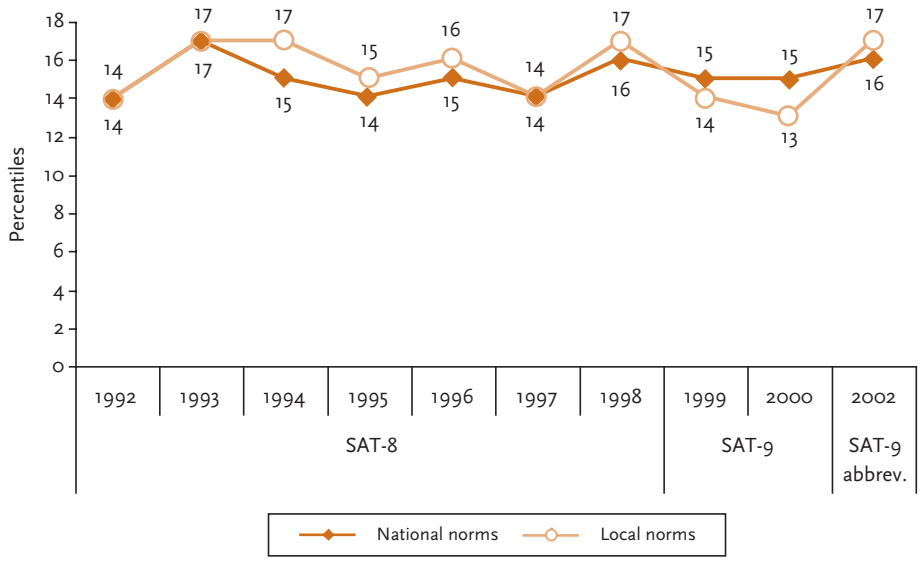
- Despite fluctuations from year to year, the reading gap in the SAT scores of third and fourth graders has remained fairly constant since 1992 (Figure 4.64).
- Using national norms, the reading gap between Native Hawaiians and non-Hawaiians has remained between 14 and 17 percentiles over the past ten years.
- Local norms for elementary students suggest a slight dip in the reading gap during 1990 and 2000, followed by a sharp increase in 2002. However, these shifts in the elementary reading gap correspond with changes in test versions and should, therefore, be interpreted with caution.

Figure 4.65 and Figure 4.66 indicate that Native Hawaiian students in middle and high school appear to be catching up to their non-Hawaiian peers.

- Between 1992 and 2002, the reading gap among middle school students decreased by 6 percentiles (national norms) and 2 percentiles (local norms). This represents a decrease of 30.0 percent (national norms) or 10.0 percent (local norms) over the last ten years.
- At the high school level, the reading gap decreased by 2 percentiles (15.4 percent) under national norms and 2 percentiles (14.3 percent) under local norms.

22. When test publishers issue a new version of a test, the new version typically includes substantial changes in the definitions and coverage of the domains tested to keep pace with changes at the national level in curriculum and performance standards and to accommodate trends in student achievement (e.g., to avoid the "Lake Wobegon effect" where all students are above average). These changes in test content translate to changes in scores when they affect the match between the test content and the local curriculum. An additional source of change in scores across versions is the performance of the norm group. While test publishers strive to create nationally representative norm groups, the performance of groups used in the development of one test can vary from that used for another version. These differences in norm groups affect the equivalence of scores across versions of the test. In an effort to make scores from different versions of a test more comparable, test publishers use a variety of statistical manipulations referred to as "equating." Although equating can help to a degree, it also introduces problematic anomalies in the scores, as was seen with the SAT-9. Further complicating the challenge of using data from multiple versions of one test is the fact that studies have repeatedly found that test equating is not "population invariant," that is, the characteristics of examinees (e.g., race, gender, and geographic region) affect the outcomes of the equating studies (Doran 2004; Kolen 2004; Yang 2004).
23. Local norms rate student scores in relation to the performance of other students within the state's public school system. National norms rate student scores against the performance of all comparable students in the nation.

FIGURE 4.64 Trends in the reading achievement gap between Native Hawaiian and non-Hawaiian students in public elementary schools [difference between percentile ranks of average SAT scores, referenced against national and local norms, Grade 3 or 4, state of Hawai'i, school years 1991–92 to 2001–02*]

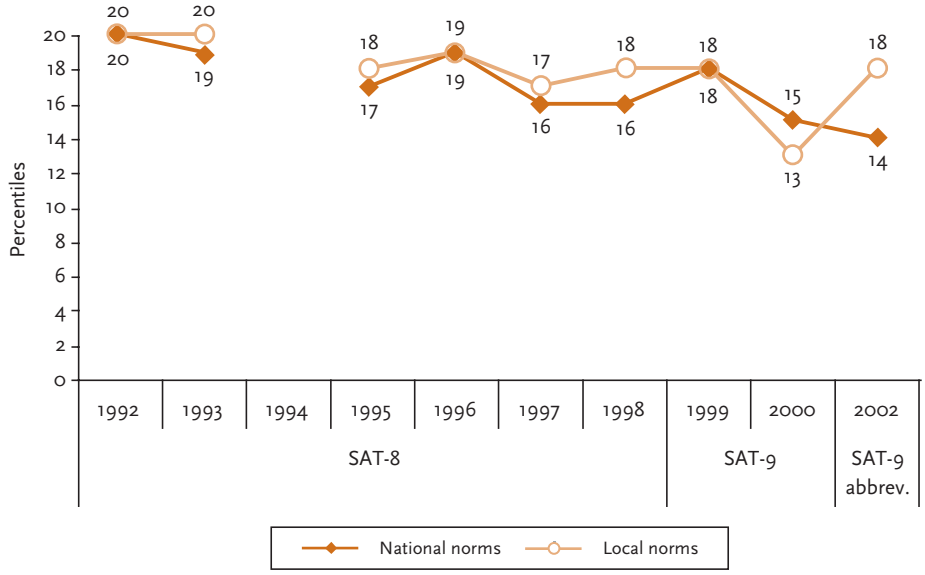


Data source: Hawai'i Department of Education 1991–92 to 2001–02.

* No test data are available for school year 2000–01 because of a teacher's strike that year.

Note: Values in this graph represent differences or gaps in the average test scores of Native Hawaiian and non-Hawaiian students, rather than actual test scores.

FIGURE 4.65 Trends in the reading achievement gap between Native Hawaiian and non-Hawaiian students in public middle schools [difference between percentile ranks of average SAT scores, referenced against national and local norms, Grade 7 or 8, state of Hawai'i, school years 1991–92 to 2001–02*]

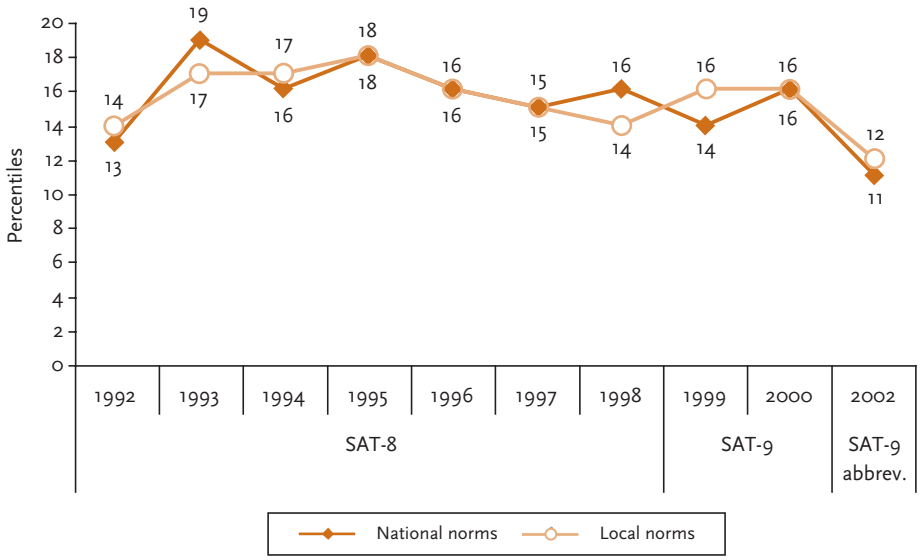


Data source: Hawai'i Department of Education 1991–92 to 2001–02.

* Middle school test data are not available for 1994. No test data are available for school year 2000–01 because of a teacher's strike that year.

Note: Values in this graph represent differences or gaps in the average test scores of Native Hawaiian and non-Hawaiian students, rather than actual test scores.

FIGURE 4.66 Trends in the reading achievement gap between Native Hawaiian and non-Hawaiian students in public high schools [difference between percentile ranks of average SAT scores, referenced against national and local norms, Grade 9 or 10, state of Hawai'i, school years 1991–92 to 2001–02*]



Data source: Hawai'i Department of Education 1991–92 to 2001–02.
Note: Values in this graph represent differences or gaps in the average test scores of Native Hawaiian and non-Hawaiian students, rather than actual test scores.
* No test data are available for school year 2000–01 because of a teacher's strike that year.

Note, however, that the 1992 high school achievement gaps were abnormally low, relative to gaps in subsequent years. If we isolate the period from 1993 (a more typical year) to 2002, the reading achievement gap between Native Hawaiians and non-Hawaiians in high school decreases by 8 percentiles (42.1 percent) under national norms and 5 percentiles (29.4 percent) under local norms. Still, conclusions must be qualified by the possibility that at least part of the apparent gains made by Native Hawaiians may be attributable to the change in test versions. At the middle school level, in particular, local norms show a more moderate (and less consistent) downward trend than do national norms.

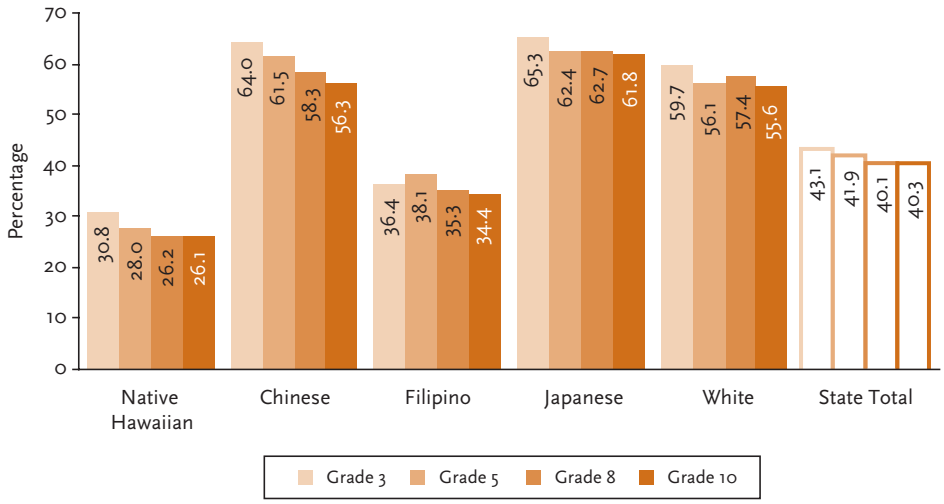
In 1999, in response to a nationwide call for educational reform and standards-based assessments, the Hawai'i Department of Education revised its existing guidelines for content and student performance and developed the *Hawai'i Content and Performance Standards II* (HCPS II). Standards-based assessments offer an alternative view of student performance. The traditional norm-referenced tests—such as the SAT—assign scores on the basis of how a student performs in comparison with other students, meaning that some children must always be ranked at the bottom. By contrast, the criterion-referenced Hawai'i State Assessment (HSA)—which is based on HCPS II—specifies the level at which students

should be performing to be considered "proficient" in a subject matter. The HSA is an attempt to answer the questions of "what good performance looks like" and "what students should know and be able to do" (Hawai'i Department of Education, Office of Accountability and School Instruction Support 2000). The first HSA test was administered to public school students in spring 2002. The high standards resulted in less than half of all students statewide being deemed proficient in reading and just one in every ten students proficient in mathematics.

The reading results, shown in Figure 4.67, indicate that, even within a framework of new tests with higher standards, significant differences were apparent among ethnic groups, consistent with the SAT-9 reading scores discussed previously.

- Native Hawaiians had the lowest HSA reading proficiency rates of all major ethnic groups in the islands. Across Grades 3, 5, 8, and 10, one-third to one-fourth of Native Hawaiian students tested at or above the reading proficiency threshold. Native Hawaiian reading proficiency rates were roughly 30 percent lower than statewide rates and less than half the rates achieved by Japanese students.
- About one-fourth (26.1 percent) of Native Hawaiian tenth graders were deemed proficient readers, suggesting that fully three out of four lacked solid reading skills.

FIGURE 4.67 Students with reading scores at or above "proficient" level as a percentage of all public school students tested, by race/ethnicity [HSA, by grade level, state of Hawai'i, school years 2001–02 to 2002–03 (combined)]



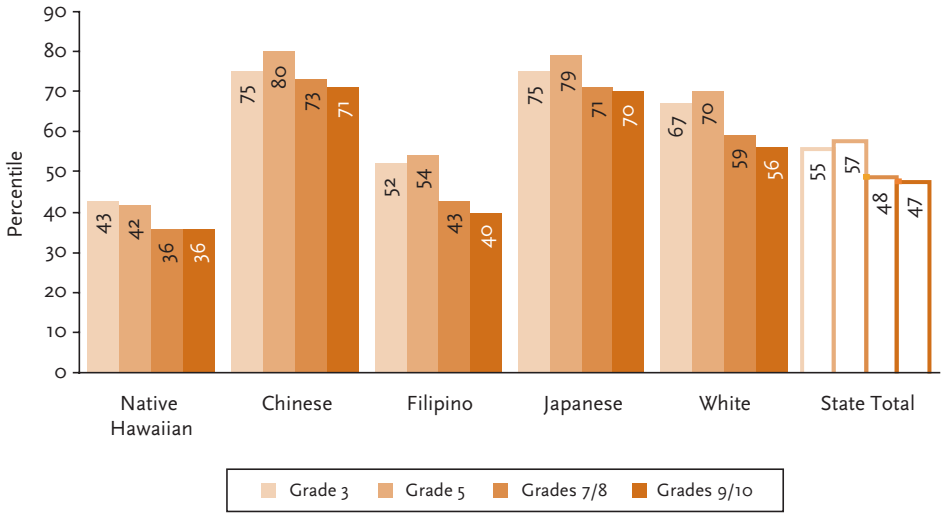
Data source: Hawai'i Department of Education 2001–02 to 2002–03.

Mathematics. In the following charts, we conduct the same set of analyses for mathematics scores, including pooled data across several years, longitudinal tracking, and trends over time.

The mathematics achievement scores of Native Hawaiians are lower than those of other major ethnic groups. Figure 4.68 and Figure 4.69 show SAT-9 math scores aggregated across years 1999, 2000, 2002, and 2003.

- Native Hawaiian students scored the lowest in mathematics of all major ethnic groups in the state. In each grade tested, the average mathematics scores of Native Hawaiian students lagged behind total state averages by 11 to 15 percentiles.
- The mathematics scores of Native Hawaiian students were roughly 35 percentiles lower than those of Chinese and Japanese students, the highest-scoring groups in the state.
- Native Hawaiian students at the middle and high school levels scored lower, in relation to national norms, than did Native Hawaiian elementary students.

FIGURE 4.68 Percentile rank of average mathematics score among public school students, by race/ethnicity [SAT-9, by grade level, state of Hawai'i, school years 1998–99 to 2002–03 (combined)*]

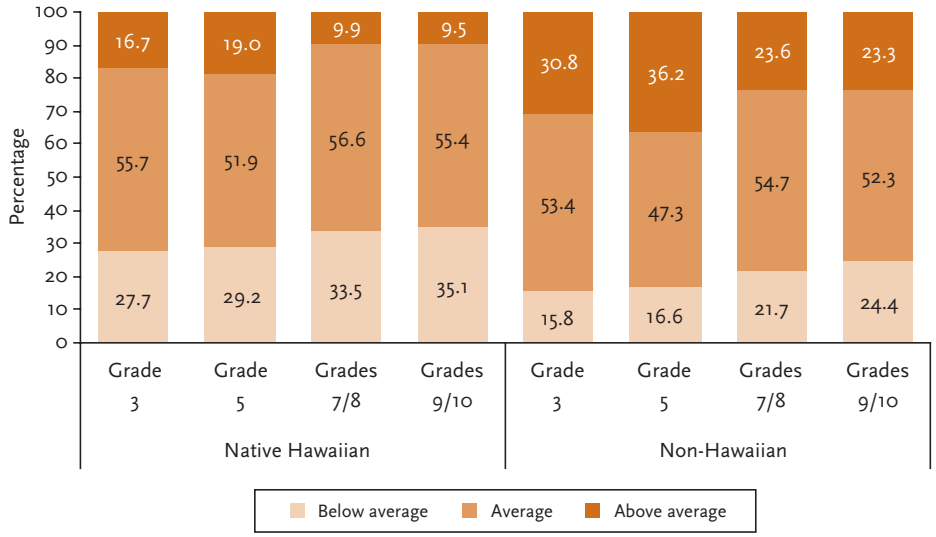


Data source: Hawai'i Department of Education 1998–99 to 2002–03.
* No test data are available for school year 2000–01 because of a teacher's strike that year.

Figure 4.69 displays the same SAT-9 mathematics scores of Native Hawaiian and non-Hawaiian students categorized as below average, average, and above average.

- Native Hawaiian students were significantly more likely than their non-Hawaiian peers to score below average in SAT-9 mathematics and significantly less likely to score above average.
- At the middle and high school levels, non-Hawaiian students earned above-average scores at more than twice the rate of Native Hawaiian students.
- Among Native Hawaiians, students at the secondary level were more likely to score in the below-average range and less likely to score in the above-average range than were elementary school students.

FIGURE 4.69 Distribution of mathematics achievement levels among public school students, by Native Hawaiian ethnicity [SAT-9, percentage distribution across performance levels, by grade level, state of Hawai'i, school years 1998–99 to 2002–03 (combined)*]

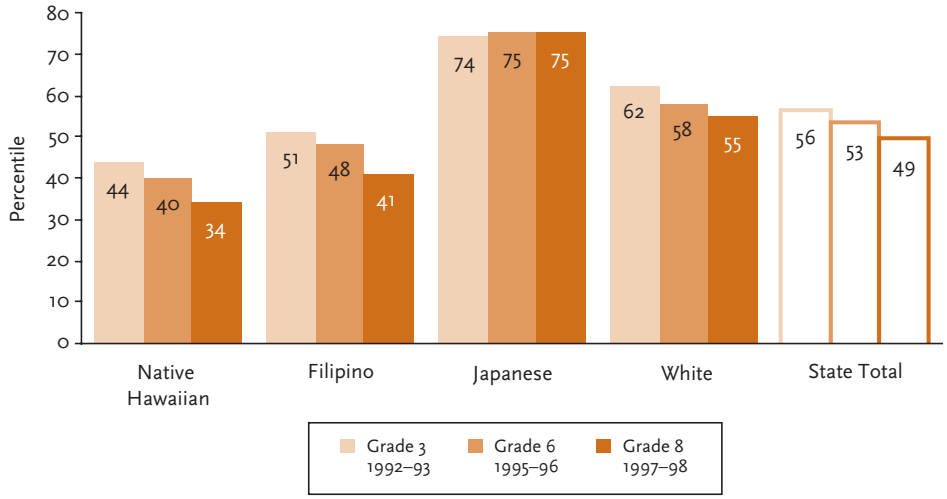


Data source: Hawai'i Department of Education 1998–99 to 2002–03.
* No test data are available for school year 2000–01 because of a teacher's strike that year.

Figure 4.70 shows mathematic scores tracked longitudinally for a single group of students that began Grade 3 in school year 1992–93 and remained in the public school system through Grade 8.

- The mathematics scores of Native Hawaiian students remained below those of other major ethnic groups through Grades 3, 6, and 8.
- The gap between the mathematics scores of Native Hawaiians and total state averages increased from 12 percentiles in Grade 3 to 15 percentiles in Grade 8.

FIGURE 4.70 Trends in percentile rank of average mathematics score within a single cohort of public school students, by race/ethnicity [SAT-8, by grade level, selected years]

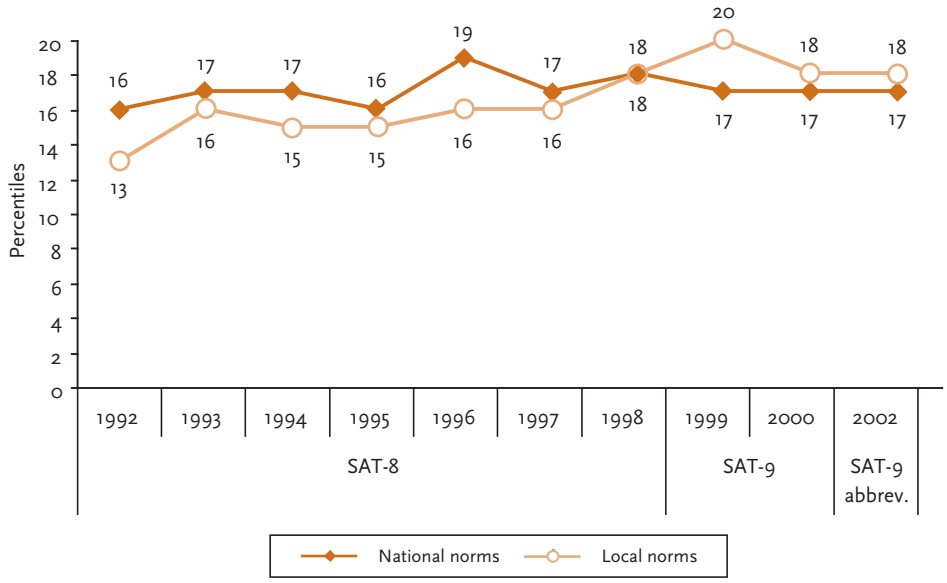


Source: Tibbetts 2002.

Time trend data show mathematics achievement patterns across a ten-year testing period. Figure 4.71 shows the gap between Native Hawaiian and non-Hawaiian mathematics scores in Grades 3 and 4 over one decade.

- At the elementary school level, the mathematics gap between Native Hawaiian students and their non-Hawaiian counterparts appears to have widened.
- The upward trend in the mathematics gap was particularly apparent in the local norms data, under which the mathematics gap increased from 13 percentiles in 1992 to 18 percentiles in 2002.

FIGURE 4.71 Trends in the mathematics achievement gap between Native Hawaiian and non-Hawaiian students in public elementary schools [difference between percentile ranks of average SAT scores, referenced against national and local norms, Grade 3 or 4, state of Hawai'i, school years 1991–92 to 2001–02*]

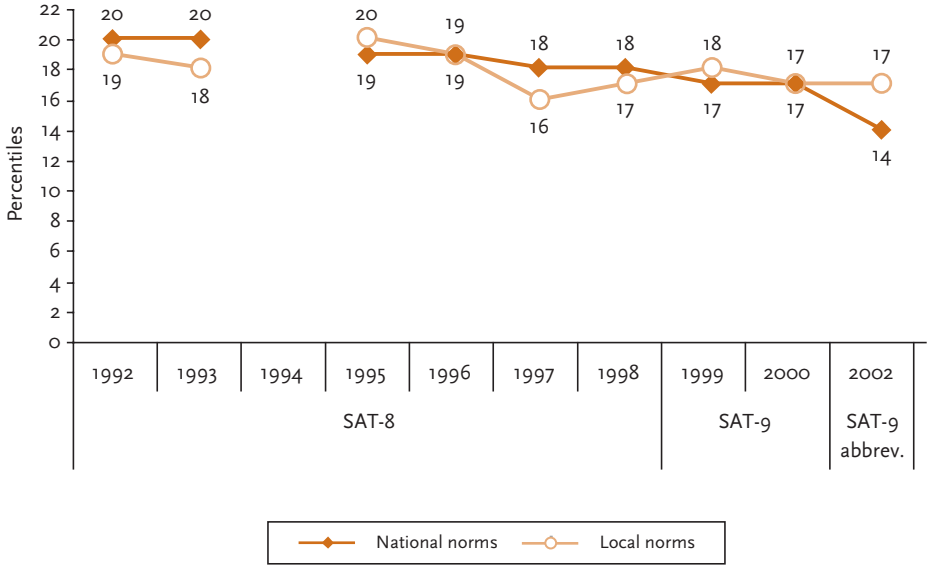


Data source: Hawai'i Department of Education 1991–92 to 2001–02.
Note: Values in this graph represent differences or gaps in the average test scores of Native Hawaiian and non-Hawaiian students, rather than actual test scores.
* No test data are available for school year 2000–01 because of a teacher's strike that year.

By contrast, Figure 4.72 and Figure 4.73 suggest that Native Hawaiian students in both middle school and high school have made positive gains compared with their non-Hawaiian peers, and that the mathematics gap is decreasing.

- Among middle school students, the mathematics gap decreased by 6 percentiles (30.0 percent) with national norms or 2 percentiles (10.5 percent) with local norms.
- At the high school level, the mathematics gap decreased by 7 percentiles (38.9 percent) under national norms and 6 percentiles (30.0 percent) under local norms.

FIGURE 4.72 Trends in the mathematics achievement gap between Native Hawaiian and non-Hawaiian students in public middle schools [difference between percentile ranks of average SAT scores, referenced against national and local norms, Grade 7 or 8, state of Hawai'i, school years 1991–92 to 2001–02*]

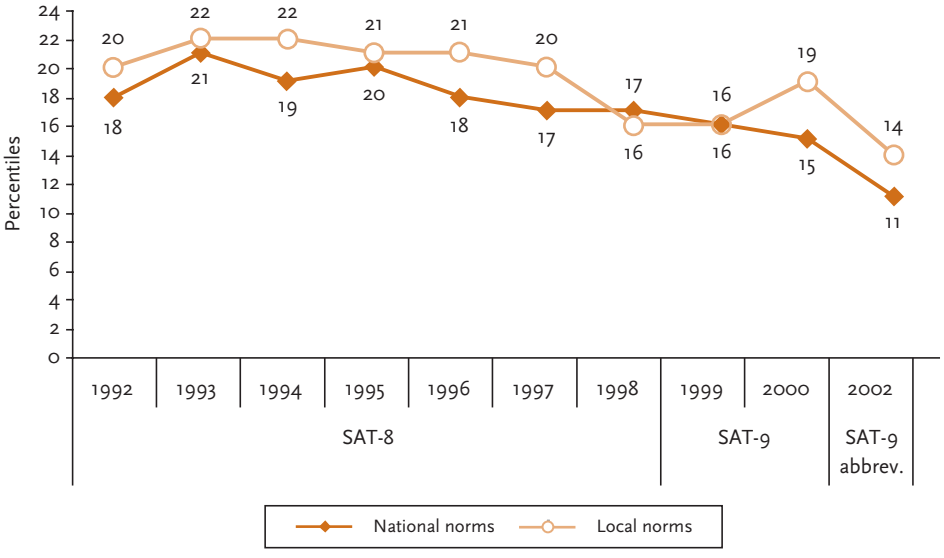


Data source: Hawai'i Department of Education 1991–92 to 2001–02.

Note: Values in this graph represent differences or gaps in the average test scores of Native Hawaiian and non-Hawaiian students, rather than actual test scores.

* Middle school test data are not available for 1994. No test data are available for school year 2000–01 because of a teacher's strike that year.

FIGURE 4.73 Trends in the mathematics achievement gap between Native Hawaiian and non-Hawaiian students in public high schools [difference between percentile ranks of average SAT scores, referenced against national and local norms, Grade 9 or 10, state of Hawai'i, school years 1991–92 to 2001–02*]



Data source: Hawai'i Department of Education 1991–92 to 2001–02.

Note: Values in this graph represent differences or gaps in the average test scores of Native Hawaiian and non-Hawaiian students, rather than actual test scores.

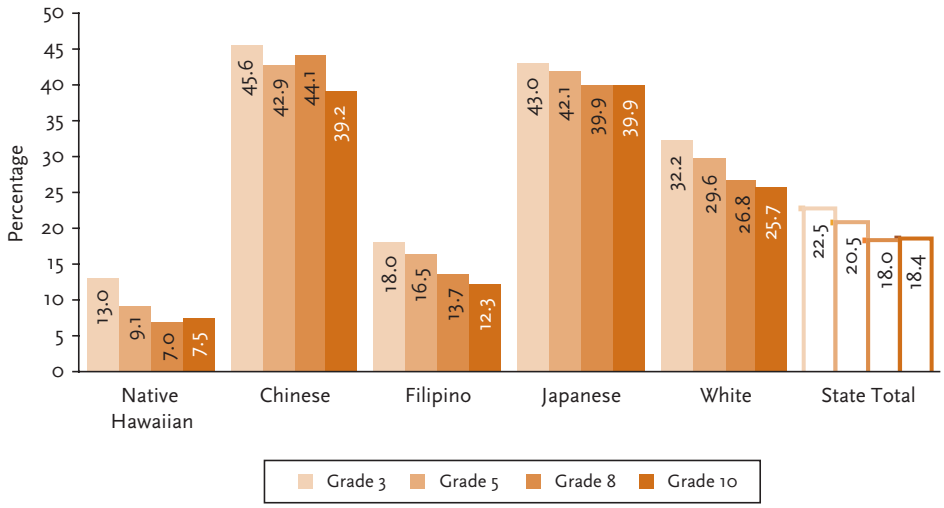
* No test data are available for school year 2000–01 because of a teacher's strike that year.

However, as with reading scores, the downward trends in the middle and high school mathematics gaps are less prominent and less consistent when local norms are used, thus raising questions about the extent to which the gap is affected by test version.

Figure 4.74 shows that, on the criterion-referenced HSA test, few Native Hawaiian students met the Hawai'i Department of Education's mathematics standards.

- Fewer than 10 percent of Native Hawaiians in Grades 5, 8, and 10 tested at or above the state's mathematics proficiency threshold.
- Compared with the scores of other students, the Native Hawaiian math proficiency rates were about half as high. The HSA mathematics performance of students statewide was also surprisingly weak; only about 20 percent of students earned proficient scores in mathematics.

FIGURE 4.74 Students with mathematics scores at or above "proficient" level as a percentage of all public school students tested, by race/ethnicity [HSA, by grade level, state of Hawai'i, school years 2001–02 to 2002–03 (combined)]



Data source: Hawai'i Department of Education 2001–02 to 2002–03.

Poor outcomes in mathematics can be partly attributed to the high standards adopted by the public school system. However, the disparity between the math proficiency rates of Native Hawaiian students and those of their peers remains consistent with the previously discussed gaps in SAT-9 mathematics scores.

Science and Social Science. Recent data on the performance of public school students in science and social studies are not available because the Hawai'i Department of Education has not administered any standardized tests on these subjects for some time. However, pending plans for compliance with the No Child Left Behind Act include the eventual implementation of standardized science and social studies testing.

Regional Differences in Achievement

Reading. A geographic examination of scores suggests that inequities are not only based on ethnicity but also reflect socioeconomic and regional differences. Table 4.12 shows the average reading scores of Native Hawaiian students in the major regions of the state of Hawai'i.

- Across most geographic areas, high school students scored lower, compared with national norms, than did younger students.
- Native Hawaiian students in Moloka'i, Leeward O'ahu, and East Hawai'i exhibited the lowest reading achievement of the eleven regions shown, with average reading scores well below the 40th percentile.

TABLE 4.12 Percentile rank of average reading score among Native Hawaiian public school students, by geographic region [SAT-9, by grade level, state of Hawai'i, school years 1998–99 to 2002–03 (combined)*]

	Grade 3	Grade 5	Grades 7/8	Grades 9/10
Native Hawaiian Total	38	35	34	28
Hawai'i County				
East Hawai'i	33	32	32	28
West Hawai'i	41	36	39	30
Maui County				
Lāna'i	42	45	23	25
Maui	41	35	36	29
Moloka'i	29	30	29	29
Honolulu County				
Central O'ahu	43	36	35	29
Honolulu O'ahu	41	36	37	29
Leeward O'ahu	32	28	30	23
Windward O'ahu	42	38	36	30
Kaua'i County				
Kaua'i	38	35	33	30
Ni'ihau**	n/a	n/a	n/a	n/a

Data source: Hawai'i Department of Education 1998–99 to 2002–03.
* No test data are available for school year 2000–01 because of a teacher's strike that year.
** Data for Ni'ihau are either unavailable or too limited to yield reliable results.

Not surprisingly, all three low-scoring regions encompass remote and rural areas. They have high concentrations of Native Hawaiians and include some of the most economically depressed areas in the state. For example, according to Census 2000, one in five Moloka'i residents lives in poverty.

Table 4.13 highlights regional variations in the HSA reading proficiency rates of Native Hawaiian students and shows that urban areas tend to outperform rural areas.

- In Grades 3, 5, and 8, Moloka'i had the lowest reading proficiency rates shown. The reading proficiency rate among Native Hawaiian third graders on Moloka'i was roughly half the Native Hawaiian total (15.7 percent versus 30.8 percent, respectively).
- Native Hawaiian students in Leeward O'ahu also exhibited reading proficiency rates that were well below the statewide average for Native Hawaiians. In Grade 10, fully 15.5 percent of Native Hawaiian students from Leeward O'ahu scored at or above the proficient level in reading, compared with 26.1 percent of Native Hawaiians throughout the state.

TABLE 4.13 Students with reading scores at or above "proficient" level as a percentage of all Native Hawaiian public school students tested, by geographic region [HSA, by grade level, state of Hawai'i, school years 2001–02 to 2002–03 (combined)]

	Grade 3	Grade 5	Grade 8	Grade 10
Native Hawaiian Total	30.8	28.0	26.2	26.1
Hawai'i County				
East Hawai'i	26.7	23.7	20.0	26.2
West Hawai'i	32.5	31.7	30.5	30.0
Maui County				
Lāna'i*	n/a	n/a	n/a	n/a
Maui	33.9	27.3	24.9	31.3
Moloka'i	15.7	21.6	19.9	25.0
Honolulu County				
Central O'ahu	36.6	33.3	31.1	28.6
Honolulu O'ahu	37.3	33.3	32.0	30.7
Leeward O'ahu	24.0	22.9	21.5	15.5
Windward O'ahu	36.2	31.7	30.0	26.9
Kaua'i County				
Kaua'i	28.8	27.1	26.1	29.4
Ni'ihau*	n/a	n/a	n/a	n/a

Data source: Hawai'i Department of Education 2001–02 to 2002–03.

* Data for Ni'ihau and Lāna'i are either unavailable or too limited to yield reliable results.

Mathematics. As shown in Table 4.14, mathematics scores reveal a similar pattern, with lower math scores among Native Hawaiian students in rural and economically disadvantaged regions.

- Moloka'i and Leeward O'ahu consistently were among the state's lowest performing regions in math achievement.
- Mathematics averages were lowest at either the middle school or high school level. For example, on Lāna'i, seventh and eighth graders scored, on average, at the 28th percentile, compared with third graders and fifth graders at the 40th and 53rd percentiles, respectively.

TABLE 4.14 Percentile rank of average mathematics score among Native Hawaiian public school students, by geographic region [SAT-9, by grade level, state of Hawai'i, school years 1998–99 to 2002–03 (combined)*]

	Grade 3	Grade 5	Grades 7/8	Grades 9/10
Native Hawaiian Total	43	42	36	36
Hawai'i County				
East Hawai'i	36	39	35	36
West Hawai'i	47	45	38	34
Maui County				
Lāna'i	40	53	28	33
Maui	47	43	36	36
Moloka'i	35	42	31	32
Honolulu County				
Central O'ahu	50	45	39	40
Honolulu O'ahu	45	45	40	38
Leeward O'ahu	33	33	30	30
Windward O'ahu	47	45	42	41
Kaua'i County				
Kaua'i	47	45	38	44
Ni'ihau**	n/a	n/a	n/a	n/a

Data source: Hawai'i Department of Education 1998–99 to 2002–03.
* No test data are available for school year 2000–01 because of a teacher's strike that year.
** Data for Ni'ihau are either unavailable or too limited to yield reliable results.

Regional differences in the mathematics proficiency of Native Hawaiian students follow predictably similar patterns, as shown in Table 4.15.

- Moloka'i, Leeward O'ahu, and East Hawai'i exhibited the lowest mathematics proficiency rates in the state. Across all grade levels, fewer than 10 percent of Native Hawaiian students in these three regions scored at or above the mathematics proficiency level.
- Roughly 3 percent of Native Hawaiian eighth and tenth graders on Moloka'i met or exceeded the state's standards for mathematics proficiency.
- In Honolulu, with its more urban, middle-class student body, the mathematics proficiency rates among Native Hawaiians were roughly twice the rates in Leeward O'ahu.

TABLE 4.15 Students with mathematics scores at or above "proficient" level as a percentage of all Native Hawaiian public school students tested, by geographic region [HSA, by grade level, state of Hawai'i, school years 2001–02 to 2002–03 (combined)]

	Grade 3	Grade 5	Grade 8	Grade 10
Native Hawaiian Total	13.0	9.1	7.0	7.5
Hawai'i County				
East Hawai'i	6.8	8.0	3.5	7.1
West Hawai'i	14.7	10.7	7.6	7.0
Maui County				
Lāna'i*	n/a	n/a	n/a	n/a
Maui	13.2	9.7	5.4	8.2
Moloka'i	6.0	7.6	5.0	3.7
Honolulu County				
Central O'ahu	16.5	13.4	9.1	9.9
Honolulu O'ahu	17.7	13.0	11.0	10.3
Leeward O'ahu	9.8	5.2	3.2	3.3
Windward O'ahu	16.6	9.5	10.8	7.2
Kaua'i County				
Kaua'i	12.6	10.0	10.2	13.6
Ni'ihau*	n/a	n/a	n/a	n/a

Data source: Hawai'i Department of Education 2001–02 to 2002–03.
* Data for Ni'ihau and Lāna'i are either unavailable or too limited to yield reliable results.

Similar to differences in achievement between ethnic groups, regional disparities must be viewed with an awareness of the educational, social, and economic resources within each community. For example, previous sections of this report have detailed regional differences in the experience and qualifications of the teaching staff in schools. Such inequities, coupled with socioeconomic differences, contribute significantly to the regional variations in achievement discussed in this section.

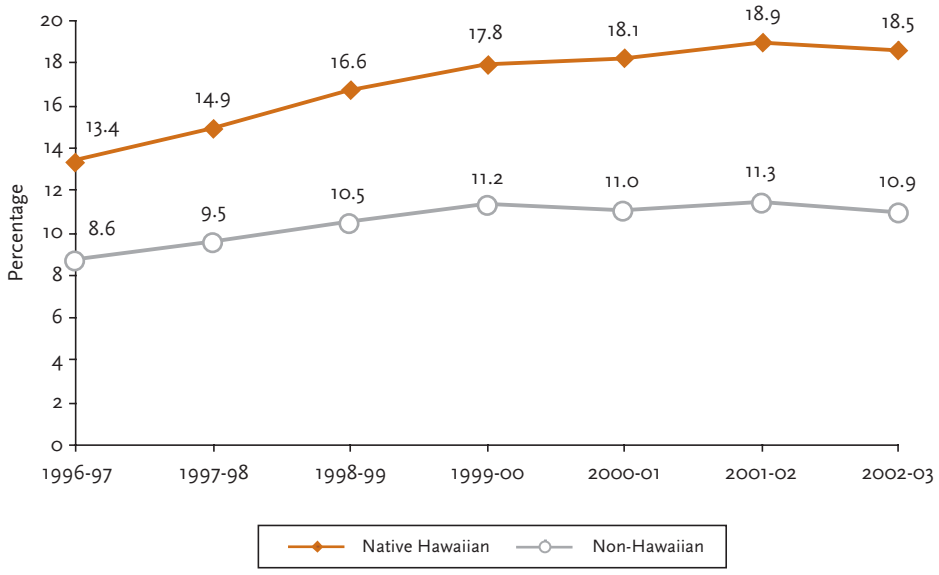
Enrollment in Special Education Programs

Special education programs assist children whose educational needs—as deemed by school officials—cannot be adequately met within the regular classroom environment because of physical, emotional, or mental disabilities. Within the public school system, Native Hawaiian students are overrepresented in special education programs.

Figure 4.75 shows the percentage of Native Hawaiians and non-Hawaiians enrolled in special education programs in recent years.

- During the 2002–03 school year, nearly one in five Native Hawaiian students in public schools (18.5 percent) participated in special education programs, compared with 10.9 percent among the non-Hawaiian student population.
- The proportion of Native Hawaiian students participating in special education programs has increased in recent years. In school year 1996–97, about one in eight Native Hawaiian students (13.4 percent) was enrolled in special education programs; by school year 2002–03, that figure had increased by 5.1 points to 18.5 percent.

FIGURE 4.75 Trends in special education students as a percentage of all public school students [by Native Hawaiian ethnicity, state of Hawai'i, school years 1996–97 to 2002–03]



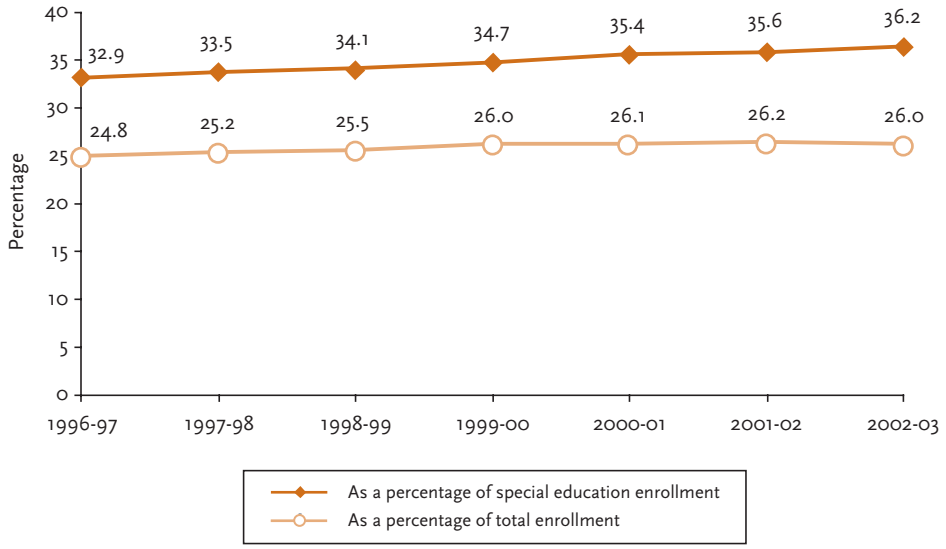
Data source: Hawai'i Department of Education 1996–97 to 2002–03.

Special education enrollment among Native Hawaiians has increased at a faster rate than that of non-Hawaiian students. The number of Native Hawaiian students participating in special education programs increased by 46.3 percent, from 6,680 students in 1996–97 to 9,776 in 2002–03. Over the same seven-year period, the number of non-Hawaiian special education students increased by just 26.5 percent, from 13,606 students in 1996–97 to 17,215 students in 2002–03 (not shown).

These patterns are consistent with Figure 4.76, which depicts Native Hawaiian students as a percentage of special education enrollment and total enrollment.

- In recent years, Native Hawaiian students have consistently accounted for about one-third of the special education enrollment, while they constituted approximately one-fourth of the total enrollment in the public school system.
- In the last decade, the Native Hawaiian share of special education enrollment has increased at a slightly faster pace than has the Native Hawaiian share of total public school enrollment. However, as shown in Figure 4.77, twenty-year trends are more encouraging.

FIGURE 4.76 Trends in Native Hawaiians as a percentage of all special education students and of all public school students [state of Hawai'i, school years 1996–97 to 2002–03]

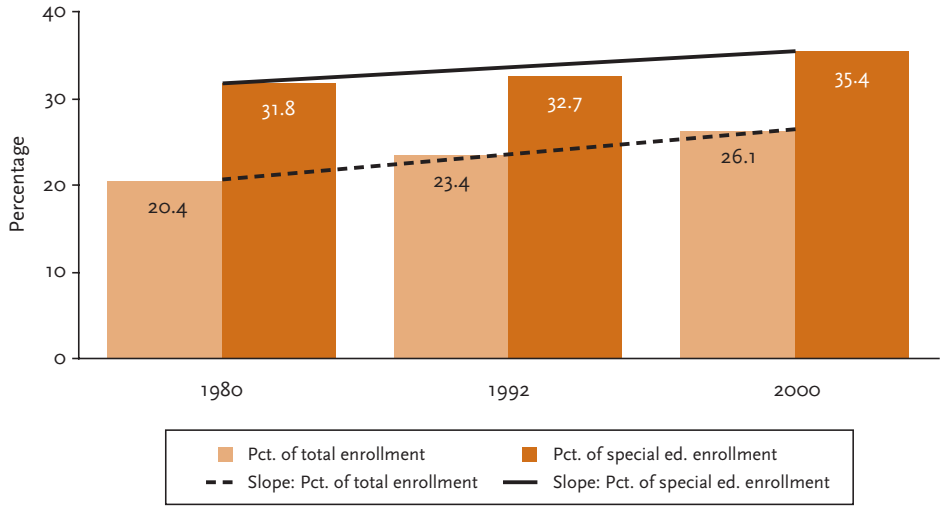


Data source: Hawai'i Department of Education 1996–97 to 2002–03.

Figure 4.77 provides a broader perspective on Native Hawaiian enrollment in special education, with data drawn from the *Native Hawaiian Educational Assessment* (Kamehameha Schools/Bernice Pauahi Bishop Estate 1983; Kamehameha Schools/Bernice Pauahi Bishop Estate–Office of Program Evaluation and Planning 1993).

- In 1980, Native Hawaiians accounted for 31.8 percent of total special education enrollment. Twenty years later, in the year 2000, that figure had increased to 35.4 percent.
- However, the Native Hawaiian population has also grown as a proportion of total public school enrollment, increasing from 20.4 percent in 1980–81 to 26.1 percent in 2000–01. The increase in overall Native Hawaiian enrollment in public schools might completely account for the growing proportion of special education students who are identified as Native Hawaiian.
- When we impose regression lines that show the rate at which the special education and total enrollment figures have changed over time, we find that Native Hawaiian enrollment in special education has increased at a slightly slower rate than that of total Native Hawaiian enrollment. The slope of the regression line for total enrollment was 2.3, compared with a slope for special education enrollment of 1.8.

FIGURE 4.77 Twenty-year trends in Native Hawaiians as a percentage of all special education students and of all public school students [state of Hawai'i, selected years]



Sources: Kamehameha Schools 1983; Kamehameha Schools–Office of Program Evaluation and Planning 1993.
Data source: Hawai'i Department of Education 2000–01.

These figures are promising, suggesting that the inequities Native Hawaiians face in the special education referral process are not increasing and may, in fact, be diminishing.

Despite indications of long-term developments, Native Hawaiians are still highly overrepresented in special education programs. Research by Losen and Orfield (2002) reviews various works relating to the overrepresentation of minorities in special education and concludes that the phenomenon cannot be explained entirely by differences in measured ability. Rather, Losen and Orfield argue that contributing factors include "unconscious racial bias on the part of school authorities, large resource inequalities

that run along lines of race and class, unjustifiable reliance on IQ and other evaluation tools, educators' inappropriate responses to the pressures of high-stakes testing, and power differentials between minority parents and school officials" (p. xviii). Given the previous findings in this report suggesting that teacher experience and longevity were inversely correlated with the proportion of Native Hawaiian students, it is plausible that these forces contribute to the overrepresentation of Native Hawaiian students in special education.

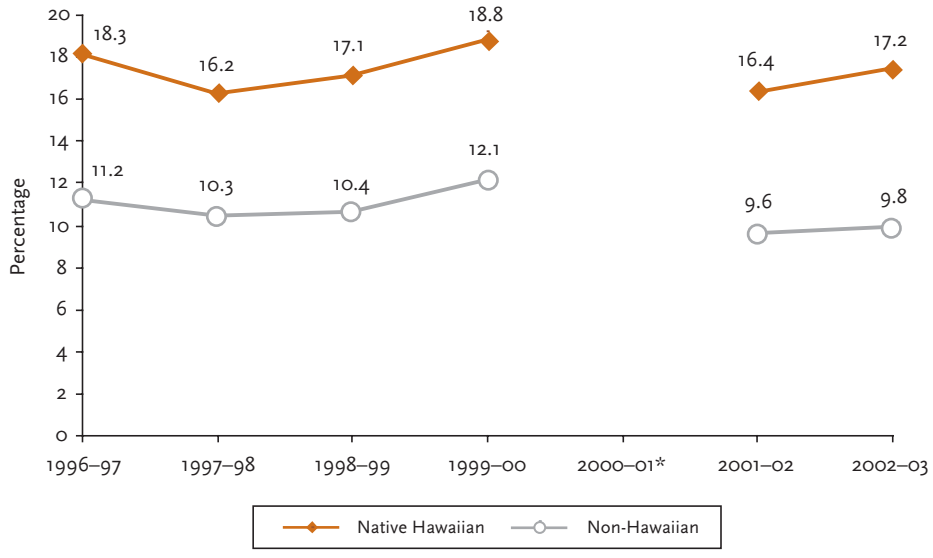
Absentee/Attendance Rates

The combination of repeated low performance and negative school experiences might contribute to low levels of school engagement for any student, regardless of race/ethnicity or economic background. Given the data throughout this section, it is not surprising that Native Hawaiian children are less engaged in school than are other children, as measured by higher rates of excessive absenteeism, grade retention, and delayed or incomplete graduation.

Figure 4.78 shows the percentage of Native Hawaiian and non-Hawaiian secondary school students with excessive absences (defined as twenty or more days absent per semester).[24]

- During the 2002–03 school year, 17.2 percent of Native Hawaiian students in middle or high schools had excessive absences, compared with 9.8 percent of non-Hawaiian students.
- The rate of excessive absences has remained fairly constant in recent years for both Native Hawaiian and non-Hawaiian students.

FIGURE 4.78 Trends in students with excessive absences as a percentage of all public secondary school students
[students in Grades 6 to 12, by Native Hawaiian ethnicity, state of Hawai'i, school years 1996–97 to 2002–03]



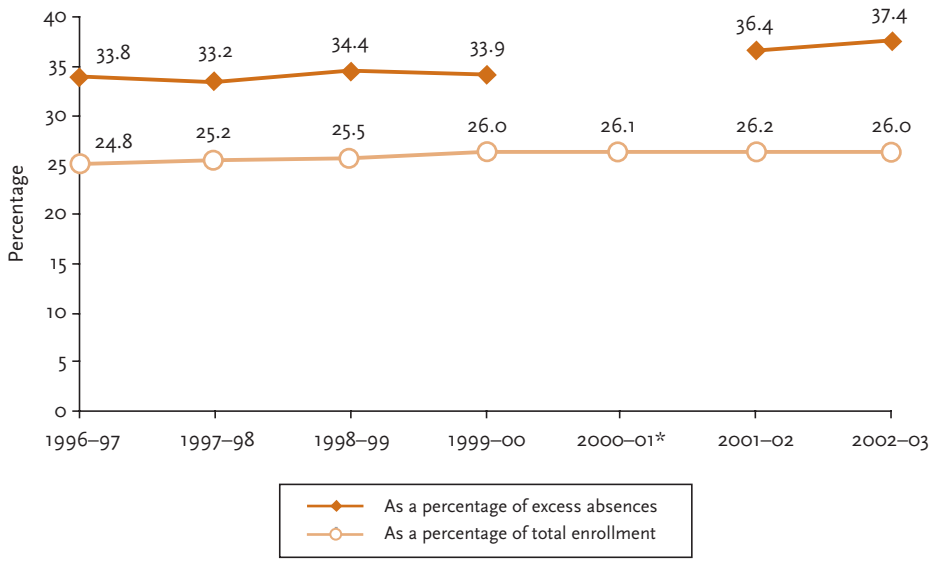
Data source: Hawai'i Department of Education 1996–97 to 2002–03.
* Excessive absence data not available for school year 2000–01.

24. Because excessive absences are tracked only at the middle and high school levels, all figures and discussions in this section apply only to students in Grades 6 through 12.

Figure 4.79 provides an alternative perspective, showing Native Hawaiian students as a percentage of the population with excessive absences and as a percentage of total public school enrollment.

- Native Hawaiian children were overrepresented among students with excessive absences, accounting for more than one-third of these students (37.4 percent in school year 2002–03), well exceeding the proportion of Native Hawaiians in the public school system (26.0 percent).
- The Native Hawaiian share of excessive absences grew slightly in the two most recent years for which data were available, increasing from 33.9 percent in school year 1999–00 to 37.4 percent in school year 2002–03—a difference of 3.5 points in three years. Over the same period, the Native Hawaiian share of total public school enrollment remained fairly constant at 26.0 percent.

FIGURE 4.79 Trends in Native Hawaiians as a percentage of all students with excessive absences and of all public secondary school students [students in Grades 6 to 12, state of Hawai'i, school years 1996–97 to 2002–03]

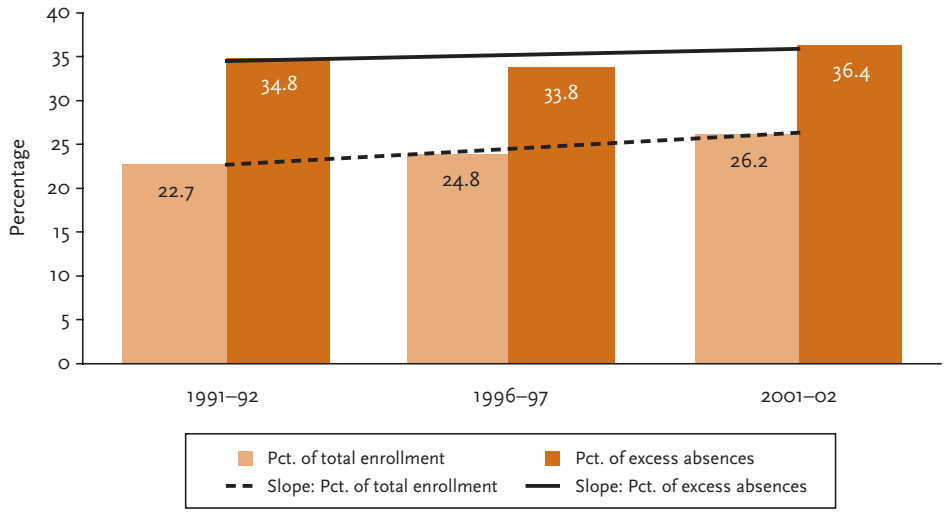


Data source: Hawai'i Department of Education 1996–97 to 2002–03.
* Excessive absence data not available for school year 2000–01.

Figure 4.80 provides a ten-year perspective on excessive absences among Native Hawaiian students.

- In school year 2001–02, Native Hawaiian students accounted for a slightly larger percentage of excessive absences (36.4 percent) than they did in school year 1991–92 (34.8 percent).
- As with special education enrollment, we find that the growth in Native Hawaiian excessive absences has not matched the growth in the Native Hawaiian public school population. This suggests that disparities in the excessive absence rates among Native Hawaiians and non-Hawaiians may be starting to decrease.

FIGURE 4.80 Ten-year trends in Native Hawaiians as a percentage of all students with excessive absences and of all public school students [state of Hawai'i, selected years]

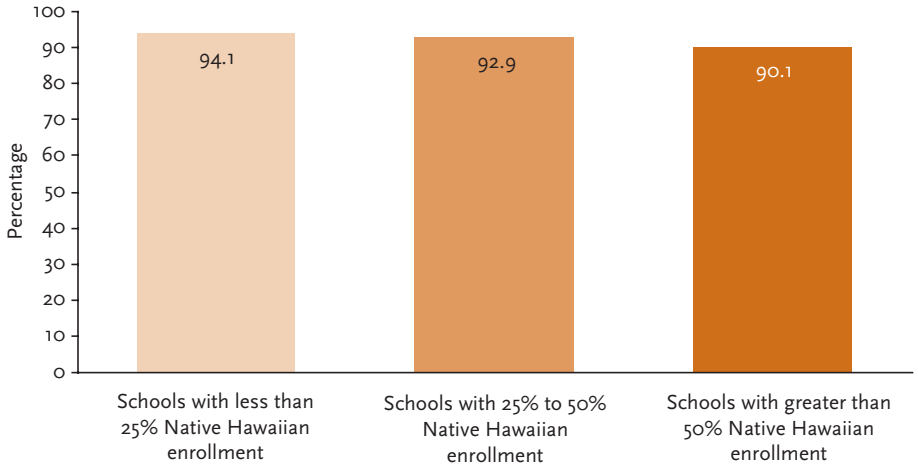


Source: Kamehameha Schools–Office of Program Evaluation and Planning 1993.
Data source: Hawai'i Department of Education 2000–01.

According to the Hawai'i State Department of Education, the average daily attendance rate in the state's public schools for school year 1999–2000 was 93.8 percent. In other words, on the average school day approximately 6.2 percent of students were absent. Although data were not available to enable an ethnic breakdown of average daily attendance rates, Figure 4.81 shows the average daily attendance rates by the level of Native Hawaiian enrollment in a school.

- The average daily attendance rate among predominantly Native Hawaiian schools was 90.1 percent, suggesting that, on the average school day, almost one of every ten students in these schools (9.9 percent) was absent from class.
- Schools that serve smaller Hawaiian populations had significantly higher attendance rates than did predominantly Native Hawaiian schools: 92.9 percent for schools in which Native Hawaiians constituted 25 to 50 percent of the student population, compared with 94.1 percent for schools in which less than 25 percent of the student population was identified as Native Hawaiian.

FIGURE 4.81 Average daily attendance rate among students enrolled in public schools, by level of Native Hawaiian enrollment [school-level percentages averaged across schools and weighted by school enrollment size, state of Hawai'i, school year 2000–01]



Source: Hawai'i Department of Education 2002.

These figures suggest a significant correlation between attendance rates and Native Hawaiian enrollment—a troubling relationship that remains statistically significant after accounting for factors such as proportion poor, limited English proficiency, special education students, and disadvantaged school funding (not shown). We find a negative relationship between average daily attendance rates and the percentage of Native Hawaiian students. In other words, schools with high Native Hawaiian enrollment have lower attendance rates, independent of other characteristics that might influence attendance.

Earlier in this report, we documented the lower qualifications of teaching staff in schools with substantial numbers of Native Hawaiians. These same schools also appear to have difficulties attracting children to attend classes. The results are significant and are reflected in higher numbers of students retained in grade or failing to complete their graduation requirements, as discussed below.

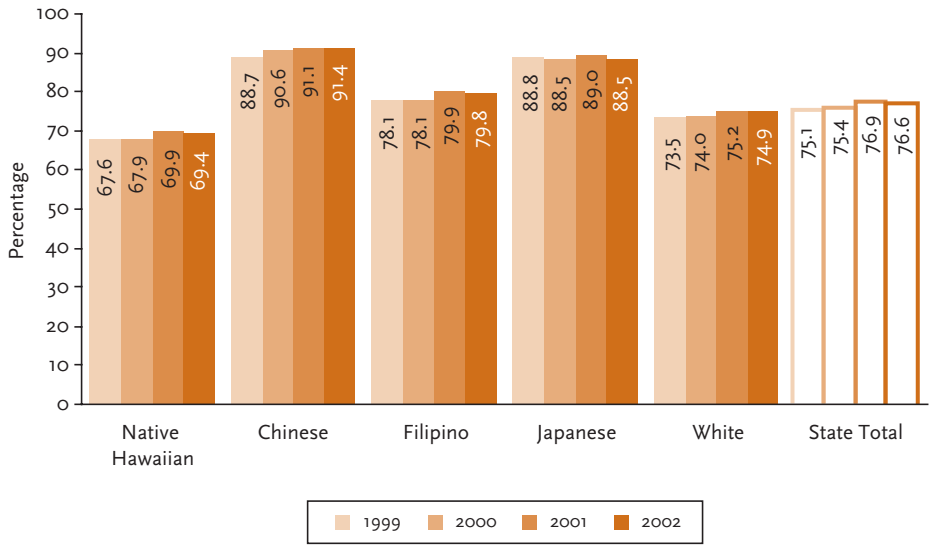
Timely Completion of High School

High school completion is an important predictor of adult outcomes. Census 2000 reported that 85 percent of Native Hawaiian adults had completed high school. However, data from recent graduating classes from public schools show that Native Hawaiian students were somewhat less likely to graduate than were their non-Hawaiian peers.

Figure 4.82 shows the percentage of public school students in recent graduating cohorts who completed high school within four years.[25] The data are presented as percentages averaged across three years to account for random fluctuations and to highlight stable trends.

- On the whole, Native Hawaiians in the public school system have had the lowest rates of timely graduation of all major ethnic groups in the state. Consistent across recent graduating classes, approximately two in three Native Hawaiian students completed high school within four years, compared with three in four public school students statewide. In 2002, the three-year averaged graduation rate among Native Hawaiian students was 69.4 percent, compared with 76.6 percent statewide.
- However, Native Hawaiian graduation rates have increased in recent years. Between 1999 and 2002, the timely graduation rates among Native Hawaiian students increased from 67.6 percent to 69.4 percent (based on three-year averages).

FIGURE 4.82 Trends in students who achieved timely high school graduation as a percentage of all public high school students [three-year averages, students expected to graduate within four years of high school, by race/ethnicity, state of Hawai'i, 1999 to 2002]



Data source: Hawai'i Department of Education 1994–95 to 2002–03.
Note: Calculations do not include students who transferred out of the public school system during high school or students who entered the public school system after completing their freshman year of high school.

25. In accordance with the methodologies used by the Hawai'i Department of Education, the graduation rates presented in this section exclude public school students who transferred to other school systems. Because such students cannot be tracked once they leave the Hawai'i public school system, their status is unknown.

Table 4.16 provides detailed information about outcomes for the graduating class of 2003.[26] Based on these findings, two key differences distinguish the outcomes of Native Hawaiian students:

- Native Hawaiians had high rates of grade retention. More than one out of five Native Hawaiian students (20.2 percent) were held back at some point during high school.
- Native Hawaiian students were more likely to be "missing" from the system than were non-Hawaiian students.[27]

TABLE 4.16 Status of public school students after four years of high school [percentage distribution, students expected to graduate in 2003, by race/ethnicity, state of Hawai'i, 2003]

	Native Hawaiian	Chinese	Filipino	Japanese	White	State Total
Graduated on time	69.3	91.2	80.4	88.2	75.2	76.7
Retained in grade	20.2	5.8	15.1	8.5	16.1	16.5
Dropped out	1.3	0.0	0.4	0.5	1.1	0.8
Missing	6.3	2.6	3.6	1.6	4.3	4.4
Miscellaneous	2.9	0.3	0.5	1.3	3.3	1.7

Data source: Hawai'i Department of Education 1999–00 to 2002–03.
Note: Calculations do not include students who transferred out of the public school system during high school or students who entered the public school system after completing their freshman year of high school.

Retention in grade is not necessarily a negative outcome. Children who have fallen behind their peers may benefit from being retained in grade, as it allows additional time to master the materials needed for more advanced coursework. And for some students, repeating a grade may be preferable to the alternative—proceeding to a new grade level for which they are unprepared and in which they may fall even further behind. However, research has found that retention may have its own negative educational consequences. A pair of companion studies conducted by the Consortium on Chicago School Research compared the outcomes of students who were retained in grade and comparably struggling students who were promoted to the next grade. They found that the retained students made smaller gains in achievement, were more likely to subsequently be placed in special education, and were more likely to drop out of school (Allensworth 2004; Nagaoka and Roderick 2004). Such results have serious implications for the one in five Native Hawaiian children retained in grade during high school. Most Native Hawaiian students who do not complete high school within four years were retained in grade and face uncertain—and potentially lifelong—educational consequences.

26. For Table 4.16, the class of 2003 was tracked from Grade 9 through the next four years of public high school in Hawai'i. Results show the proportion of the original Grade 9 class that graduated in four years, as well as the status of other students who did not graduate on time.
27. Many students who are "missing" or unaccounted for by the public school system are actually dropouts. To be classified as dropouts, students must formally inform the Hawai'i Department of Education of their intent to leave. However, in reality, many dropouts exit the school system without filing the proper paperwork and therefore are classified as missing when they fail to attend school.

Charter Schools

Charter schools provide an opportunity for innovation and relative autonomy within the public school system. In recent years, the number of charter schools has exploded across the nation. Research to track this momentum has resulted in many studies that evaluate the educational effectiveness of charter schools and assess the academic outcomes of their students. Our analysis of charter school outcomes focuses on Native Hawaiians, who have increasingly looked to the charter school movement as an opportunity for self-defined educational reform for their children.

Charter schools are publicly funded schools that are exempt from many state laws and regulations in exchange for a promise (through a charter or contract) that they will be accountable for student learning. In Hawai'i, the state Board of Education is currently the only agency in the state authorized to approve charters for schools. Hawai'i currently has twenty-seven public charter schools that serve more than five thousand students on four islands.

Unique Benefits of Charter Schools for Indigenous Children

Several reasons lead us to expect that charter schools provide unique educational benefits to Native Hawaiians. First, as a group, Native Hawaiian learners fare poorly in the public school system (Kana'iaupuni and Ishibashi 2003). Charter schools represent an opportunity for Hawaiian families and communities to determine the form and content of their children's learning. Hawaiian ownership of "Hawaiian education" is an important way to engage the community and harness its strengths (Kana'iaupuni 2004b; Novak 2004). Second, the autonomous nature of charter schools enables the development of experimental and innovative approaches that may foster higher achievement and greater engagement among Native Hawaiian students. In an ethnographic study of predominantly Native American charter schools, Bielenberg (2000) argues that community control is not enough, and that the value of charter schools to indigenous populations lies in their potential for innovation.

Third, the drive within the state's charter schools for culturally based indigenous education is an approach that makes learning relevant and engaging for indigenous students (Martinez 1999). Charter schools offer an ideal medium for the development and growth of culturally based education models, and Hawaiian communities have actively capitalized on this opportunity (Buchanan and Fox 2003). Currently, twelve of the twenty-three start-up charters form Nā Lei Na'auao, the Native Hawaiian New Century Charter School Alliance (see www.naleinaauao.org). Connecting schools on three different islands, the community-driven alliance exists to promote native-designed and -controlled models of education and to assure the perpetuation of Hawaiian language, culture, and traditions into the new millennium. The ultimate goal of these objectives is to allow students, particularly indigenous students, to reach their highest level individually and collectively.

This analysis contributes an initial step in understanding some of the overall outcomes for Native Hawaiian students in charter schools. We perform a series of regression analyses to estimate how enrollment in charter schools affects the achievement and absenteeism of Native Hawaiian students while controlling for a number of other variables that might affect educational outcomes (e.g., grade level, gender, income, region, and teacher credentials).

Results of the analyses are encouraging. The following discussion shows that Native Hawaiian charter school students performed better on standardized measures of achievement and were less likely to be chronically absent from school than were comparable students in mainstream public schools. These findings acknowledge the critical role charter schools play in providing educational alternatives for many Native Hawaiian students whose cultural roots and socioeconomic background may create a poor fit for conventional public school classroom approaches. Further, the results highlight the early and preliminary successes achieved by charter schools in their efforts to develop innovative models of Hawaiian education.

Early Studies Offer Mixed Findings

What does the existing literature tell us about the effect of charter schools on children's educational outcomes?[28] Although charter schools are comparatively new, numerous studies have attempted to assess and evaluate their effectiveness. The central question for each study is whether charter school students would have performed better and made greater gains had they attended conventional schools. So far, results of these early studies offer mixed findings and are constrained by limited data.

One major national study by the American Federation of Teachers (AFT) compared the achievement scores of students in mainstream schools with those of students in charter schools and found that charter school students lagged behind their mainstream counterparts by significant margins (Nelson, Rosenberg, and Van Meter 2004). Another study, conducted in response to the AFT's negative findings, used a much larger sample (fully 99 percent of charter school students in the country rather than the 3 percent sample used by AFT) and derived more positive results: "although it is too early to draw sweeping conclusions, the initial indications are that the average student attending a charter school has higher achievement than he or she otherwise would" (Hoxby 2004, p. 3).

A 2004 report released by the U.S. Department of Education's Institute of Education Sciences drew mixed conclusions. The study found that charter school students scored as well as mainstream students of the same race on the reading and mathematics sections of the National Assessment of Educational Progress (NAEP). Different findings emerged among students who qualified for the subsidized school meals program for low-income families. Here, charter school students scored lower in both reading and math than did their mainstream counterparts, on average. The authors of the report caution that they had no access to information on prior achievement of students or other factors that would likely contribute to the observed differences in NAEP scores.[29]

At the local level, charter school assessments have been more consistently positive. Hoxby's (2004) study performed a state-by-state analysis and found that charter school students in Hawai'i exhibited higher proficiency rates than did mainstream students in both reading and mathematics. And an analysis by the Hawai'i Educational Policy Center (2004) concluded that charter school students in Hawai'i outperformed their mainstream counterparts on the Hawai'i State Assessment and SAT tests in 2004.

The inconsistency of findings from charter school studies, at least at the national level, reflects the inherent complexities involved in assessing charter schools. Hill (2005) notes that differences in student populations—differences between charter school and mainstream students as well as differences among charter schools themselves—make charter school evaluations particularly difficult.

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28. For a more complete discussion of the national literature on charter schools, see Tibbetts (2005).
29. Future studies by the Institute of Education Sciences may provide a stronger basis for inferences about the relative effectiveness of charter schools.

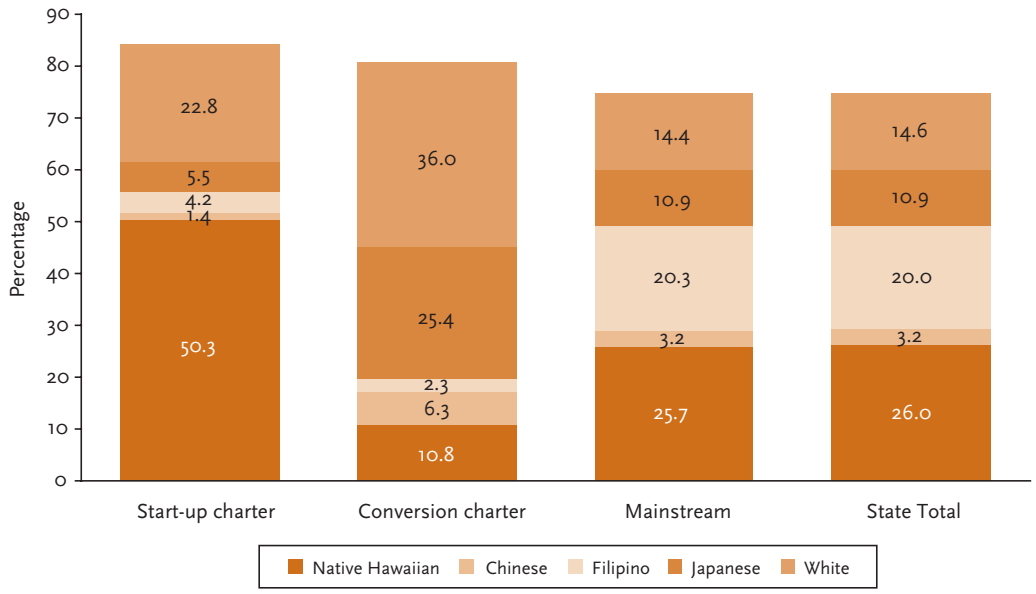
Demographic and Socioeconomic Traits of Charter School Students

At least three observations challenge research efforts to understand educational outcomes of charter schools. First, charter schools serve a student body that is increasingly high in poverty and increasingly diverse ethnically. A study by the U.S. Department of Education's Policy and Program Studies Services (2004) found that the prevalence of racial/ethnic minorities and low-income students is significantly higher in charter schools than in conventional public schools and that the population of disadvantaged charter school students has grown substantially in the past two to three years. These national findings are mirrored within the Hawai'i population of public school students.

Figure 4.83 and Figure 4.84 show that, compared with mainstream public schools, start-up charter schools serve a disproportionately high number of Native Hawaiians and subsidized-meal program participants—two groups that, as a whole, are vulnerable to scholastic underperformance (Kana'iaupuni and Ishibashi 2003). These differences may lead to underestimates of the true impact of charter schools, compared with mainstream education.

- In school year 2002–03, Native Hawaiians accounted for more than half of all students in start-up charter schools (50.3 percent). The number of Native Hawaiians in start-up charter schools was twice that of the next-largest ethnic group, Whites, who constituted 22.8 percent of start-up charter school students.
- Start-up charter schools enrolled Native Hawaiian students at twice the rate of mainstream public schools (50.3 percent versus 25.7 percent).

FIGURE 4.83 Racial/ethnic distribution of public school students, by type of public school [by race/ethnicity, state of Hawai'i, school year 2002–03]

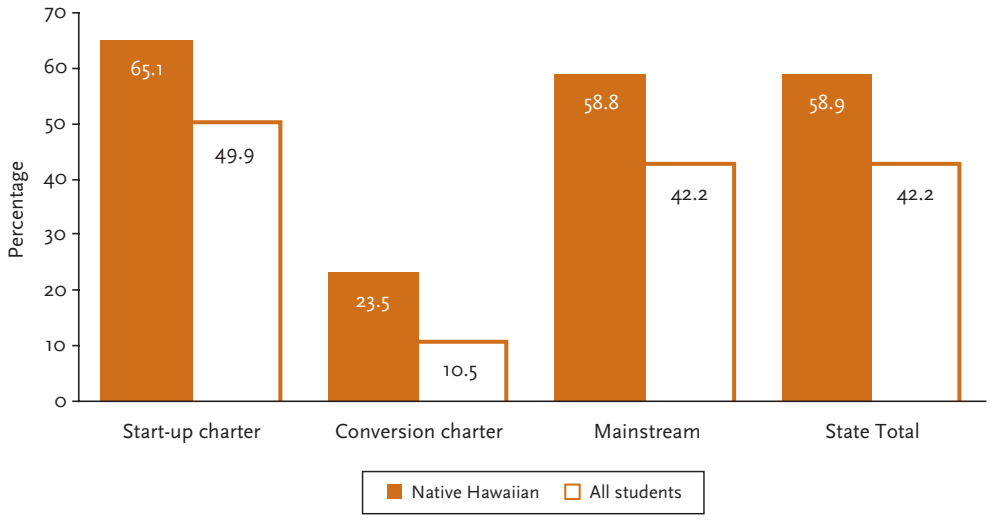


Data source: Hawai'i Department of Education 2002–03.

In the state of Hawai'i, students who enroll in start-up charter schools tended to be more socioeconomically disadvantaged than did their peers in mainstream public schools (Figure 4.84).

- Almost two-thirds (65.1 percent) of Native Hawaiian students in start-up charter schools participated in the subsidized school meals program for low-income children. The rate of participation among Native Hawaiian students in mainstream schools was 58.8 percent.
- Both Native Hawaiian and non-Hawaiian students in start-up charter schools were more likely to take part in the subsidized school meals program than were their mainstream counterparts.
- Across all types of public schools, Native Hawaiians were more likely to participate in the subsidized meals program than were their non-Hawaiian peers.

FIGURE 4.84 Students participating in the subsidized school meals program as a percentage of all students, by type of public school [by Native Hawaiian ethnicity, state of Hawai'i, school year 2002–03]



Data source: Hawai'i Department of Education 2002–03.

Beyond racial/ethnic and socioeconomic differences, other unmeasured factors may distinguish charter school students from mainstream students. For example, because enrollment in charter schools is voluntary, families who choose to have their children attend charter schools may have different motivations and different expectations of their schools than do families who opt to remain in conventional public schools. If these differences positively select certain kinds of people, for example parents who are more involved with the education of their children or those who have children with special needs, then our results may bias estimates of the impact of charter school education. These issues present a challenge for research efforts to examine school effectiveness and to measure the progress of students.

A third potential challenge is that significant differences exist between charter schools—possibly more than might exist among mainstream schools. For example, individual charter schools differ substantially in the characteristics of their students, the school mission, the design of curricula, and instructional practices. Thus, aggregating students across schools may mask significant differences in conditions and outcomes between schools. This means that evaluation results for a particular school or a subset of schools may not be generalizable to the larger population of charter schools.

Educational Indicators for Charter School Students

How do Native Hawaiian students in charter schools perform compared with Native Hawaiian students in conventional public schools? Bearing in mind the issues concerning charter school assessment, we conducted our own analysis of charter school outcomes focused on Native Hawaiian students. We compared the level of achievement and engagement of Native Hawaiian students in conventional public schools with that of Native Hawaiian students in charter schools, using simple descriptive statistics as well as multivariate regression analyses, which allow us to control for some student and school-level differences. To reduce differences among charter schools, we excluded conversion charter schools and instead focused our analysis on start-up charter schools alone.[30]

We looked at several outcomes: achievement, measured by two separate sets of reading and math test scores, including the SAT-9 (percentile rank) and the Hawai'i State Assessment (HSA scaled scores); and student engagement, measured by chronic or "excessive" absenteeism (defined by the Hawai'i Department of Education as twenty or more unexcused absences in a single semester). The analysis includes students whose parents reported part- or full-Hawaiian as their child's dominant ethnicity to the Department of Education and who had nonmissing data for the outcomes under consideration. To increase the sample size and power of our analysis and to ensure greater stability (specifically, to avoid effects that might represent a single atypical year), our sample includes pooled student data for school years 2001–02 and 2002–03. Table 4.17 summarizes the sample sizes used in our analyses by type of outcome.

TABLE 4.17 Sample sizes used in charter school analyses [Native Hawaiian public school students, by enrollment in mainstream or start-up charter schools, state of Hawai'i, school years 2001–02 and 2002–03 (combined)]

	SAT-9	HSA	Chronic absenteeism
Total Native Hawaiian students	27,475	27,368	56,664
Native Hawaiians in start-up charter schools	537	532	1,277
Native Hawaiians in mainstream schools	26,938	26,836	55,387

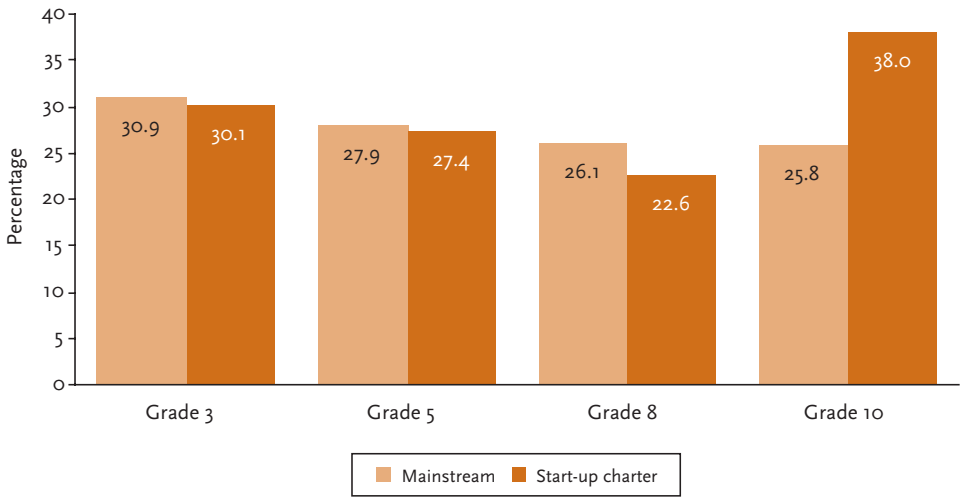
Data source: Hawai'i Department of Education 2001–02 to 2002–03.

30. Historically, conversion charter schools in Hawai'i have served a more socioeconomically advantaged population than is typical of most start-up charter schools (although this is changing with the recent conversions of Waimea Middle School and Kualapu'u Elementary School). The high numbers of students in conversion charter schools have the potential to bias our overall results.

Descriptive Findings. Descriptive comparisons of central tendency suggest roughly comparable achievement scores of Native Hawaiian students in start-up charter schools and Native Hawaiian students attending mainstream schools, except in reading proficiency for Grade 10. Figure 4.85 and Figure 4.86 show that the reading and math proficiency rates among Hawaiian charter school students are equal to or higher than those of their mainstream counterparts. Figure 4.85 examines reading proficiency.

- Across Grades 3, 5, and 8, Native Hawaiian students in start-up charter schools exhibited reading proficiency levels that were roughly comparable with those of Native Hawaiian students in mainstream public schools.
- Native Hawaiian tenth graders in start-up charter schools were almost one and a half times as likely to score at the level deemed reading proficient as were Native Hawaiians in mainstream public schools (38.0 percent versus 25.8 percent).

FIGURE 4.85 Students with reading scores at or above "proficient" level as a percentage of all Native Hawaiian public school students tested, by start-up charter and mainstream public schools [HSA, by grade level, state of Hawai'i, school years 2001–02 to 2002–03 (combined)]

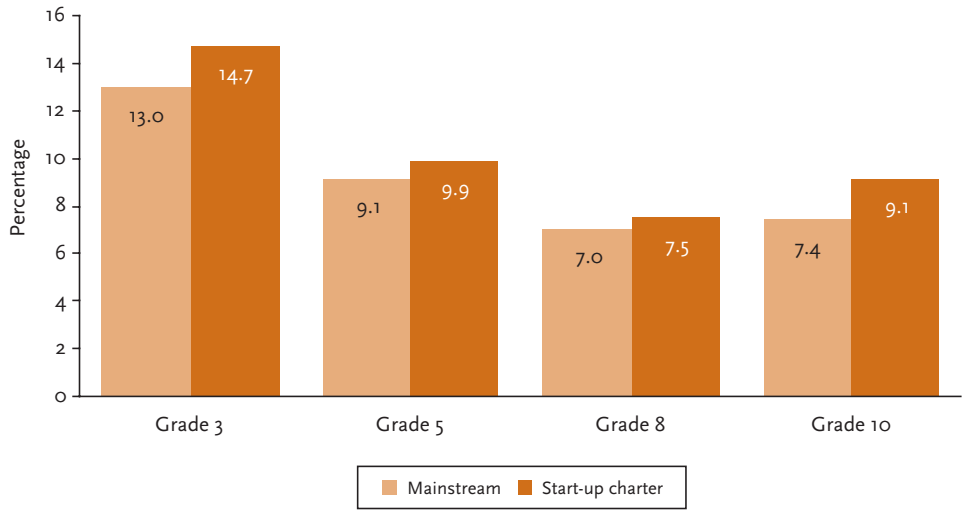


Data source: Hawai'i Department of Education 2001–02 to 2002–03.

On average, Native Hawaiian students enrolled in charter schools performed as well on the state's math proficiency exam as did their mainstream counterparts (Figure 4.86).

- Math proficiency rates among Native Hawaiian charter school students were comparable with those among Native Hawaiian students in mainstream public schools.
- For Native Hawaiian students in start-up charter schools and mainstream schools, math proficiency rates were highest at the elementary level and lowest at the middle school level.

FIGURE 4.86 Students with mathematics scores at or above "proficient" level as a percentage of all Native Hawaiian public school students tested, by start-up charter and mainstream public schools [HSA, by grade level, state of Hawai'i, school years 2001–02 to 2002–03 (combined)]

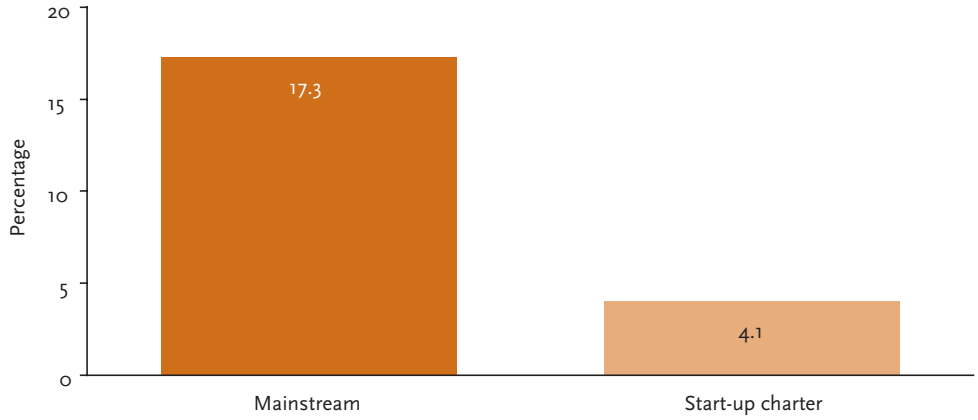


Data source: Hawai'i Department of Education 2001–02 to 2002–03.

Statistically significant differences were readily apparent in the prevalence of excessive absenteeism among Native Hawaiians in start-up charter schools and mainstream schools (Figure 4.87).

- Fewer than one in every twenty Native Hawaiian students enrolled in start-up charter schools (4.1 percent) had excessive absences.
- Native Hawaiian students in mainstream schools were more than four times as likely to be chronically absent from school as were their counterparts in start-up charter schools (17.3 percent versus 4.1 percent).

FIGURE 4.87 Students with excessive absences as a percentage of all Native Hawaiian public school students, by start-up charter and mainstream public schools [state of Hawai'i, school years 2001–02 to 2002–03 (combined)]



Data source: Hawai'i Department of Education 2001–02 to 2002–03.

Multivariate Findings. Preliminary conclusions drawn from the descriptive data indicate that, at the very least, Native Hawaiian students in start-up charter schools perform as well as their mainstream counterparts. Yet, these findings do not account for the distinct populations served by charter schools. To examine the results more fully, we must account for the fact that charter school students are demographically distinct. Among other things, start-up charter schools tend to serve disadvantaged populations that have high minority representation and a high percentage of children from low-income backgrounds.

Our next step, therefore, consisted of a series of multiple regression analyses that estimated the effect of start-up charter schools on Native Hawaiian achievement scores and absences, while controlling for other factors that have been shown to influence test scores.[31] To account for the effect of student attributes, such as demographic characteristics and background, we included variables in our models for gender, grade level, year of testing, participation in the subsidized school meals program (the only available information on family socioeconomic status), school district (a proxy for regional differences), and teacher credentials (the percentage of teachers with provisional or emergency credentials).[32] We also included interaction terms representing the relationship between grade level and school type because of the descriptive findings suggesting grade-specific effects for students in charter schools. Overall, the results of the analysis suggested that start-up charter schools have a positive effect on the achievement and engagement of Native Hawaiian students.

Table 4.18 summarizes the results of the regression analyses, showing the direction (positive or negative) of the effect associated with each variable and each educational outcome.[33]

To sum, the results in Table 4.18 illustrate several significant findings that emerge after adjusting for individual and school-level attributes. Specifically:

- Native Hawaiians in start-up charter schools performed significantly better on the SAT-9 reading test compared with Native Hawaiian students in mainstream public schools, after adjusting for differences in student attributes (i.e., gender, socioeconomic status, and grade), teacher credentials, and region.
- We find significant differences in HSA reading test scores between Native Hawaiian students in start-up charter schools and those in mainstream schools in Grade 8 and Grade 10 (see the variables Charter × Grade 8 and Charter × Grade 10 in Table 4.16), again after adjusting for other explanatory variables.
- Among tenth graders, we find that start-up charter school students performed significantly better than did mainstream students on both SAT-9 and HSA reading scores (see the variable Charter × Grade 10).
- On math tests (both SAT-9 and HSA), Native Hawaiian students in start-up charter schools scored significantly higher than did their mainstream counterparts, after controlling for gender, socioeconomic status, teacher credentials, grade level, and region.
- Finally, Native Hawaiian students attending start-up charter schools tended to be more engaged in school, judging by their attendance rates. They had significantly reduced rates of excessive absenteeism compared with their fellow students attending mainstream schools. The odds of Native Hawaiian students in start-up charter schools being chronically absent were about 74 percent lower than the odds among their counterparts in conventional public schools (not shown).

31. Linear regressions were used for analyses of test scores, and logistic regressions were used to analyze chronic absenteeism.
32. Earlier models of our regressions included school size as one of the control variables. The results were consistent and stable, whether or not the school size variable was incorporated. However, because research literature suggests a nonlinear relationship between school size and educational outcomes (i.e., student achievement does not consistently increase as school size decreases), the exact nature of which is unclear, we chose to remove the school size variable from our final models. Again, the effect of that omission was negligible.
33. As an additional precaution to address the individuality of charter schools, we also tested our findings excluding the Education Laboratory School, which is a university-based charter school designed for experimental school and curriculum development, and which has consistently outperformed other schools for many years. Our findings are consistent, whether or not the Education Laboratory School was included. Results reported here include the Education Laboratory School.

TABLE 4.18 Direction of the effects of start-up charter schools and other variables on the test scores and absenteeism of Native Hawaiian public school students [multivariate regression analyses, state of Hawai'i, school years 2001–02 to 2002–03 (combined)]

	Reading		Math		Excessive Absences
	SAT-9	HSA	SAT-9	HSA	
Start-up charter school	+	ns	+	+	–
Student/family/teacher characteristics					
Female	+	+	+	+	ns
Subsidized lunch	–	–	–	–	+
Emergency/provisional teacher credentials	–	–	–	–	ns
Grade level					
Grade 3 (test reference group)					unavail
Grade 5	–	–	–	–	unavail
Grade 6 (absence reference group)	unavail	unavail	unavail	unavail	
Grade 7 (no testing)*	unavail	unavail	unavail	unavail	+
Grade 8	–	ns	–	–	+
Grade 9 (no testing)*	unavail	unavail	unavail	unavail	+
Grade 10	–	ns	–	ns	+
Grade 11 (no testing)*	unavail	unavail	unavail	unavail	+
Grade 12 (no testing)*	unavail	unavail	unavail	unavail	+
District					
Honolulu (reference group)					
Central O'ahu	ns	ns	ns	ns	ns
Leeward O'ahu	–	–	–	–	+
Windward O'ahu	ns	ns	+	+	+
Hawai'i County	–	–	–	–	–
Maui County	–	–	–	–	+
Kaua'i County	–	–	+	ns	+
*Charter school x Grade***					
Charter x Grade 3 (reference group)					unavail
Charter x Grade 5	ns	ns	ns	ns	unavail
Charter x Grade 8	ns	+	ns	ns	unavail
Charter x Grade 10	+	+	ns	ns	unavail

Data source: Hawai'i Department of Education 2001–02 to 2002–03.

"+" indicates that the variable has a positive and statistically significant effect on the outcome ($\alpha = .05$).

"-" indicates that the variable has a negative and statistically significant effect on the outcome ($\alpha = .05$).

"ns" indicates that the variable does not have a statistically significant effect on the outcome.

"(reference group)" indicates that the value listed is the reference group for a broader categorical variable. For example, Honolulu serves as the reference group against which other school districts are measured. Thus, the negative sign for Leeward O'ahu indicates that children in the Leeward O'ahu district scored lower on achievement tests than did children in the Honolulu school district.

* "unavail" indicates that a variable was not included in the analysis of this particular outcome. For both the SAT-9 and HSA scores, Grades 6, 7, 9, 11, and 12 are unavailable because currently achievement tests are administered only in Grades 3, 5, 8, and 10. Similarly, for excessive absences, scores for Grades 3 and 5 are unavailable because chronic absenteeism is not tracked at the elementary level.

** Interaction terms (i.e., Charter x Grade) were also excluded from the excessive absence analysis after earlier analysis showed no statistically significant differences in grade-level effects.

Overall, the results highlight the benefits of start-up charter schools to Native Hawaiian children who face relatively poor prospects in mainstream schools. It is important to add that these outcomes represent a snapshot of student achievement and engagement at a single point in time. For any school evaluation or student assessment, it is also critical to measure gains achieved over time because year-to-year data are volatile, particularly in newer and smaller schools. In addition, other benefits of start-up charter schools include their unique culture and smaller community environment, which may affect other student and familial outcomes that we do not measure here. For these reasons, this analysis is preliminary; however, the results offer a starting point from which to begin more comprehensive research as new data become available.

More importantly, this analysis lends hope to the growing number of Native Hawaiians enrolled in start-up charter schools and encouragement to the charter school innovators supporting these students. Their efforts to develop and pursue alternatives outside the conventional public school classroom have yielded promising results and strong prospects for the future of Native Hawaiian education.

Private Schools

According to Census 2000, about 13 percent of school-age Native Hawaiian children are enrolled in private schools. Of those, more than half attend Kamehameha Schools, a private school that currently has an admissions preference for applicants of Native Hawaiian ancestry.

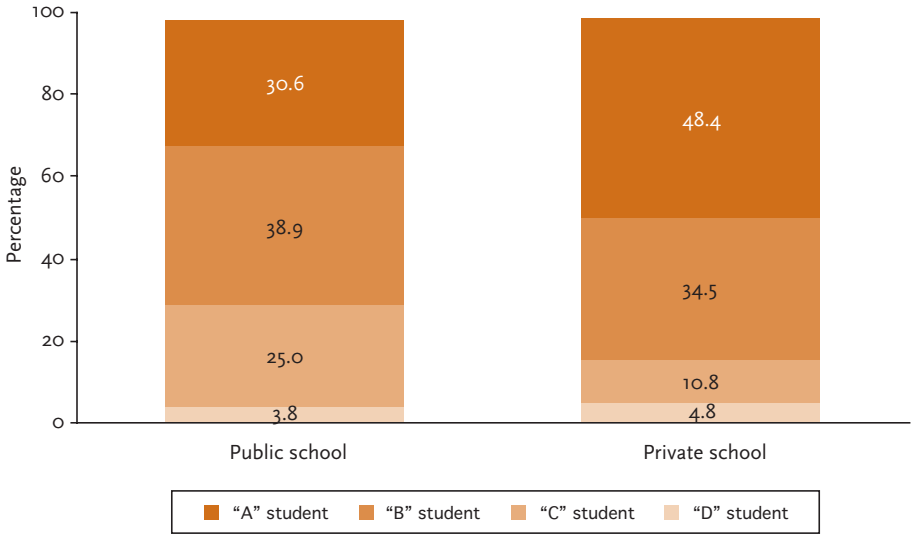
Very little is known about the overall educational outcomes of private school students and the effect that a private school environment has on Native Hawaiian children. Few private schools release data on student outcomes, and those that do provide summary statistics that rarely, if ever, separate those figures by ethnicity. The only private institution for which we have data on Native Hawaiian students is Kamehameha Schools, an organization that plays a prominent role as a Native Hawaiian educational alternative, accounting for fully 55 percent of all private school students of Native Hawaiian ancestry in the state (Kamehameha Schools–Policy Analysis & System Evaluation 2003). In this section we detail the few statistics available for Native Hawaiian private school students in general, as well as selected data from Kamehameha Schools.

Readers are advised that results for private institutions like Kamehameha Schools can be particularly difficult to evaluate because many use a competitive admissions process that primarily admits students with high achievement levels. Furthermore, students who attend private schools often enjoy privileged backgrounds with relatively higher levels of family income and parental educational attainment. Recent research offers further insights, finding that much of the difference in the outcomes of private and public schools may be attributed to the demographic and socioeconomic traits of their students and of the communities they serve (Benveniste, Carnoy, and Rothstein 2003). The study suggests that private and public schools located in inner cities share many of the same problems, and that suburban public schools are more similar to suburban private schools than they are to inner city public schools. These conditions raise the legitimate question: Do private schools create successful students, or do they *choose* successful students? Bearing in mind these important caveats, our analysis reveals significant differences between Native Hawaiian students in private and public school settings.

Figure 4.88 shows the average grades earned by Native Hawaiian children attending private and public schools, as reported by students' parents.

- Native Hawaiian private school students were one and a half times more likely to earn "A's" as were their public school counterparts (48.4 percent versus 30.6 percent).
- On average, 28.8 percent of Native Hawaiian public school students received grades of "C" or lower, compared with 15.6 percent of Native Hawaiian students attending private schools.

FIGURE 4.88 School performance of students in respondent Native Hawaiian households, by public and private schools [percentage distribution of students' average grade, reported by parents of children ages 5 to 17, state of Hawai'i, 2001]

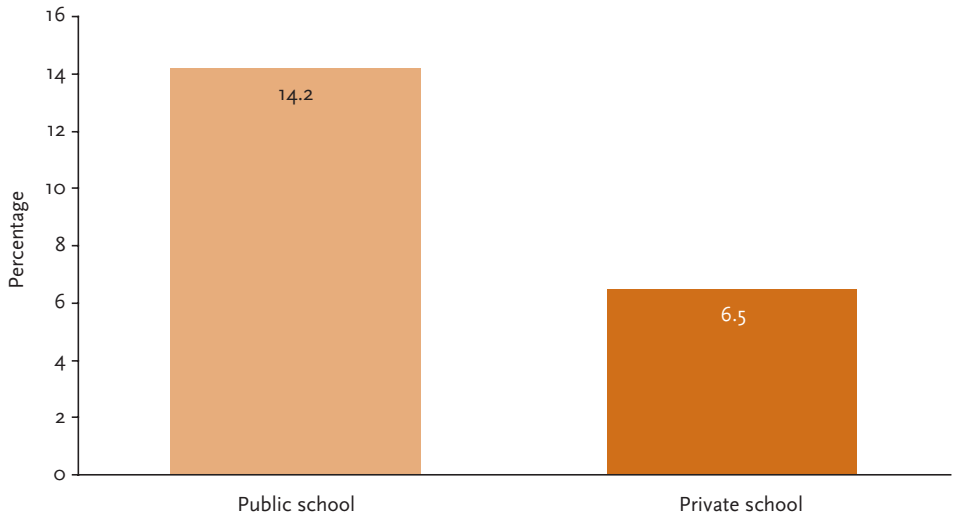


Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

Native Hawaiian children enrolled in public schools also report more negative school experiences. Figure 4.89 shows the percentage of Native Hawaiian public and private school students who have had problems with teachers or administrators at their schools.

- About one in seven Native Hawaiian children attending public schools (14.2 percent) reported having problems with teachers or administrative staff.
- Native Hawaiian public school students were twice as likely as their private school counterparts to experience problems with teachers or school administrators (14.2 percent versus 6.5 percent).

FIGURE 4.89 Students who have had problems with teachers or school administrators as a percentage of all students in respondent Native Hawaiian households, by public and private schools [reported by parents of children ages 5 to 17, state of Hawai'i, 2001]

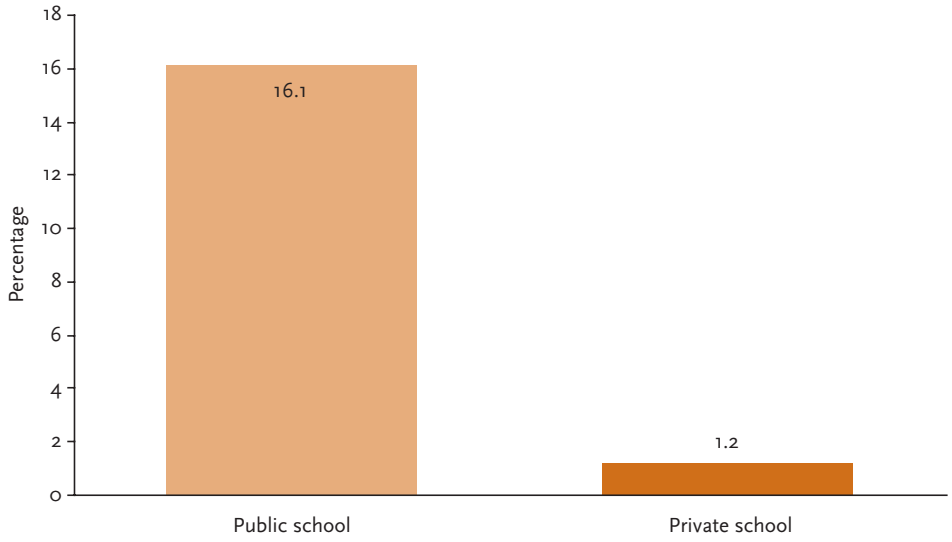


Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

Significant disparities in the rates of disability diagnoses were also apparent, as shown in Figure 4.90. Native Hawaiian students in the public school system are much more likely to be diagnosed with a physical or learning disability than are Native Hawaiian students attending private schools.

- Fully 16.1 percent of Native Hawaiian children in public schools were diagnosed with a physical or learning disability.
- Native Hawaiian public school students were more than ten times as likely as their private school counterparts to be diagnosed with a disability.

FIGURE 4.90 Students who have been diagnosed with a physical or learning disability as a percentage of all students in respondent Native Hawaiian households, by public and private schools [reported by parents of children ages 5 to 17, state of Hawai'i, 2001]



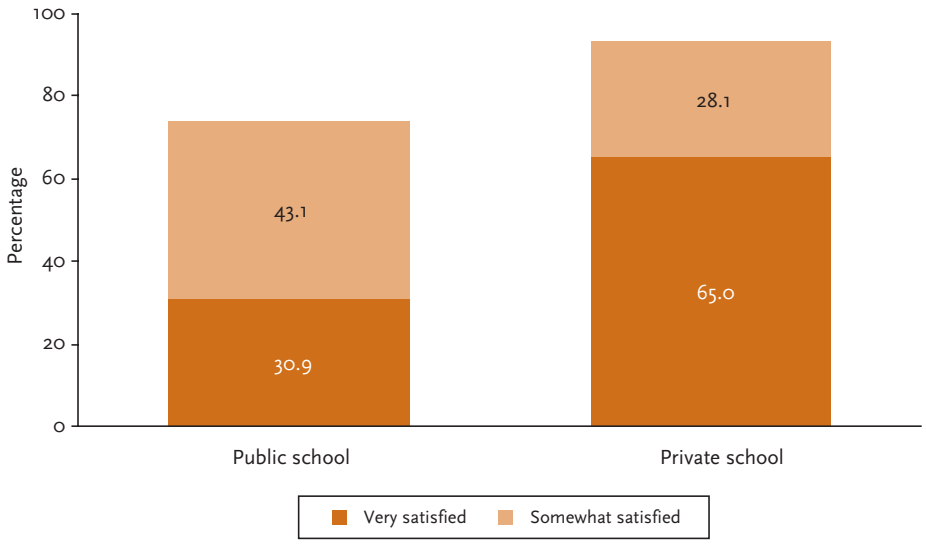
Source: Kamehameha Schools, Hawaiian Community Survey 2001.

These figures highlight two important issues. First, the high rate of disability diagnoses underscores the overrepresentation of Native Hawaiian children in the state's special education program. Second, these statistics point out the disproportionate burden the public school system must carry in supporting the needs of special children.

Parent satisfaction rates are often used as an overarching measure of school quality and parent opinions. Given previous private school figures showing the low prevalence of problems between students and teachers—as well as the comparatively high grades earned by private school students—it is not surprising that parents of Native Hawaiian private school students express high levels of satisfaction with their children's school (Figure 4.91).

- Fully 93.1 percent of parents of Native Hawaiian private school students reported being satisfied with their children's education, compared with 74.0 percent of parents with children in public schools.
- Parents whose children attended private schools were more than twice as likely as their public school counterparts to respond that they were "very satisfied" with their children's school.

FIGURE 4.91 Parents who are satisfied with their children's schooling as a percentage of all Native Hawaiian parent respondents, by public and private schools [parents of children ages 5 to 17, by level of satisfaction, state of Hawai'i, 2001]

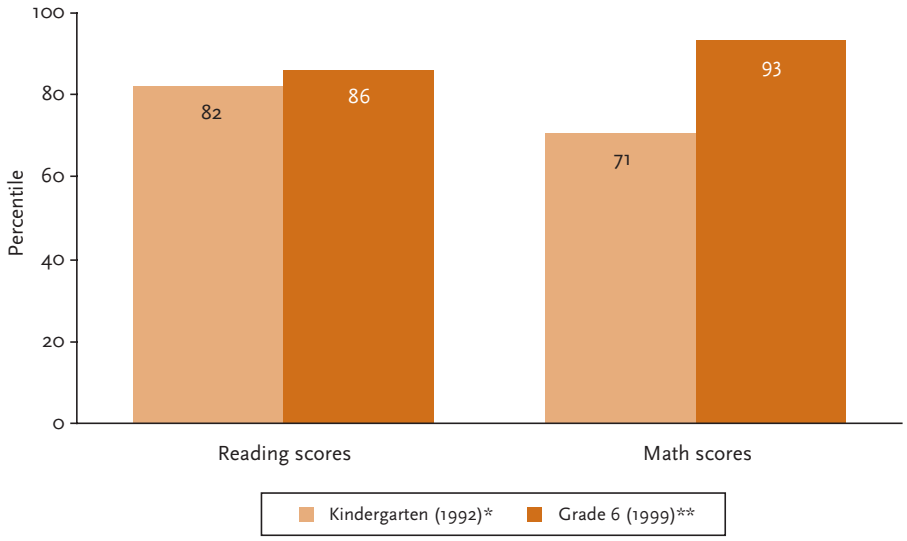


Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

Achievement data for students of Kamehameha Schools seem to confirm the positive achievement outcomes among Native Hawaiians attending private schools. For example, KS students enter school with high average scores and improve their performance over the course of their schooling. A longitudinal study of KS elementary students found that students made significant progress in both reading and mathematics between their admission into kindergarten in 1992 and the end of their sixth grade year in 1999 (Figure 4.92).

- At entry to kindergarten in 1992, KS students tested at the 82nd percentile in reading and the 71st percentile in mathematics.
- By the end of sixth grade, these same students scored at the 86th percentile in reading (an increase of 4 percentiles) and the 93rd percentile in mathematics (an increase of 22 percentiles).

FIGURE 4.92 Trends in achievement within a single cohort of Kamehameha Schools elementary students
[DSC and SAT-9, percentile rank of average score, by test subject, selected years]

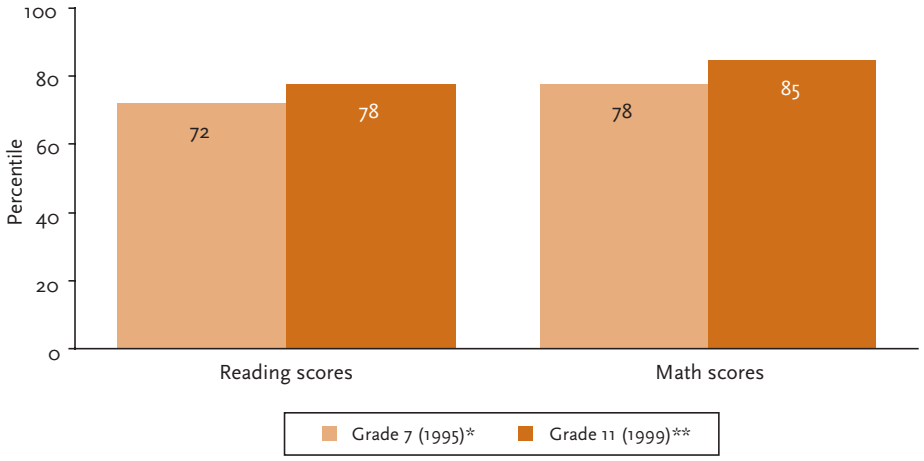


Data source: Kamehameha Schools, student test data 1992–93 to 1999–00.
* DSC (Developing Skills Checklist) pre-reading and quantitative concept scores.
** SAT-9 reading and mathematics scores.

These findings suggest that, over the course of their schooling, KS students made significant gains compared with national norms. A longitudinal analysis also shows significant gains for high school juniors who entered Kamehameha Schools four years earlier as seventh graders (Figure 4.93).

- At entry, seventh graders tested at the 72nd percentile in reading and the 78th percentile in mathematics.
- By Grade 11, these same students scored at the 78th percentile in reading (an increase of 6 percentiles) and the 85th percentile in mathematics (an increase of 7 percentiles).

FIGURE 4.93 Trends in achievement within a single cohort of Kamehameha Schools secondary students [CTP-III and SAT-9, percentile rank of average score, by test subject, selected years]

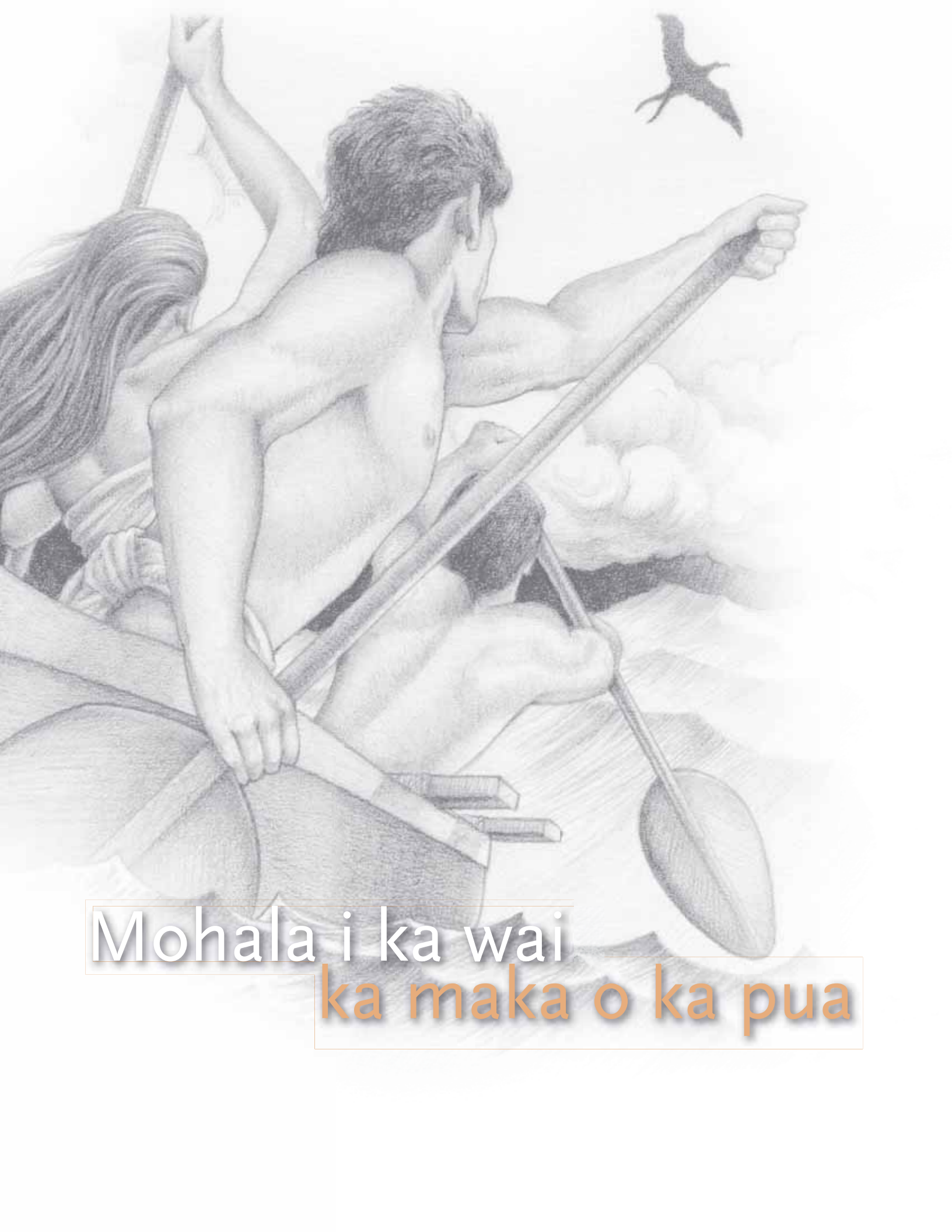


Data source: Kamehameha Schools, student test data 1995–96 to 1999–00.
* CTP-III (Comprehensive Testing Program III) reading and mathematics scores.
** SAT-9 reading and mathematics scores.

Overall, the data suggest that Native Hawaiian students who attend private schools perform well in school and have positive educational experiences. However, because private school students generally come from more advantaged backgrounds and are frequently selected for admission based on preexisting achievement, it is unclear to what extent the scholastic success of Native Hawaiian private school students is attributable to the schools themselves or to the social and economic advantages that private school students bring with them. Notwithstanding, data from Kamehameha Schools suggest the potential for quality educational experiences to improve outcomes for Native Hawaiian students.

School-age Native Hawaiian children continue to face significant challenges on their paths from early childhood to adulthood. The financial and social hardships many Native Hawaiian children struggle with in the home, and the limited resources to which they have access as infants and toddlers, all too often manifest themselves in self-destructive behaviors and poor educational outcomes during the critical K–12 years of schooling. These disadvantages may be exacerbated by inequities in the distribution of educational resources across the public school system. Increasingly, however, efforts within the Native Hawaiian community to develop new models of Hawaiian education offer promising results, most notably among Hawaiian-focused charter schools.

Part Five discusses innovative strategies for incorporating Hawaiian values and traditions with modern methods to improve the educational opportunities available to current and future generations of Native Hawaiian children.



Mohala i ka wai
ka maka o ka pua

‘ELIMA | PART FIVE

Culture, Innovation, and Promising Directions in Native Hawaiian Education

[FLOWERS THRIVE WHERE THERE IS WATER]

5

PART FIVE INTRODUCTION

Native Hawaiians are uniquely positioned to draw on the dual resources of both cultural and Western knowledge systems. In the evolution of Hawaiian education, several strategies have emerged that promote and reinforce Native Hawaiian ways of knowing and doing. These strategies exist together with—and sometimes in place of—conventional Western educational frameworks. Part Five explores some of these promising directions for Native Hawaiian education, including those based on cultural approaches to learning.

The findings presented throughout *Ka Huaka'i* make it clear that new directions and innovation are needed for Native Hawaiian learners. Many efforts are under way within Native Hawaiian communities to address some of the known challenges. To illustrate these advances, we highlight several strategies that represent progress and models for improving Native Hawaiian well-being, especially in the educational domain. Within each strategy, there is a wide range of programs that represent innovative and best-practices approaches: some cultivate cultural values and identity, some are based on traditional knowledge systems, and others holistically integrate cultural beliefs, traditions, and language.

The discussion that follows is unavoidably incomplete and contains abbreviated descriptions of program goals and activities. It should not be viewed as a listing or ranking of the best or most worthy programs but as an attempt to demonstrate a leading edge of evidence-based educational approaches. These approaches include many that create the space for indigenous culture as a foundation for learning.[1]

Part Five is organized into four broad educational strategies:

- *I Ka 'Ōlelo Nō Ke Ola:* Promoting Hawaiian language as the medium of instruction
- *He Hawai'i Au:* Reinforcing Hawaiian cultural identity and traditional practices
- *'O Ka 'Āina Ke Ali'i:* Learning through place-based education and experience
- *Ka 'Ohana A Me Ke Kaiāulu:* Engaging support from family and community

1. The programs presented in Part Five constitute a snapshot at one point in time. The realities of funding and other issues dictate an ever-changing array of programs and services, which is why we attempt to isolate basic strategies and refer to programs as examples of innovative approaches.

I Ka 'Ōlelo Nō Ke Ola: PROMOTING HAWAIIAN LANGUAGE AS THE MEDIUM OF INSTRUCTION

The Hawaiian language is the window to Hawaiian culture, history, and traditions (Kimura 1983). Its resurgence in recent decades has extended from early childhood education programs targeting very young learners to graduate education at the university level. The results have been rewarding, as Hawaiian appears to be "the only indigenous language in the United States that showed growth in the 2000 census" (Staton 2005, paragraph 8).

Hawaiian-medium schools are a frontrunner in the efforts to preserve Hawaiian language and provide culturally grounded education to Native Hawaiian children. Also known as Hawaiian immersion schools, they maintain that language is the basis of culture and that a strong cultural identity will in turn promote successful educational outcomes. Immersion schools use Hawaiian as the medium of instruction for all or most of the school day. In nearly all cases, children are taught solely in Hawaiian from kindergarten through Grade 5, and some schools offer this experience through Grade 12 for most classes and content areas. Emphasis is also placed on encouraging parents to use Hawaiian in the home environment.

The effects of indigenous language immersion have been difficult to evaluate systematically because of the lack of appropriate assessment tools and ongoing resource shortages that plague immersion schools. However, a number of studies have examined individual immersion programs and found promising results in student achievement. For example, Holm and Holm (1995) found that Navajo immersion students at Fort Defiance, Arizona, significantly outperformed their nonimmersion counterparts on standardized math tests and scored as well or better than nonimmersion students on local English assessments. Harrison (1998) reviewed one Māori immersion program in New Zealand and found that immersion children excelled on all achievement tests except English, and that the first cohort of immersion students at the school were up to four times as likely as their mainstream predecessors to earn passing scores on national tests of math, science, geography, history, and graphic design (Harrison 1998; Wilson 2004).

'Ōlelo Hawai'i engages and inspires young learners. *Photo by Michael Young*

In addition, research suggests that immersion programs build self-esteem, cultural identity, and scholastic engagement among children of historically marginalized minorities. Slaughter (1997) found that Hawaiian immersion students more often are proud of their ethnic heritage than are their mainstream peers. Evidence from New Zealand's National Education Monitoring Project (2002) suggests that Māori immersion students better understand traditional Māori values (e.g., appreciation and protection of natural resources) and express greater confidence in their abilities than do mainstream Māori students.

Language is key to the vitality and intergenerational transmission of culture. *Photo by Calvin Kaneshiro*

ʻAha Pūnana Leo (ʻAPL) is regarded as a trailblazer in the revitalization of Hawaiian language. The first *Pūnana Leo* ("language nest") preschool was formed in 1983 as an early childhood center where native-speaking *kūpuna* (elders) would transmit language to young children by interacting with them entirely in Hawaiian. ʻAPL currently includes twelve Pūnana Leo preschools and three K–12 charter schools on five islands. The ʻAPL school model was inspired by the Kōhanga Reo preschools of Aotearoa (New Zealand) and was developed in consultation with Tamati Reedy, a pioneer in the Māori language revitalization movement. ʻAPL schools not only use Hawaiian as the medium of education but also teach using a philosophy that frames content and experiences in a Hawaiian worldview. *The Kumu Honua Mauli Ola* philosophy holds that Hawaiian language alone cannot sustain a culture but must be coupled with traditional knowledge, spirituality, and culturally appropriate behaviors (Goldstein and Andrews 2004). Persistence on the part of families has provided a key building block for advancing Hawaiian language in public educational settings and has fueled efforts to expand Hawaiian language to all levels.

ʻAha Pūnana Leo

Includes twelve preschools and three K–12 charter schools on five islands.

Educated more than 3,000 preschoolers since 1985.

Provides financial aid for postsecondary education.

Emphasizes media and technology production.

Created 120+ jobs, mostly in rural areas.

22 percent of staff started as Pūnana Leo parents.

95 percent of staff are Native Hawaiian.

ABOVE LEFT: Keiki gain language skills that form the basis of a Hawaiian worldview. *Photo by Michael Young* **ABOVE RIGHT:** The future of Hawaiian language rests with our 'ōpio. *Photo by Michael Young*

In the state's public school system, Hawaiian-medium education began to take root in 1986 with the establishment of the **Papahana Kaiapuni** (Hawaiian Language Immersion Program). *Kula kaiapuni* (Hawaiian immersion schools) use Hawaiian language and culture to teach content in kindergarten through Grade 12. Kula kaiapuni utilize an educational framework based on Native Hawaiian culture and language, rather than trying to make Hawaiian history and culture lessons fit into the existing fourth-grade curriculum (see Kaomea 2005), typical of mainstream public schools. Kawakami (2004) describes the Papahana Kaiapuni as "a statewide alternative parallel to the English medium public education system" (p. 118). It is not simply administering the standard curriculum in the Hawaiian language but rather, as Kawakami states, situating the substance of a quality education within a Native Hawaiian context. About twenty-one kula kaiapuni sites are active in the state, with an enrollment of approximately 1,400 students.

Hawaiian language is the foundation of mele, hula and oli. *Photo by Michael Young*

Anecdotal evidence testifies to the accomplishments and successes of students in Hawaiian-medium schools (Wilson 1998). For example, Hawaiian-medium schools have increasingly been extolled for their ability to motivate and engage Native Hawaiian children who might otherwise be prone to alienation from school and the learning process. They have been praised as well for their high levels of parent involvement.

He Hawai'i Au: REINFORCING HAWAIIAN CULTURAL IDENTITY

Native Hawaiian identity is inextricably tied to genealogy, place, and ancestral traditions (Blaisdell 1993b; Kame'eleihiwa 1992b; Kanahele 1986; Kana'iaupuni and Liebler 2005; Kawakami 1999). Programs that build on the connection between Native Hawaiian identity and cultural heritage allow children to integrate—and augment—the influence of Hawaiian culture in their own lives. Learning about their cultural heritage helps children build a strong ethnic identity, have pride in their cultural roots, and gain confidence in their own abilities.

The Native Hawaiian worldview is based on the interconnectedness of all things and a belief that life is both creative and ordered. Illness and misfortune are manifestations of imbalance in this order (Pukui, Haertig, and Lee 1972; Pukui et al. 1972). Over the years, repression—and in many instances ignorance—of Native Hawaiian culture and its unique achievements has led to clashes in cultural values and uncertainty about cultural identity. Learning and encouraging meaningful connections to the native heritage helps build the confidence to meet life's uncertainties while strengthening cultural moorings and spiritual well-being.

A substantial body of research documents the beneficial effects of cultural identity on the self-esteem and resilience of children (Phinney 1995; Phinney and Alpuria 1990; Phinney, Cantu, and Kurtz 1997; Phinney and

Young Native Hawaiians connect with ancestral traditions and represent a new generation of leaders.
Photo by Michael Young

Kula Kaiapuni

Hawaiian-medium students on the whole perform well on reading assessments.

Students enjoy reading and speaking Hawaiian.

Students gain confidence in their Hawaiian language skills.

Students possess a more developed ethnic and cultural identity.

(Slaughter 1997; Slaughter and Lai 1994)

Chavira 1992). Among Native Hawaiian adolescents, who are particularly vulnerable to depression (Saka and Lai 2004), a strong and positive ethnic identity acts as a protective influence on children's emotional health (McCubbin 2003) and their educational outcomes (Kana'iaupuni and Else 2005). Educational programs that incorporate elements of indigenous students' culture have achieved promising results with historically disadvantaged student populations. For example, in the Yup'ik Eskimo community in Alaska, indigenous children have made substantial gains in math achievement under a newly developed form of "Yup'ik Mathematics," which builds on the math principles embedded in the Yup'ik language,

FAR LEFT: Students enact cultural history, legends, and mo'olelo through oral tradition and dance. *Photo by Michael Young*

NEAR LEFT: Kalo signifies the origins of life, the islands, and kānaka maoli. *Photo by Michael Young*

traditions, and practices (Lipka 1994; Lipka and Adams 2004; Lipka et al. 2001). Among Māori, Rubie (1999) found that children who participated in a culturally intensive program exhibited improvements in self-esteem, social skills, academic performance, and attitudes toward school, compared with a control group. These findings on the positive effects of ethnic and cultural identity are not limited to elementary and secondary students. For example, Huffman, Sill, and Brokenleg (1986) found that adherence to cultural traditions and practices was associated with higher grade point averages among Navajo college students.

The benefits of cultural identity are especially important to indigenous groups such as Native Hawaiians, many of whom struggle with a negative view of themselves and their people stemming from a history of colonization and oppression, the misrepresentation and commercialization of their culture, and ongoing sociopolitical inequities. Pukui et al. (1972) argue that "shame or denial of cultural ways" among Native Hawaiians "stems in part from handed-down attitudes that began with initial encounters with Westerners, both missionaries and laymen" and from a "fragmented and distorted knowledge of the culture" (p. 311). Vestiges of these historical injustices remain in the ongoing socioeconomic, physical, and educational disadvantages Native Hawaiians face, as well as the persistence of negative stereotypes about Native Hawaiians in the larger society (Kana'iaupuni 2005). Consistent with the trends documented in Part Four, research suggests that Native Hawaiian students contend with negative stereotypes on an ongoing basis and too often internalize these distortions, developing unhealthy beliefs about themselves, their ethnic background, and their cultural roots (Mayeda, Chesney-Lind, and Koo 2001).

Experiences with discrimination, perceived or otherwise, have real psychological consequences for students. Steele and colleagues (Steele 1992, 1997, 1999; Steele and Aronson 1995, 1998) have found that perceptions of discrimination can negatively affect student achievement and engagement in school. They argue that stereotype threat—"the threat of being viewed through the lens of a negative stereotype, or the fear of doing something that would inadvertently confirm that stereotype" (Steele 1999, p. 12)—creates stress that may impede the performance of disadvantaged minority students and eventually lead them to disengage from academics (Ogbu 1991; Steele and Aronson 1998). This research suggests that the key to

dispelling stereotype threat and its effects is to provide students with a learning environment they trust. Empirical evidence supports the value of a separate, secure learning environment for systematically disadvantaged groups of students. Studies show that, compared with their counterparts in predominantly White postsecondary institutions, African American students in historically Black colleges and universities have better self-concept, higher achievement, and are more likely to graduate (Allen 1986; Anderson 1984; Berger and Milem 2000; Bohr et al. 1995; Fleming 1985; Pascarella et al. 1996). Similarly, studies of same-sex schools suggest that girls perform better academically and have greater postsecondary success than do girls in coeducational schools (Lee and Bryk 1986; Riordan 1990, 1998).

Participating in Hawaiian food preparation, language, and customs is central to sustaining cultural identity. *Photo by Michael Young*

Consistent with this research, **Kamehameha Schools** offers Native Hawaiian students access to a separate and secure learning space of their own—an institution endowed by a Native Hawaiian for Native Hawaiians. Founded in 1887, Kamehameha Schools has provided students a context rich with positive images of Hawaiians, from the schools' origins and ties to its founder, Bernice Pauahi Bishop, to the prominent historical figures of Hawai'i, including Kamehameha the Great. Recent efforts within Kamehameha Schools continue to expand the cultural knowledge and opportunities available to students, reinforcing cultural and ethnic identity by reacquainting children with the traditional knowledge and practices of their ancestors.

Hawaiian performing arts teach traditional knowledge and strengthen cultural identity. *Photo by Michael Young*

Hāna Diabetes Family Education Program

Participants achieved higher rates of self-monitoring for blood glucose level.

All program graduates expressed increased comfort accessing health care.

Graduates became more likely to keep their medical appointments.

Nearly 90 percent of participants indicated increased physical activity.

Program graduates reported eating more vegetables and referring to food labels more often than before.

Participants using lomilomi for stress management increased from 30 percent to 100 percent.

Internal research to date from the Policy Analysis & System Evaluation (PASE) department supports the value of the separate learning space and cultural opportunities available to Native Hawaiian children at Kamehameha Schools. Studies show that its students are socially well adjusted, academically prepared, and likely to give back to their communities as adults. Even after adjusting for other contributing factors, rates of aggression and substance abuse among the students are lower than the Native Hawaiian average and are comparable with those of non-Hawaiians. These findings suggest the benefits of providing a learning space for Native Hawaiian children that is free from the threat of discrimination or negative stereotypes, filled with the achievements of Native Hawaiians, and rich in Hawaiian history and culture.

Students gain practical skills that reinforce Hawaiian cultural heritage and pride.
Photo by Michael Young

The educational strategy of connecting with Hawaiian heritage is further exemplified by **Nā Pua No'eau Center for Gifted and Talented Native Hawaiian Children,** which has played an important role in promoting the cultural identity of school-age Native Hawaiian children. Funded in part through the federal Native Hawaiian Education Act, Nā Pua No'eau was developed by the University of Hawai'i–Hilo to provide educational enrichment programs for Native Hawaiian children. The program's activities are designed to enhance children's education with authentic cultural experiences, including visits to the island of Kaho'olawe, field trips to a traditional voyaging canoe, working in *lo'i kalo* (taro fields), and *poi* (pounded taro root) making. Although originally offered only in Hilo during the summer, Nā Pua No'eau has expanded in recent years to include most of the other major islands and year-round services.

Several other programs likewise seek to develop Native Hawaiian children's knowledge of and identification with their cultural roots. The **Ho'omāka'ika'i** (Explorations) and **Kūlia i ka Pono** programs are one- to two-week-long Kamehameha Schools summer boarding programs for Native Hawaiian students enrolled or preparing to enroll in public middle schools. Through field trips and hands-on activities, the programs educate Native Hawaiian children about their cultural heritage through literature, *hula* (Hawaiian dance), arts, plants, music, and ocean studies.

Other literacy and cultural programs from Kamehameha Schools function to supplement the public schools' Hawaiian Studies curriculum with reading and writing skills in Hawaiian and English; promoting children as authors and illustrators; incorporating components such as the development and dissemination of culturally appropriate materials; presentations on Hawaiian Studies by kūpuna; and providing hands-on learning experiences with historic Native Hawaiian artifacts.

Various initiatives strengthen children's cultural identity indirectly through teacher education and curriculum materials. Teacher education programs that are culturally and/or language based include **Kahuawaiola,** an indigenous teacher certification program administered by Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language at the University of Hawai'i–Hilo. Kahuawaiola prepares teachers to serve in Hawaiian-medium schools and in Hawaiian language and culture programs within English medium schools that serve Hawaiian students. In addition, the **Kaho'iwai Hawaiian Education Teacher Education Cohort,** developed and administered by a Native Hawaiian professor at the University of Hawai'i, College of Education, is a two-year program utilizing culturally relevant curriculum and teaching strategies to prepare elementary teachers to teach from a Hawaiian perspective. To assist with curriculum, *He Hawai'i Au: A Hawaiian History, A Hawaiian Perspective* is a text developed by immersion school teachers to provide Native Hawaiian content and curriculum for fourth-grade public school teachers to use in their classrooms.

Introducing cultural elements into Native Hawaiian adult programs also has gained momentum in recent years and appears to have a positive effect on participants' self-confidence, self-awareness, and social well-being. One such program, **Ho'omau Ke Ola**, is a Hawaiian cultural recovery-based program that offers rehabilitation education services to clients, including former inmates. The program seeks to incorporate cultural values into the healing process for both its residential and outpatient clients. The curriculum includes Hawaiian cultural components of genealogy, *oli* (Hawaiian chant), hula, and crafts and encourages participants to turn to their cultural heritage to find self-esteem and cultural pride. Clients learn cultural methods for conflict resolution and tools to be *pono*—or upstanding. Cultural sessions to align spiritual, emotional, physical, and familial balance are incorporated throughout the curricula. *Aloha 'āina* (love and respect for the land) and *kuleana* (responsibility/privilege) are encouraged as the foundation to achieve balance individually and within families.

A similar educational program that supports former inmates is **Being Empowered and Safe Together (BEST)**, administered by Maui Economic Opportunity in collaboration with the Hawai'i Department of Public Safety. BEST teaches Hawaiian culture and concepts to facilitate the reintegration process of inmates from the Maui Community Correctional Center. By learning about Hawaiian culture through song, dance, and history, participants develop and express increased pride in self, heightened feelings of accomplishment and cultural awareness, and improved self-confidence.

Substantial inroads in health education also have been made by placing cultural identity within the context of Hawaiian traditions in healing and nutrition. For example, the **Hāna Diabetes Family Education** program offers participants culturally based nutrition and fitness education first implemented in the predominantly Native Hawaiian community of Hāna, Maui. The program reinforces Native Hawaiian values and traditions and

Learning about and contributing to the revival of traditional Hawaiian voyaging stimulates cultural identity and hope. *Photo by Kaimana Barcarse*

Ho'omau Ke Ola

Culture-based rehabilitation program helps ease the process of mental healing.

Recidivism is low, ranging from 1 to 4 percent.

The program serves 150 residential, day, and outpatient clients (majority are Native Hawaiian).

The eight-week curriculum incorporates ho'oponopono, aloha 'āina, and spiritual balance.

63 percent of participants complete the treatment program (national average is 55 percent).

84 percent of program graduates remain clean and sober.

uses cultural elements that engage Native Hawaiian participants and increase their comfort with medical practices and terminology. For example, the dietary regimen and cooking sessions are based on traditional Hawaiian food while stress management is taught in part through *lomilomi* (traditional Hawaiian therapeutic massage). Further, a system of social support emphasizes community among participants and staff, and participants are encouraged to draw on the strength of *'ohana* (family). A preliminary evaluation of the program identified promising results (Odom and Crabbe 2004).

In the field of science, recent efforts promote Native Hawaiian participation in science programs, building on indigenous expertise and cultural knowledge about resource management, environmental studies, and other sciences. Programs like **Hui Konohiki** help university students integrate traditional Native Hawaiian perspectives and practices with modern technology and sophisticated monitoring tools. Other programs, such as the **Keaholoa Project** and the **Minority Agricultural Research Student Support**, provide internships, tutorials, and grants to Native Hawaiian students studying math, geology, chemistry, biology, astronomy, and other sciences.

Hands-on approaches teach the values of mālama 'āina, kuleana, and alu like.
Photo by Michael Young

Ke Ala Lōkahi is another educational project that utilizes Hawaiian culture to serve an adult population. This pilot project was developed collaboratively by Turning Point for Families, the Queen Lili'uokalani Children's Center, and the University of Hawai'i School of Social Work to address the issue of domestic violence within the Native Hawaiian community. The program's curriculum uses Native Hawaiian values, beliefs, and traditions to design interventions for both the perpetrators and survivors of violence. For example, perpetrators learn that their abusive actions and attitudes conflict with traditional Native Hawaiian values such as pono. Survivors are encouraged to *mālama* (care for) themselves as they learn about the strength of women in Hawaiian history and traditional Hawaiian culture. Through "talk story," issues are brought up indirectly, allowing participants to feel more comfortable than they might with straight-to-the-point methods typical of Western approaches.

Ke Ala Lōkahi also uses place-based activities in natural environments (e.g., tidepools, lava flows, etc.) to offer lessons relating to issues being discussed. This approach provides culturally appropriate guidance based on the knowledge and history of Hawaiian ancestors. At the same time, lessons promote an understanding of Hawaiian culture and build self-esteem among participants.

'O Ka 'Āina Ke Ali'i:
LEARNING THROUGH PLACE-BASED EDUCATION AND EXPERIENCE

The use of traditional Hawaiian teaching methods continues to gain momentum in efforts to strengthen Native Hawaiian education. Hawaiian teaching methods before Western contact focused on experiential learning, mentor-based instruction, hands-on involvement, observational activities, and memorization techniques (Kelly 1982). These proven methods—which reinforce language, cultural values, and behaviors—existed for generations and are still relevant for today's learners. Although it may be difficult for contemporary Native Hawaiians to share the same degree of involvement and connection with ancestral lands as in former times, place is fundamental to Native Hawaiian identity (Kanahele 1986; Pukui, Haertig and Lee 1972; Kana'iaupuni and Malone 2004). Restoring and preserving connections to the land, caring for the sea, and maintaining *wahi pana* (historically significant places) create the space for Native Hawaiians to maintain traditional practices that nourish spiritual well-being.

Sense of Place: Significance of the Land in Native Hawaiian Identity and Learning

Hawaiian oli suggest that Hawaiian culture grew and developed in close relationship with island geography (Kame'eleihiwa 1992b). Unlike Western concepts, which tend to focus on land largely as an economic resource, traditional Hawaiian beliefs hold that humans and land exist in

The sea and shore provide education, sustenance, and historical context for Native Hawaiians. *Photo by Michael Young*

Kanu o ka 'Āina outcomes

The average daily attendance rate is 94 percent.

Parents are highly involved (attendance at quarterly meetings reaches up to 99 percent).

Students built a native arboretum and ethnobotanical garden to which the local community contributes.

Staff and students created a mural featuring songs, oli, poems, and stories about specific wahi pana.

Students wrote and illustrated original bilingual books based on a Hawaiian worldview.

Teachers and learners conducted community-based research projects based on kūpuna interviews and texts.

a reciprocal relationship (Blaisdell 1993b). The ʻāina is imbued with ancestral *mana* (spiritual force) that is preserved through the generations (Kameʻeleihiwa 1992b; Kanahele 1986). The strong connection to one's surroundings comes from centuries of living, cultivating, learning, sharing, stewarding, and dying on the same land.

Place-based learning, therefore, situates the learner in the rich history, stories, and oli of the land, and at the same time reinforces the integral link between the ʻāina and one's own identity. In Hawaiian thought, this accumulated knowledge is considered to be a source of spiritual strength and life force. Ignorance of place, on the other hand, weakens a person's identity (Kanahele 1986).

ABOVE LEFT: Students explore the environment of their ancestors. *Photo by Michael Young* **ABOVE RIGHT:** Place-based educational activities are a source of collaborative learning and relationship building. *Photo by Michael Young*

Studies show that Native American students exhibit a greater preference for tactile and concrete learning experiences compared with their peers (Rhodes 1990; Wauters et al. 1989). Similarly, in a study of best practices among successful teachers of Native Hawaiian students, Kawakami and Aton (2001) demonstrate that educational activities are most effective when they are experience based and set in authentic environments. These findings are consistent with research showing the positive effects of place-based forms of education in a wide variety of settings (Becket 2003; Gruenewald 2003; Kawakami 1999; Smith 2002). Yamauchi (2003) reports positive results in a review of the Hawaiian Studies program at Waiʻanae High School, which provides students with hands-on experiences at significant places within their community (e.g., streams, freshwater ecosystems, and cultural sites in Waiʻanae Valley). Compared with other students, adolescents who participated in these place-based learning activities had higher attendance rates, were less likely to drop out of school, and showed greater interest in postsecondary education.

Creatively tapping into this potential, place-based learning is a pillar of the Hawaiian charter school movement. **Kanu o ka ʻĀina New Century Public Charter School,** for example, is at the forefront of place-based education. Kanu o ka ʻĀina developed a project-based and place-based curriculum that integrates the natural environment and the community in children's learning. For instance, students engage in authentic experiences at particular wahi pana that serve as outdoor learning laboratories. Its successes include rigorous academic work and engaged students and families (Kanu o ka ʻĀina 2004).

Through its Extension Education Division, Kamehameha Schools has implemented a number of place-based, noncampus educational programs for Native Hawaiian students. The **Hoʻolauna** programs introduce public school students to the cultural history and significance of the island on which they live.

Native Hawaiian cultural traditions and values are taught through fieldtrips and activities grounded in the unique history and resources of *ahupua'a* (a traditional Hawaiian land division that typically extends from the mountains to the sea) on each island. The week-long boarding programs are held in Kona and on Kaua'i and Moloka'i. Another initiative from Kamehameha Schools, **Ka 'Ike o nā Kūpuna**, promotes literacy and Native Hawaiian cultural knowledge in the lower grades of public elementary schools. Experienced kūpuna lead lessons based on the immediate communities and the ahupua'a in which children live.

From a sense of place grows a sense of kuleana. Several programs encourage responsibility toward the land in the form of stewardship as part of a broader educational strategy. For example, Chaminade University, through Honolulu's Hawaiian Leadership Education Training Program, teaches hands-on stewardship through **Nā Ala Hele i ke Ao.** In this program, most of the classwork takes place outside the classroom, with students doing community service and work in taro patches, fishponds, and on trails. The concept of *mālama 'āina* (caring for the land)—essential to Native Hawaiians—is incorporated directly into the program's activities.

Stewardship and identification with the land are also integral to the educational efforts of the previously mentioned **Ho'omau ke Ola** substance abuse program in Wai'anae, O'ahu. Ho'omau ke Ola residents regain ties to the land through a back-to-basics approach at the nearby **Ka'ala Farm,** where recovering addicts visit and work once a week. The program aims to kindle a sense of pride and heightened self-esteem among residents by teaching Hawaiian history, crafts, and arts while also reforging a physical and emotional connection with the land. Every activity is undertaken in the context of the land's history and needs, which resonates with the history and needs of a healthy Native Hawaiian society. For example, before residents enter the lo'i kalo to clear weeds or before washing off in a stream, they recall their ancestors' dedication to the land. This reminder encourages residents to honor their past with pono behavior and to avoid harming their own spirit—or that of the land—with drug or alcohol abuse.

ABOVE LEFT: The ocean is a classroom. *Photo by Michael Young* **ABOVE RIGHT:** Ancient fishponds are important sites for ecological, cultural, and spiritual learning. *Photo by Michael Young*

Nā Ala Hele i ke Ao core concepts

Ho'okumu: to connect spiritually to the 'āina and 'ohana through history, chants, and genealogy

Ho'omana: to empower one's self, the 'ohana, and the community

Ho'olālā: to branch out and network with diverse career fields and opportunities

Hawaiian Studies Program High school outcomes

Grades improve the longer students are in the program.

Compared with other students at Wai'anae High School, students in the Hawaiian Studies program have higher attendance rates, lower dropout rates, and increased postsecondary enrollment.

Compared with others, participants in the Hawaiian Studies program experience heightened positive attitudes toward themselves, school, community, and culture.

(Yamauchi 2003)

ABOVE LEFT: Settings that emphasize aloha 'āina offer fertile ground for lifelong learning. *Photo by Michael Young* **ABOVE RIGHT:** Authentic environments stimulate self-expression and exploration of new knowledge. *Photo by Lilinoe Andrews*

Care for the oceans has long been an integral part of life for Pacific people. Native Hawaiian thought maintains that the sea works in partnership with the land, providing sustenance and serving as a pathway and communication link with other lands and populations (Amona 2004). The **Maritime Stewardship** program uses Native Hawaiian values in educating students to care for ocean resources. The program's vocational education training qualifies participants as Fisheries Observers of the National Marine Fisheries Service. This program strengthens Native Hawaiian communities by providing employment opportunities, developing a sense of responsibility for cherished resources, and ensuring that the fisheries and species of Hawai'i—as well as the traditional beliefs and lifestyles of the islands—flourish for generations to come.

Strategies that Integrate Traditional Knowledge into Education

Native Hawaiians draw from a deep well of scholarship and intellectual achievement. From early times, Hawaiians gathered comprehensive knowledge of the natural world and developed sophisticated systems for utilizing and sustaining natural resources over many generations (Blaisdell 1993b; Kanahele 1986). Traditional engineering and manufacturing processes—fishponds, horticulture, ocean navigation, *'auwai* (agricultural aqueducts), wooden bowls, and feather capes, for example—represent a quality and sophistication unmatched in Polynesia, and in some cases, the world (Abbot 1992; Finney 1992).

Various educational and service programs targeting Native Hawaiian children have augmented efforts to infuse traditional knowledge in their program design and daily activities. This strategy ensures the preservation of cultural knowledge and expertise, deepens ethnic identity and cultural roots, and engages participants in a culturally relevant and responsible framework for learning. Ka'ala Farm and other organizations offer exemplary programs that impart traditional knowledge and culture-based activities to young learners. Known for its work by Hawaiian and other community members, some of Ka'ala Farm's activities in Wai'anae include partnering with local public schools to provide students with cultural experiences relating to land stewardship, management of the ahupua'a, land and water access, and traditional kalo farming. These activities are also integrated into the Hawaiian Studies program at nearby Wai'anae High School. As a collaborative partnership among Wai'anae High School, Ka'ala Farm, and the Center for Research on Education, Diversity, and Excellence, the **Hawaiian Studies Program** integrates culturally relevant activities and lessons into a high school curriculum that includes four basic themes: archaeology, health, native plant restoration, and Native Hawaiian navigation.

Other programs that use traditional knowledge-based strategies include **'Āina Ulu**, a collaborative approach initiated by Kamehameha Schools' Land Assets Division in partnership with other community groups. 'Āina Ulu promotes education for Native Hawaiian children while ensuring stewardship and preservation of agricultural and conservation lands. In the "land as classroom" model, community members, volunteers,

and students from many partnering schools and programs participate in various projects located in ahupua'a owned by Kamehameha Schools. All projects engage students in hands-on cultural learning that promotes traditional knowledge such as caring for the land and conserving Hawai'i's natural resources.

Similarly, the Hawaiian charter school **Kua O Ka Lā,** located on Kamehameha Schools' land on Hawai'i Island, uses a project-based curriculum that provides hands-on experience in resource management. Skills related to land conservation and utilization are based on the concept of mālama 'āina, which calls for a reciprocal, caring relationship with the land.

Hawaiian voyaging traditions represent another source of traditional cultural knowledge that instills great pride and inspiration within the Native Hawaiian community. Countering Western scientific theories of Pacific migrations that prevailed throughout most of the twentieth century, the voyage of the *Hōkūle'a* in 1976 shattered earlier depictions of Polynesian discovery as primitive guesswork and accidental maneuvering across the Pacific Ocean (Finney 1992, 1994). Since then, a growing number of programs established by the **Polynesian Voyaging Society** offer public school students the opportunity to learn traditional voyaging and navigation techniques used by ancient Hawaiians. Programs not only provide hands-on learning in authentic cultural environments but also give students an opportunity to apply their knowledge on actual sailing voyages. Most recently, the Polynesian Voyaging Society developed an **Ocean Learning Academy,** where public school students can spend their eleventh and twelfth grades in the field, learning culturally based ocean

ABOVE LEFT: Land-based educational strategies are guided by the expertise of kumu and kūpuna. *Photo by Michael Young* **ABOVE RIGHT:** Project-based learning integrates cultural knowledge with modern methodologies. *Photo by Lilinoe Andrews*

stewardship in environments such as Maunalua Bay and Kāne'ohe Bay. These intensive programs not only engage Native Hawaiian children who may be otherwise experiencing social—and often educational—dislocation, but also teach them the critical importance of preserving Hawai'i's natural resources.

'Āina Ulu

Oversees more than 20 program sites statewide

Serves 10,000 lifelong learners each year

Utilizes agricultural and conservation lands

Provides learning opportunities in natural resource fields, including geology, botany, forestry, and ethnoecology

Kua O Ka Lā projects

Research, transplant, and care for indigenous plant species

Research and build replicas of irrigation systems used in ancient Hawai'i

Provide coursework on forest ecosystems and their management

Develop a recycling project to educate the community about resource conservation

Ka 'Ohana A Me Ke Kaiāulu:
ENGAGING SUPPORT FROM FAMILY AND COMMUNITY

Native Hawaiian culture emphasizes collective well-being over individual well-being (Meyer 2003; Mokuau 1990). This emphasis—implied in terms such as 'ohana and *hānai* (fostering and adoption)—finds expression today in the prevalence of extended family relations and supportive networks among the Native Hawaiian community. Research shows that, like all students, indigenous students achieve superior outcomes when their parents, families, and communities actively participate in the educational system. Thus, for both cultural and educational reasons, many Native Hawaiian educational programs actively cultivate 'ohana involvement and community input.

For example, the Hawaiian Studies Program at Wai'anae High School supports community participation in the school environment while simultaneously promoting student involvement in the community. Assessments indicate that participants exhibit measurable improvements in attendance, graduation rates, and grades (Yamauchi 2003). These results are consistent with the successes of other indigenous groups. Kawagley and Barnhardt (1999) relate how a community in a Native Alaskan school district directed the development of a culturally based educational structure, built on the values and beliefs specific to that area. Following these community-driven reforms, improvements were apparent in student attendance and graduation rates. Similarly, Leveque (1994) analyzed achievement among Native American students in a California school district and found that "the strongest link between educational opportunities and Native student achievement was found in the involvement of parents in the design and implementation of programs" (p. 1).

The 'ohana remains a stronghold for Native Hawaiians and is the core of Hawaiian identity and values. *Photo by Liana Honda*

Nā Kamali'i: Early Childhood

The family is the primary source of learning in a child's early years and provides the foundation for development throughout the child's life (see Part Three). It is true that Hawaiian families face ongoing challenges and critical issues associated with poverty and its companions, including substance use, domestic violence, child abuse, and incarceration. Yet, despite these documented challenges, the 'ohana remains the stronghold for Native Hawaiians and is key to Hawaiian identity, culture, and values (Kana'iaupuni 2004a).

Parents are the primary influence on a child's early learning. *Photo courtesy Hawai'i State Archives*

As such, it is fitting that educational programs for Native Hawaiians tailor their services to support the family. The ʻAha Pūnana Leo schools mentioned earlier are an important part of these services for young children. Another example is **Pūlama i nā Keiki** (Cherish the Children), a family-based project of Alu Like, Inc. that helps families with children of Hawaiian ancestry prepare for their child's future educational success. Integrating Hawaiian cultural value systems, the philosophy of this program is that a child's parents, extended family, and household create a foundation for later school success. Parents are provided with support, guidance, and skills to engage their child's development and desire to learn. Services are intended for families expecting a new baby but also include activities for children ages three and younger.

Other programs also concentrate on parents, providing coaching and support for their role in shaping their child's learning capabilities. The **Keiki o ka ʻĀina Family Learning Center** is a nonprofit organization dedicated to developing culturally appropriate educational programs for young children and their parents. It integrates best practices in early childhood education to encourage the development of parents as their child's first teacher and offers training in ways that ensure cultural relevance and meaning to Native Hawaiian families. The home-based and parent-participation programs of the Family Learning Center draw on cultural values, songs, stories, and Hawaiian-language. Programs introduce children to a school atmosphere while presenting cultural material in a fun and engaging format. Several sites offer Hawaiian language instruction.

Research on childhood education suggests the importance of connecting home and school culture for young children (Au and Kawakami 1991; Demmert 2001; Jordan 1992; Swisher 1990). Findings also indicate that coordinated curricula greatly enhance students' academic performance and that Native Hawaiian children in particular can flourish in quality education settings where educational material is both culturally relevant and intellectually stimulating (Chattergy 1992; Fink 1992; Jordan 1992). Building on the findings of early initiatives such as KEEP (Kamehameha Early Education Program), subsequent programs have incorporated culture in the classroom while providing challenging quality educational opportunities for young children (Kawakami 2004). For example, the culturally integrated, research-based curriculum of **Kamehameha Schools Preschools** provides quality education to children of Native Hawaiian ancestry. The preschools have been shown to have a substantial effect on the achievement levels of Native Hawaiian children enrolled in the program (Yang 2005b).

Pūlama i nā Keiki

Ten offices are located on five islands.

Certified Parent Educators at each location provide culturally based information about prenatal health, childbirth, child development, and childrearing.

Activities include workshops, home visits, and parent–child group activities.

589 children and families were served during 2002–03.

94.7 percent of participants received prenatal care within thirty days of joining the program.

84.6 percent of children ages one to three were developmentally average or advanced, as measured by Hawai'i Early Learning Profiles.

83 percent of participants ages two and younger were current with their immunizations.

Keiki o ka ʻĀina results

On average, 61 percent of parents attend home-based instruction group meetings.

98 percent of families receive referrals to resources and services.

Parent participation preschool is offered at four permanent and seven traveling sites.

Three sites include Hawaiian language offerings.

Nearly 600 keiki have been served.

100 percent of participating parents express satisfaction.

Another early childhood program for Native Hawaiian children is based on a model to increase opportunities for children to attend a quality preschool of their choice. **Pauahi Keiki Scholars** is a Kamehameha Schools program for three- and four-year-old Native Hawaiian children. It provides needs-based scholarships for young children to attend accredited preschools. Most of the preschools are concentrated in the Honolulu downtown area where the majority of parents work or attend school. Although not all preschools are culturally based, the program supports the development of culturally relevant activities and curricula.

Another program that supports caregivers as teachers is **Keiki Steps.** This project, administered by the Institute for Native Pacific Education and Culture (INPEACE), helps caregivers and parents prepare Native Hawaiian children for school by promoting language, literacy, and Hawaiian values. Activities include parent–child interactive sessions, parent education, and child assessment. The activities are delivered in ways that fit the individual needs and culture of each community that it supports. The program staff provides developmentally appropriate activities in a culturally diverse learning environment. INPEACE trains and mentors community members by subsidizing and counseling community-based employees to obtain their early Child Development Associate (CDA) certification.

Other innovative approaches have been developed to address the challenge of supporting families where parents are separated from their children. One such project, **Supporting Keiki of Incarcerated Parents,** is a collaborative effort involving the Good Beginnings Alliance, Hawai'i Coalition for Dads, and the Institute for Family Enrichment. The program encourages interaction between incarcerated parents and their young children and strives to build healthy and resilient families by creating a positive bonding environment between parent and child. In a thirteen-week curriculum at Waiawa Correctional Facility, predominantly Native Hawaiian participants receive services such as parent education for inmates, counseling, and drug/alcohol abuse treatment.

While some parents may be physically distant from their children, 'ohana ties of Native Hawaiians go beyond parents and siblings and extend to cousins, grandparents, aunties, and uncles. As demonstrated earlier in this report, multiple generations frequently reside under a single roof, and Native Hawaiian grandparents often assume an integral role in parenting. Thus, most of the programs mentioned here support the needs of children's parents and other caregivers.

The integration of home culture and school culture is central to early childhood educational success for Native Hawaiians. *Photo by Missy Agena*

For example, building on the importance of family and kūpuna in Native Hawaiian culture, the **Tūtū & Me** program specifically supports grandparents in young children's development. This traveling preschool program was developed by the Partners in Development Foundation and primarily serves Native Hawaiian children ages five and younger and their caregivers, especially kūpuna, or *tūtū* (grandparents). Tūtū & Me includes a curriculum that weaves Hawaiian culture and values into the various program components. Teaching teams travel to designated neighborhoods on specific days and provide various activities that include stories, songs, and exposure to language and literacy. Caregivers are provided with resources and materials about how children learn best and what home activities can help improve school achievement. Services also include on-site health screenings, social service referrals, and curriculum for both children and their caregivers.

Nā Keiki A Me Nā ʻŌpio: School-Age Children

Stemming from cultural values that emphasize the importance of community and interdependence, community-based charter schools are an example of a groundswell of community collaboration that has changed the nature of Hawaiian education. The rise of the charter school movement in the late 1990s opened the educational system to a variety of experimental approaches, and the Hawaiian community has seized the opportunity to develop schools and curricula designed specifically for Native Hawaiian children. Charter schools are afforded more autonomy than are the kula kaiapuni (Hawaiian immersion schools), which function under the administrative and supervisory umbrella of the Hawai'i Department of Education. This level of independence among charter schools encourages input from the community and enables contributions from experts in education and Hawaiian culture outside the public school system. The result is a range of innovative schools and education models in several Hawaiian communities.

Cultural awareness and community ties form at young ages through family and kinship networks. *Photo by Michael Young*

There are few defining features common to all charter schools; each school is as unique as the community from which it grew. However, all Hawaiian-based charter schools ground their children's education in Hawaiian language and culture, although not all are immersion schools. Some also include a technology emphasis that pairs traditional knowledge with modern educational tools and multimedia approaches. Hawaiian-based charter schools show results ripe with hope and potential (see discussion about charter schools in Part Four), although they remain small in both number and size. Furthermore, funding issues, bureaucratic complexities, regulatory requirements, and an underdeveloped infrastructure are persistent challenges for charter schools in Hawai'i, often resulting in burdensome administrative work and inadequate support.

To address the rising numbers of Native Hawaiian children reported to have special education needs, **Pihana Nā Mamo**, the Native Hawaiian Special Education project, builds on both community involvement and mentoring strategies. The program is a partnership between the Hawai'i Department of Education and the University of Hawai'i–Mānoa's Curriculum Research and Development Group. Since 1990, the mission of Pihana Nā Mamo has been to improve educational services to Native Hawaiian children and youths with special needs. Each of the program's various components incorporates elements of community involvement. For example, the Makua Hānai project trains "parent involvers" to foster strong, supportive relationships among schools, families, and the larger community. The Kākoʻo project provides mentoring relationships that encourage secondary students to complete high school and provide them guidance for the transition after graduation.

Kamehameha Preschools

More than 11,000 children have attended since 1980.

1,400 children currently attend.

There are 30 sites statewide.

During the 2003–04 school year, preschoolers' Normal Curve Equivalent scores for the Peabody Picture Vocabulary Test increased from an average of 40 to 52 for three-year-olds and an average of 46 to 55 for four-year-olds. (Yang 2004b)

Pauahi Keiki Scholars

343 children enrolled in 2004–05; 600 are projected in 2005–06.

There are 82 participating preschools located on five islands.

During the 2003–04 school year, the average Normal Curve Equivalent score for the Peabody Picture Vocabulary Test increased from 42 to 48 for three-year-olds and 49 to 51 for four-year-olds. (Yang 2004a)

Professional development and accreditation support are provided.

Keiki Steps

More than 500 families participate annually.

Six sites are located on Oʻahu and three on Hawai'i Island.

Participants meet three hours a day, three days per week.

Parents express high satisfaction rates.

Workforce strategy is to build community capacity.

Community is an extension of the 'ohana. *Photo by Michael Young*

Pihana Nā Mamo targets public schools with large concentrations of Native Hawaiians and high levels of poverty. Particular emphasis is given to reading programs. Results to date are promising: A comparison of achievement test data suggests that participating schools have been steadily improving. Table 5.1 shows data on demographics and educational outcomes for the five schools that have participated in Pihana Nā Mamo for the longest duration (in relation to other schools).

TABLE 5.1 Demographic characteristics and achievement scores of five schools participating in Pihana Nā Mamo[2]

			SAT-9 reading % average + % above average (national: 77%)		HSA reading proficiency rate (Target: 30%)	
	% Subsidized lunch	% Native Hawaiian	SY 98–99	SY 03–04	SY 02–03	SY 03–04
Hale'iwa Elementary						
Grade 3	69	36	71*	87	24*	47
Grade 5			61*	68	30*	31
Kea'au Elementary						
Grade 3	80	34	71*	85	36	39
Grade 5			51	68	26	37
Kapi'olani Elementary						
Grade 3	67	41	70	75	31	34
Grade 5			68	73	28	41
Mā'ili Elementary						
Grade 3	86	51	47	73	18	31
Grade 5			48	65	19	38
Waimānalo Elementary & Intermediate						
Grade 3	81	64	50*	70	29*	19
Grade 5			63*	69	29*	38
Grade 8			62**	69	25*	36

Source: Curriculum Research and Development Group, University of Hawai'i–Mānoa; Hawai'i Department of Education.
* Figures use data from the Hawai'i Department of Education (inserted by authors).
** Grade 7 scores from school year (SY) 1998–99 (inserted by authors).
Note: SAT-9 = Stanford Achievement Test; HSA = Hawai'i State Assessment.

2. Table 5.1 reports school-level data. Outcomes specific to Native Hawaiian students in these schools are not available.

Mentoring and Leadership

Hawaiian historians and scholars describe the use of apprenticeships or *ʻimihaku* (mentor relationships) as a traditional Native Hawaiian teaching practice that provides instruction as well as protection against missteps and error (Kanahele 1986; Kelly 1982). A mentor not only imparts personal life experience and knowledge but also offers a model for behavior. Focused attention and personalized nurturing from the tutor often awaken the student's curiosity, hidden talents, and ambitions.

The introduction of mentoring programs that partner Native Hawaiian students with respected members of the local community has been well received. For example, several Hawaiian charter schools such as Kanu o ka ʻĀina and Kua O Ka Lā have developed programs in which parents, community members, and cultural experts periodically lead hands-on workshops and act as mentors for student interns. Kua O Ka Lā's mentoring program includes cultural classes in traditional canoe carving, fishnet making, art, lauhala weaving, and beginning and intermediate ʻukulele. During school year 2003–04, mentors donated 4,320 hours to the school (Kua O Ka Lā 2004).

Kūpuna serve as mentors and positive role models for younger generations. *Photo by Missy Agena*

In business, many leadership programs view mentorship as a primary teaching and support tool. This technique has significant cultural resonance in the Hawaiian community and is part of leadership programs geared toward Native Hawaiians. For instance, the **National Pacific American Leadership Institute–Pacific American Emerging Leaders** program helps to develop leaders by providing a framework for enhancing cultural understanding and pride, enriching leadership skills, heightening service–leadership commitment, and providing an understanding of contemporary issues confronting Pacific Americans.

Tūtū & Me

Serves six sites across Oʻahu and two on Hawaiʻi Island.

Approximately 750 participants were enrolled (388 children and their caregivers) in 2004.

60 percent of participants were Native Hawaiian.

Children made gains relative to national norms on standardized tests.

Children scored high in Physical Development (using the Work Sampling System).

Children made large gains in both Personal/Social and Language and Literacy developmental areas.

A snapshot of Native Hawaiians in Hawaiʻi Charter Schools

23 start-up charter schools and 4 conversion charter schools exist (school year 2004–05); about half engage Native Hawaiian educational approaches.

Approximately 5,000 children are enrolled in charter schools, more than 3,000 of whom attended start-up schools (school year 2004–05); roughly 40 percent of these children are Native Hawaiian.

Native Hawaiian students in start-up charter schools are approximately 75 percent less likely to be chronically absent from school than are Native Hawaiians in mainstream public schools.

Native Hawaiian students in start-up charter schools score significantly higher in reading and as well or better in mathematics as do their mainstream peers, after accounting for differences in student background and school characteristics.

(Kanaʻiaupuni and Ishibashi 2005)

Under the Native Hawaiian Education Act, various projects exist that encourage and assist Native Hawaiians to obtain undergraduate, graduate, and doctorate degrees. For example, the **Native Hawaiian Leadership Project** uses mentoring as a primary strategy for developing leadership in the Native Hawaiian postsecondary community. It incorporates financial support, counseling, mentoring, and Hawaiian community service projects. Consistent with the strong inclination toward reciprocation among Native Hawaiians, the mission of the Native Hawaiian Leadership project is to develop leadership skills that participants will internalize and then utilize in their own communities.

Strength and unity are found in community gatherings that promote self-determination and cultural values. *Photo by Michael Young*

The **Hawaiian Leadership Development Program** of the University of Hawai'i–Hilo has a similar mission: to provide support and opportunities for Native Hawaiians to develop leadership skills, succeed in college, participate in cultural experiences, be role models for other Hawaiians, and strengthen ties with the Hawaiian community and leaders. The program's support takes the form of academic advising, career and financial aid counseling, and personal guidance. Participants in the program enroll in special courses such as Hawaiian Leadership and Hawaiian Studies. In addition, activities beyond the classroom include cultural practices and mentor–student interactions.

The supportive aspects of mentorship can be crucial for Native Hawaiian learners who reach postgraduate levels of study. In fields with relatively few Native Hawaiian scholars or professionals, the encouragement and leadership of a mentor can fuel ambitions and help students to achieve goals that may otherwise seem difficult to reach. For example, of the 2,500 physicians currently licensed in Hawai'i, only 5.5 percent are Native Hawaiian. The **Native Hawaiian Center of Excellence** of the University of Hawai'i's John A. Burns School of Medicine is part of a coordinated effort to increase the number of Native Hawaiians practicing medicine. The five main objectives of the Native Hawaiian Center of Excellence are medical school recruitment, retention, faculty development, curriculum development, and research. This form of comprehensive mentoring for emerging Native Hawaiian physicians carries the implicit promise that the transmission of knowledge will directly benefit future generations of Native Hawaiians through health care initiatives and community service.

Mentoring is also important for Native Hawaiians interested in teaching careers. **Hālau Wānana** is a culturally grounded teacher training school designed to support members from the community who have the potential and interest to become teachers in the public school system. One objective proposed by the program is to help teacher candidates who are a part of the charter school consortium, **Nā Lei Naʻauao**, to gain licensure by the Hawaiʻi Teacher Standards Board. While earning their education degree—during a period of up to five years—Native Hawaiian teacher candidates would also be able to teach at public schools as full-time instructors. This new model not only aspires to increase the number of qualified Native Hawaiian teachers but also proposes a strategy for retaining long-term teachers and reducing the rate of turnover.

The preceding discussion—though far from complete—gives an indication of the many ways in which education for Native Hawaiians is changing, emerging, and progressing. In a broad sense, this review shows the value of including Hawaiian culture as a foundation of learning and engaging support from family and community. The discussion also points to areas of strength and promise for Native Hawaiian learners and provides a counterbalance to the otherwise negative statistics on Native Hawaiian achievement. In a more immediate sense, this section suggests ways to support Native Hawaiian learners—with all of their diverse talents and abilities—with new opportunities and guidance in making the journey toward educational excellence and enhanced Native Hawaiian well-being.

Pihana Nā Mamo

On average, the percentage of students (across all five schools) scoring average or higher on tests of reading achievement (SAT-9) increased from 62 percent to 78 percent among third graders and 58 percent to 69 percent among fifth graders (1998–99 to 2003–04).

The average reading proficiency rate across all five schools increased from 28 percent to 34 percent among third graders and from 26 percent to 37 percent among fifth graders (2002–03 to 2003–04).

Native Hawaiian Center of Excellence activities

Study sessions for Medical College Admissions Test

Assistance with medical school application process

Mock admission interviews

Assistance with board review courses

Faculty development seminars for both clinical and medical school faculty

Seminars on Native Hawaiian health problems and cultural competency

Mentor relationships to conduct research on Native Hawaiian health issues

Pīpī holo kaʻao

‘EONO | PART SIX

Summary, Trends, and Implications

6

PART SIX INTRODUCTION

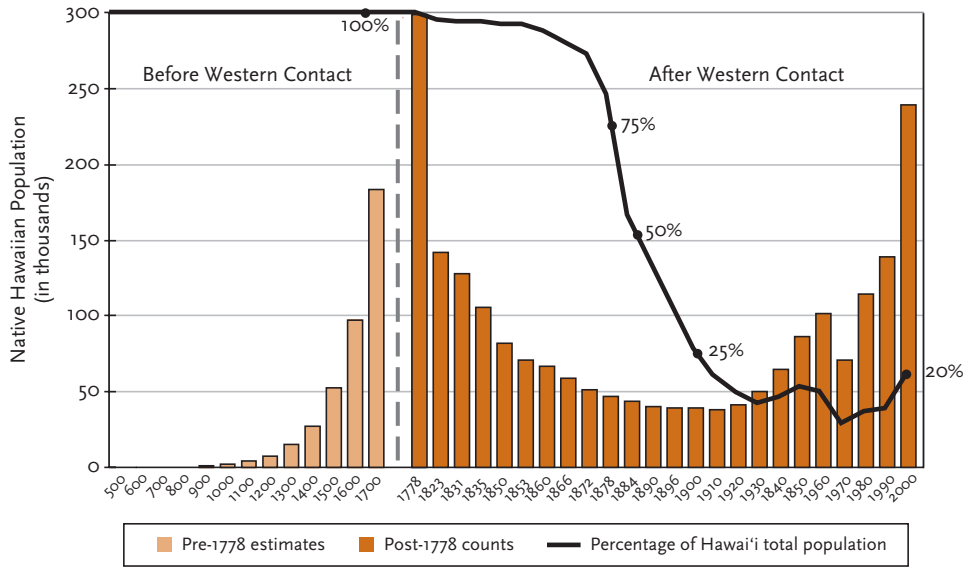
Ka Huaka'i depicts a complex journey of Native Hawaiian education and well-being. Our report shows that in some areas the gaps between Native Hawaiians and non-Hawaiians are diminishing, whereas in other areas large disparities remain. Part Six synthesizes the salient trends conveyed in earlier discussions and echoes three prevalent themes that emerge from the analysis:

1. Based on conventional Western measures, Native Hawaiian outcomes continue to lag behind statewide averages in nearly every indicator of well-being.
2. Native Hawaiians show evidence of strong family networks and cohesive communities and have made improvements over time in certain areas of well-being and education.
3. Innovative strategies that incorporate Hawaiian language, culture, and values suggest measurable progress and promising directions for Native Hawaiian children and families.

POPULATION CHARACTERISTICS

Historians believe the Hawaiian Islands were first inhabited by Polynesian voyagers between 500 BCE and 500 CE. Over the next several centuries, the population grew and thrived throughout the major islands within the archipelago. After the arrival of Westerners in 1778, however, the Native Hawaiian population declined to dangerously low numbers, rebounding to reflect pre-1778 levels only in recent decades. Projections of ongoing growth in the Native Hawaiian population raise important questions about the educational challenges and prospects for future generations of Native Hawaiians.

FIGURE 6.1 Native Hawaiian population trends [total population size,* percentage of total population, Hawaiian Islands, 500 to 2000]



Source: Nordyke 1989.

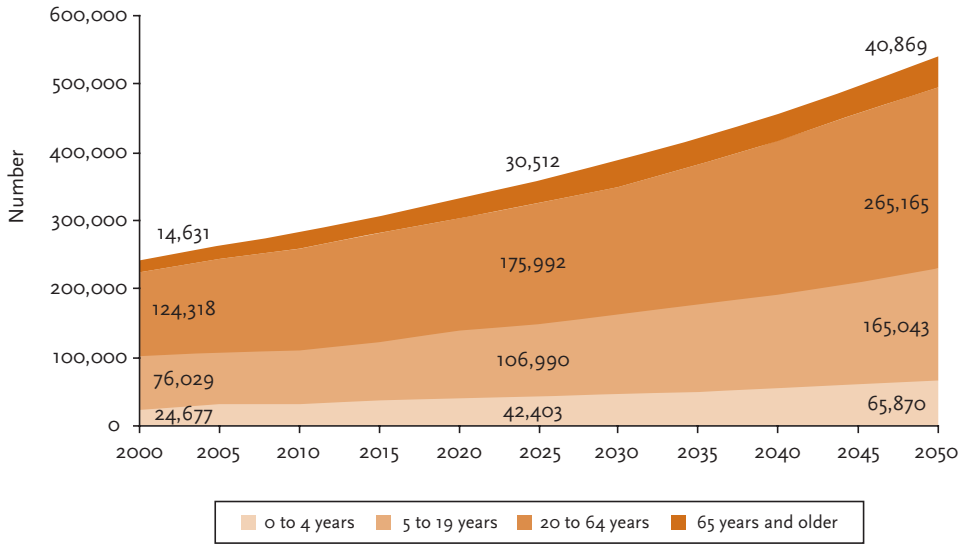
Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 2.

Note: The abrupt drop in the Native Hawaiian population count in 1970 reflects a change in U.S. census policy that removed the "part-Hawaiian" category from the list of racial/ethnic identification responses allowed. The surge in the Native Hawaiian population in 2000 is attributable to the Census Bureau's adoption of multirace/multiethnic reporting, which permits individuals of multiple races/ethnicities to report all of their racial/ethnic affiliations in lieu of choosing a single entry.

* Light bars in the graph represent hypothetical calculations reported in Nordyke (1989), which are based on data presented in Kelly (1986) and Schmitt and Zane (1977).

- **Native Hawaiians flourished in the islands for 1,200 years prior to the arrival of Westerners.** Estimates of the Native Hawaiian population at the time of Western arrival range from roughly 300,000 to 1 million. The former estimate stems from crude approximations conducted by Western visitors shortly after Cook's arrival in 1778; the latter estimate refers to findings developed by Stannard (1989) in his analysis of the original population (Figure 6.1).
- **Foreign travelers introduced diseases that nearly wiped out the Native Hawaiian population.** The Native Hawaiian population hit a precipitously low number of roughly 38,000 around 1900, after communicable Western diseases decimated the native population and caused high rates of infertility.
- **The Native Hawaiian population has rebounded and is on the rise.** While estimates of the number of "full-blooded" Native Hawaiians remain quite small, some 401,162 Native Hawaiians resided in the United States in 2000, according to the U.S. Census Bureau (see Table 1.1).

FIGURE 6.2 Population forecasts for Native Hawaiians, by age group [state of Hawai'i, 2000 to 2050]



Source: Malone 2005.

- **The Native Hawaiian population in the state of Hawai'i will double in size by 2050.** The population of Native Hawaiians in the state of Hawai'i will increase by 124 percent over the next fifty years: from 239,655 in 2000 to 536,947 in 2050 (see Figure 2.1).
- **The largest increases in the Native Hawaiian population will occur among preschoolers and kūpuna (elders).** The preschool-age population (ages four and younger) is expected to increase by 167 percent over the next half-century, and the elderly population (sixty-five years and older) will increase by 180 percent. The school-age (ages five to nineteen) and the working-age adult populations (ages twenty to sixty-four) will also double in size, with 117 percent and 113 percent increases, respectively (Figure 6.2).

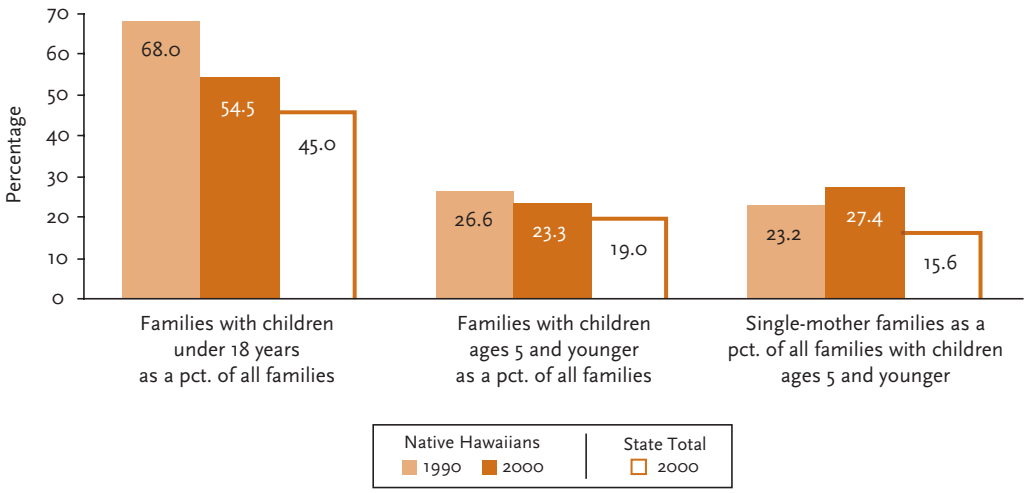
SOCIAL AND CULTURAL WELL-BEING

Our analysis examines social well-being in terms of how *'ohana* (families) are structured, how families negotiate their roles within broader communities, and how individuals within those families interact with the rest of society. A common finding throughout *Ka Huaka'i* is the uniqueness of Native Hawaiian families and households. For example, the combination of cultural values, historical traditions, and economic necessity has resulted in a high prevalence of multigenerational and multifamily households among Native Hawaiians. Further, many Native Hawaiians are engaged in traditional child fosterage arrangements and have strong social support networks. These household structures and strong social supports are consistent with Hawaiian cultural values and traditions and may serve as strategies for coping with the prevalence of social and economic disadvantage among Native Hawaiians—conditions which raise chances that the children will experience poverty.

Additionally, families may play a role in thwarting high-risk behaviors among Native Hawaiian youths, such as smoking and drug usage, both of which have been on the decline in recent years. However, other risk behaviors persist, as Native Hawaiian teens and adults are disproportionately—and increasingly—overrepresented among the state's incarcerated population.

Certain measures of Native Hawaiian social well-being are reflected in the resurgence of Hawaiian culture that gained momentum in the 1970s, which has resulted in greater community involvement and leadership among Native Hawaiians of all age groups.

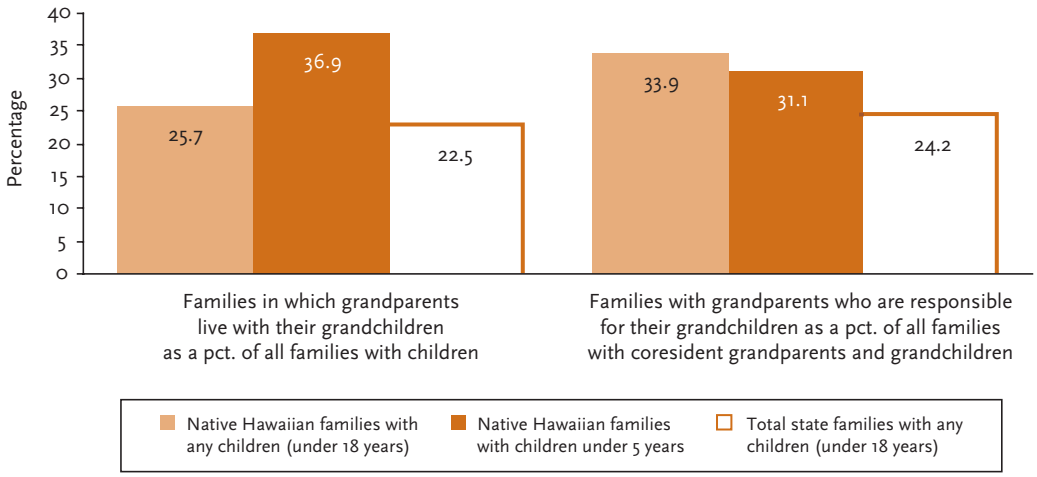
FIGURE 6.3 Selected family types as a percentage of all families [by family characteristics, by Native Hawaiian and state total, state of Hawai'i, 1990 and 2000]



Data sources: 1990 Census of Population; U.S. Census 2000, Summary File 2.

- **'Ohana is a traditional source of strength, security, and education among Native Hawaiians.** Families are the building blocks of Native Hawaiian social well-being, providing the foundation for strong social support networks and intergenerational ties that allow children to absorb the knowledge and skills of kūpuna.
- **Native Hawaiian families are likely to include children.** Of all Native Hawaiian families in 1990, more than two-thirds (68.0 percent) included children, and more than one-quarter (26.6 percent) included young children (ages five and younger). By 2000, these percentages had dropped but were still higher than state averages (Figure 6.3). This suggests that educational programs and reforms directed at children are particularly important for Native Hawaiian families.
- **Single-mother households are on the rise.** Of all Native Hawaiian households with young children (ages five and younger), the percentage headed by a single mother rose from 23.2 percent in 1990 to 27.4 percent in 2000 (see the last three bars in Figure 6.3). The statewide percentage of single-mother households with young children increased over the same period, and Native Hawaiians exceeded the state average by more than 10 percentage points in 2000. The same trends exist among families that include children of all ages (see Figure 2.6).
- **Unwed mothers account for more than half of all Native Hawaiian births.** In 2002, 56.8 percent of all births to Native Hawaiian women occurred out of wedlock, nearly 23 percentage points higher than the state average of 34.0 percent (see Figure 2.7). Additionally, teen mothers (wed or unwed) accounted for 5.0 percent of all Native Hawaiian births, compared with the state average of 2.5 percent (see Figure 4.16). These statistics have serious implications for Native Hawaiian children, given that births to single parents increase the likelihood of poverty, which in turn affects educational opportunities.

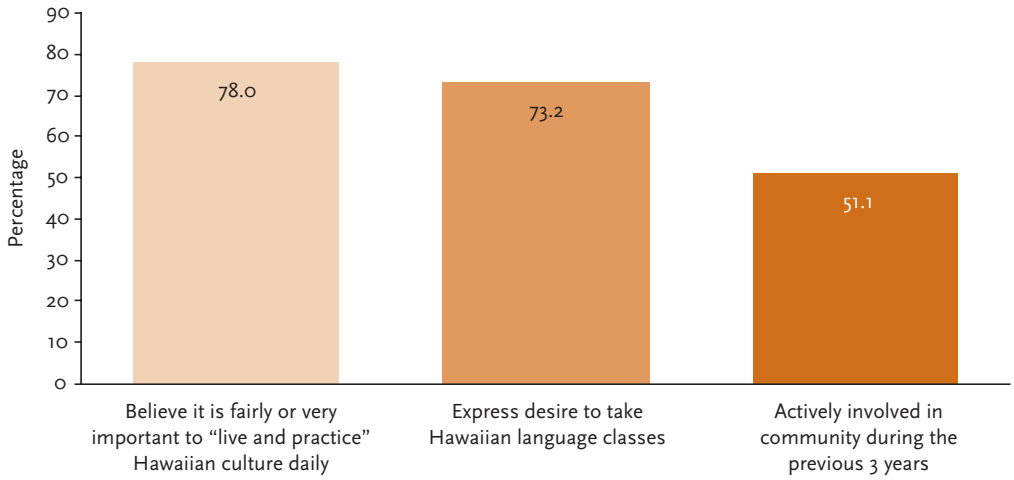
FIGURE 6.4 Presence of grandparents and grandparent caregiving in households with children [households with children under 18, by family type, by Native Hawaiian and state total, state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.

- **Native Hawaiian grandparents frequently live with their grandchildren.** Of all Native Hawaiian households with children in 2000, one-quarter (25.7 percent) had grandparents living with their grandchildren, compared with the state average of 22.5 percent (Figure 6.4). Among Native Hawaiian households with young children (younger than age five), the prevalence of multigenerational families was even higher: More than one-third (36.9 percent) of such households included live-in grandparents.
- **Many Native Hawaiian grandparents are the primary caregiver for grandchildren.** Of Native Hawaiian households with a live-in grandparent, about one in three (33.9 percent) reported that the grandparent is primarily responsible for the grandchildren, exceeding the state average by nearly 50 percent. Among such Native Hawaiian households with preschool-age children (younger than age five), 31.1 percent relied on grandparents caring for their grandchildren, compared with 36.3 percent of such households with school-age children ages five to seventeen (cf. Figure 3.9 and Figure 4.9).
- **Above and beyond the prevalence of grandparents as caregivers, child fosterage arrangements are common in Native Hawaiian families.** While only 1.1 percent of all households that include Native Hawaiian adults reported adopted children in 2000—slightly below the state average of 1.3—fully 4.1 percent of such households included relative children with absent parents, far above the state average of 1.5 percent (not shown). In total, 5.7 percent of all Native Hawaiian households included *ho'okahu keiki* arrangements (in which children are cared for by adults other than their biological parents), more than one and a half times the rate exhibited in non-Hawaiian households (3.4 percent) (see Figure 2.9).

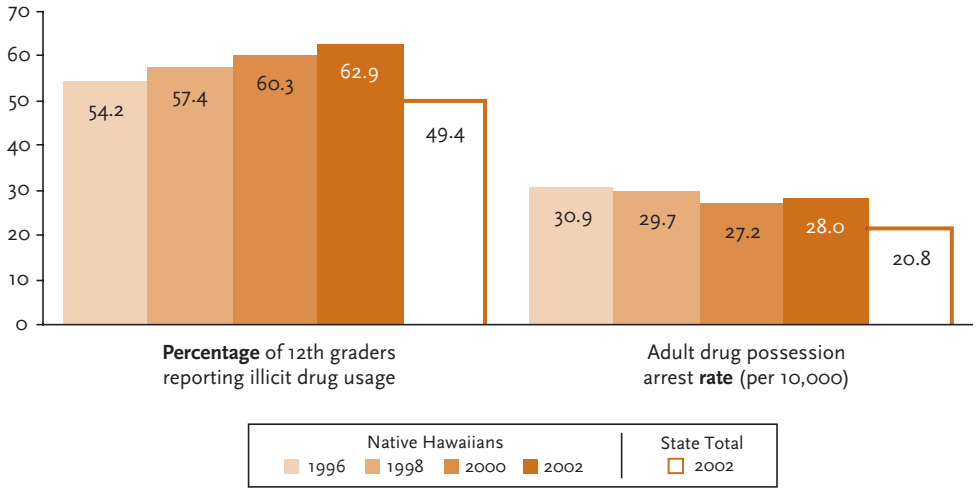
FIGURE 6.5 Individuals reporting Native Hawaiian culture, language, and community involvement as a percentage of Native Hawaiian respondents [by indicator, state of Hawai'i, 2004]



Data source: Kamehameha Schools, Hawaiian Community Survey 2003.

- **Hawaiian culture is important to most families surveyed in the Hawaiian Community Survey.** Fully 78 percent of respondents indicated it is important to "live and practice" Hawaiian culture. Prominent ways in which Native Hawaiians live and practice culture include honoring 'ohana, working together, and sharing food, crafts, and knowledge with others (Figure 6.5).
- **Native Hawaiian respondents expressed an interest in learning Hawaiian.** When asked whether they would be interested in taking a course in Hawaiian language, nearly three-quarters of Native Hawaiian respondents (73.2 percent) expressed a desire to do so. The primary reasons cited among those not interested in taking such courses were "lack of time" and "too old to learn."
- **The majority of Native Hawaiian respondents are involved in community activities.** Roughly half (51.1 percent) of all Native Hawaiian adults surveyed reported active involvement in community organizations or activities during the period 2001 to 2003 (Figure 6.5), most commonly with religious/spiritual groups, sports clubs, and Hawaiian cultural organizations. Among those involved, more than two-thirds (70.5 percent) held leadership roles in their organizations (see Figure 2.21).

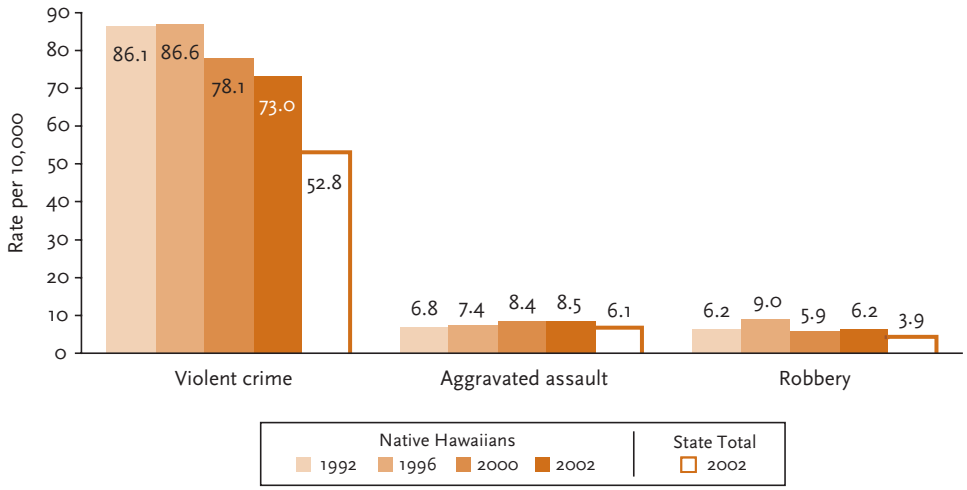
FIGURE 6.6 Drug-related usage among 12th graders (percentage) and arrest rates among adults (rate per 10,000) [by Native Hawaiian and state total, state of Hawai'i, selected years]



Source: Hawai'i Department of Health 2003.

- **Hawaiian teens are comparatively likely to use illicit drugs.** Illicit drug usage among Native Hawaiian youths has risen in recent years. For example, while 54.2 percent of Native Hawaiians in Grade 12 had tried illicit drugs in 1996, that figure had risen to 62.9 percent by 2002, exceeding the state average of 49.4 percent in the same year (Figure 6.6).
- **"Ice" usage among Native Hawaiian teens is declining.** Native Hawaiian twelfth graders have reported decreasing methamphetamine ("ice") usage in recent years, from a high of 8.0 percent in 1998 to 5.6 percent in 2002, just slightly above the state average of 5.3 percent (see Figure 4.15).
- **Early-age experimentation with drugs, alcohol, and tobacco is pronounced among Native Hawaiians.** In 2002, fully 31.3 percent of Native Hawaiian eighth graders had used an illicit drug, 37.9 percent had used tobacco, and 54.4 percent had consumed alcohol, exceeding the state averages for these activities by more than 10 percentage points in each case (see Table 4.4).
- **Arrests for drug possession are prevalent among Native Hawaiian adults.** Early usage may contribute to disproportionately high arrest rates among Native Hawaiian adults for drug possession. Although Native Hawaiian arrests for drug possession have decreased from 30.9 to 28.0 per ten thousand between 1996 and 2002, they still exceed by 7 points the state average of 20.8 per ten thousand (Figure 6.6).

FIGURE 6.7 Combined juvenile and adult rates of arrest for selected offenses [three-year averages, by Native Hawaiian and state total, state of Hawai'i, selected years]



Data sources: Hawai'i Department of the Attorney General, various years; Hawai'i Department of Business, Economic Development, and Tourism, various years.

- **The arrest rate among Native Hawaiians for violent crimes has decreased over the last decade.** The violent crime arrest rate among Native Hawaiians has decreased by 15 percent—from 86.1 arrests per ten thousand in 1992 to 73.0 in 2002—however, this rate remains significantly higher than the 2002 state average of 52.8 (Figure 6.7). Among Native Hawaiian youths, the arrest rate for violent crimes consistently exceeded state averages, suggesting that adult outcomes in this area are part of a broader life-course trajectory (see Table 4.7).
- **The arrest rate for aggravated assaults is up.** The arrest rate for aggravated assaults among Native Hawaiians has increased from 6.8 arrests per ten thousand in 1992 to 8.5 in 2002 (Figure 6.7), exceeding the state average by 39 percent (2.4 percentage points).
- **Native Hawaiian arrest rates for robbery remain high.** Robbery arrest rates have leveled off in the ten-year period examined, averaging 6.2 robbery arrests per ten thousand individuals in 2002, compared with the state average of 3.9 (Figure 6.7).
- **Native Hawaiians are overrepresented in the state's prison population.** Although Native Hawaiians consistently account for the largest share of the adult incarcerated population in the state, progress has been made during the past thirty years (e.g., in the mid-1970s, Native Hawaiians accounted for 50 percent of all prison inmates, compared with 30 percent in the late 1980s). In 2002, two out of five inmates (39.5 percent) were identified as Native Hawaiian (see Figure 2.31).
- **Juvenile arrest rates among Native Hawaiians are an ongoing concern.** Statewide, Native Hawaiians have the highest juvenile arrest rates for nearly all types of crimes. Native Hawaiian youths accounted for two out of five juvenile family court cases (40.9 percent) and nearly half (44.5 percent) of all referrals for law violations (see Table 4.8).

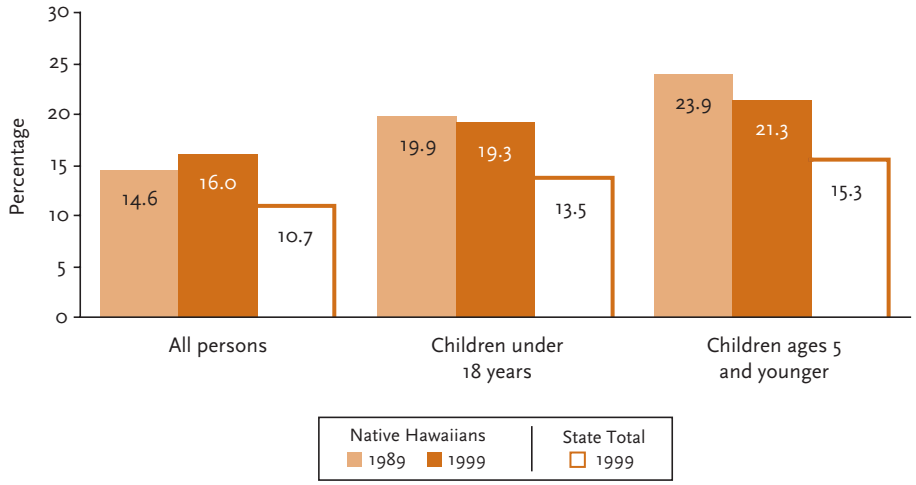
MATERIAL AND ECONOMIC WELL-BEING

Material and economic well-being typically refers to land and homeownership, income and earnings, poverty status, accumulated wealth, employment and occupational prestige, and public benefits received. In this report, we also consider educational resources—for example, parental education—as a measure of material well-being because of its impact on future generations.

Poverty is one of the more salient indicators of material well-being. Not only is poverty tied to nationally recognized definitions and measures, but it also contributes to broader discussions on the implementation and interpretation of "welfare." For Hawai'i residents, many of whom experience high property and consumer values, limited resources, and the scarcity of desirable jobs, measures of poverty encompass many different sources that contribute to economic uncertainties experienced by individuals and families. In addition, Hawai'i has one of the highest cost-of-living rates in the nation, a fact that is not taken into account with the federal poverty thresholds. Nonetheless, the federal poverty threshold serves as a uniform marker by which we can gauge the material and economic well-being of families in the state. Based on this marker, Native Hawaiians are disproportionately represented among the poverty population.

Poverty is tied to the supply of resources and the ability of individuals and families to purchase those resources. In this regard, income serves as a measure of the full range of economic viability within the population, rather than a glimpse of the bottom rungs of the ladder. While for some, income is primarily derived from wages and salaries, for others it may be a composite of public assistance, retirement income, and disability compensation. Regardless of the source, Native Hawaiians average the lowest reported levels of income within Hawai'i. The figures that follow illustrate the close relationship between income, poverty, and educational attainment and point to specific areas in need of continued intervention for Native Hawaiian learners.

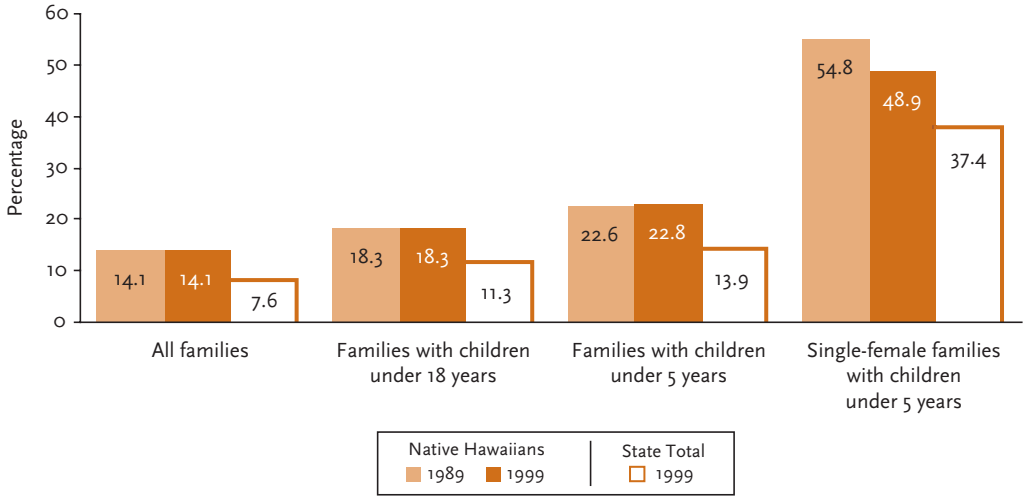
FIGURE 6.8 Individuals in poverty as a percentage of all individuals, by age group [by Native Hawaiian and state total, state of Hawai'i, 1989 and 1999]



Data sources: 1990 Census of the Population; U.S. Census 2000, Summary File 4.

- **Native Hawaiians are more likely than other racial/ethnic groups to live in poverty.** Of the Native Hawaiian population in Hawai'i, 16.0 percent lived in poverty in 1999, an increase of 1.4 percentage points from 1989. Statewide, the percentage of the population in poverty reached 10.7 percent, which was about 5 percentage points lower than that of Native Hawaiians (Figure 6.8).
- **Native Hawaiian children experience relatively high rates of poverty.** Among Native Hawaiian children (younger than age eighteen), roughly one in five (19.3 percent) lived in poverty in 1999. Though slightly down from 1989, this figure was considerably higher than the 1999 state average (13.5 percent).
- **Poverty among young Native Hawaiian children has decreased since 1989.** Among young Native Hawaiian children (ages five and younger), the poverty rate has declined slightly from 23.9 percent in 1989 to 21.3 percent in 1999. This decline is encouraging; however, young Native Hawaiian children are still significantly more likely to live in poverty than are their non-Hawaiian peers.

FIGURE 6.9 Families living in poverty as a percentage of all families, by family type [by Native Hawaiian and state total, state of Hawai'i, 1989 and 1999]

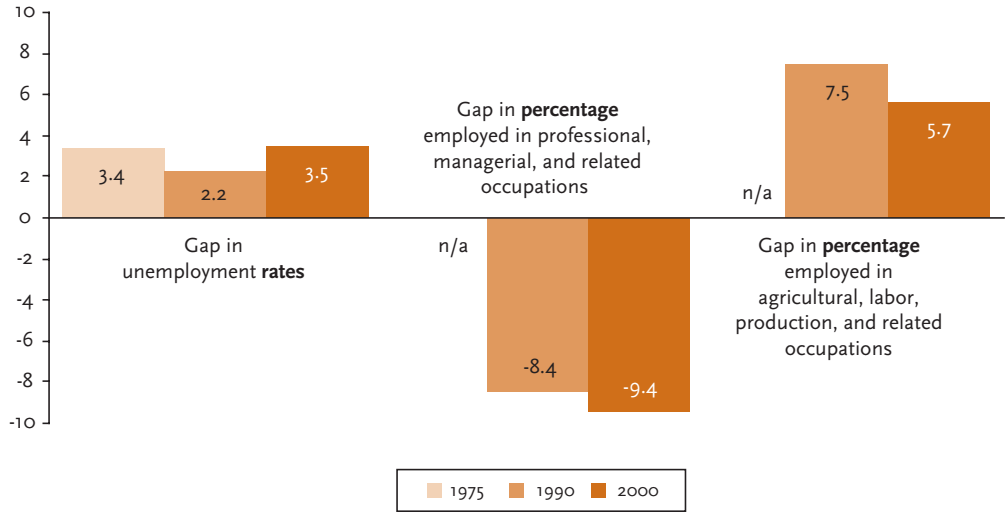


Data sources: 1990 U.S. Census of Population; U.S. Census 2000, Summary File 4.

- **Native Hawaiian families[1] are nearly twice as likely to live in poverty as is the average family in Hawai'i.** The total family poverty rate for Native Hawaiians held constant between 1989 and 1999 at 14.1 percent (Figure 6.9). This means that roughly one out of every seven Native Hawaiian families was living in poverty. Over the same period, the statewide rate increased from 6.0 percent to 7.6 percent, roughly half that of Native Hawaiians.
- **The poverty rate among Native Hawaiian families with children has not changed.** In 1989 and 1999, the prevalence of poverty among Native Hawaiian families with children (younger than age eighteen) remained constant at 18.3 percent, fully 7 percentage points higher than the state average. Among Native Hawaiian families with young children (younger than age five), the poverty rate changed little but was nearly 9 percentage points greater than the state average.
- **Married-couple Native Hawaiian families with young children are getting poorer.** The percentage of married-couple Native Hawaiian families with young children (younger than age five) in poverty increased by 23 percent, from 9.6 percent in 1989 to 11.8 percent in 1999, exceeding the state average for this group (7.8 percent) by about 4 percentage points (see Figure 3.11).
- **Nearly half of all single-mother Native Hawaiian families with young children live in poverty.** The percentage of single-mother Native Hawaiian families with young children (younger than age five) decreased from 54.8 percent in 1989 to 48.9 percent in 1999, yet remains more than 10 percentage points higher than the state average for this group (Figure 6.9).

1. A family is defined as a group of individuals within a household who are directly related by marriage or birth (e.g., a husband and wife, or a single mother and her child).

FIGURE 6.10 Gap analysis* of selected employment characteristics between Native Hawaiians and Hawai'i state averages [by employment characteristic, state of Hawai'i, selected years]



Data sources: Office of Hawaiian Affairs 1996; 1990 Census of Population; Kamehameha Schools, Aloha Counts 2003.

* Differences are computed as Native Hawaiian statistic less Hawai'i state average for that statistic, equaling the gap between Native Hawaiians and the state as a whole. Data are presented as differences to account for economic forces that may influence the total population.

- **Native Hawaiians exhibit relatively high rates of unemployment.** Fully 9.8 percent of Native Hawaiians were unemployed[2] in 2000, compared with the state average of 6.3 percent (see Figure 2.33). The resulting gap in unemployment rates in 2000 was 3.5 percentage points (Figure 6.10), which rivals the unemployment rate differences witnessed in 1975 (3.4 percentage points) and marks an increase in the gap from that seen in 1990 (2.2 percentage points). High unemployment may adversely affect educational outcomes among Native Hawaiian children owing, in part, to lack of resources, the reliance on part-time employment, and the accompanying emotional strain on family support systems.
- **Native Hawaiians are increasingly underrepresented in higher-wage paying jobs.** In 2000, just 22.8 percent of Native Hawaiians were employed in managerial/professional specialty positions, which average higher earnings than other occupational sectors. This figure is 9.4 percentage points below the state average and nearly half that of non-Hispanic Whites (see Figure 2.34). Although the absolute percentage in managerial/professional jobs represents an 18.0 percent increase since 1990, the gap in occupation distributions between Native Hawaiians and other racial/ethnic groups in the state has actually increased by about 10 percentage points (Figure 6.10).
- **Native Hawaiians remain overrepresented in the construction/transportation/manufacturing sector.** In 1990, fully 15.8 percent of Native Hawaiians were employed in construction/transportation/manufacturing positions, a rate exceeded only by Filipinos (16.3 percent) and 7.5 percentage points higher than the state average (not shown). By 2000, fully 12.1 percent of Native Hawaiians worked in such positions, compared with 8.2 percent statewide, resulting in a diminished gap of 5.7 percentage points (Figure 6.10).

2. The unemployment rate is the percentage of the civilian labor force that is currently unemployed. Those who are "unemployed" are individuals who are jobless but actively seeking employment. Individuals who do not work and are not looking for work (retirees, students, homemakers, etc.) are considered "not in the labor force" and therefore are excluded from unemployment rate calculations.

PHYSICAL WELL-BEING

The physical well-being of the Native Hawaiian population is just as crucial to educational outcomes as are social and material well-being. The physical health of a population can influence its ability to learn, develop skills, and make informed choices. The analyses in *Ka Huaka'i* have touched on four principal areas of physical well-being: (1) indicators of early childhood health, (2) risk behaviors, (3) chronic and terminal diseases, and (4) access to medical care.

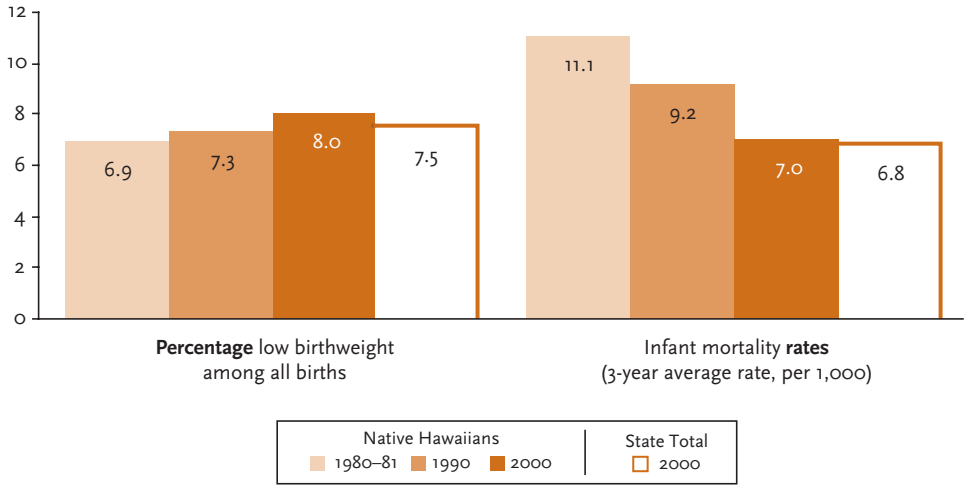
Indicators of early childhood health include several events that occur during pregnancy and the early stages of infancy that are related to the physical well-being of a community. Among these epidemiological measures are infant mortality and the percentage of low birthweight births. Infant mortality rates offer an overall gauge of population health, including genetic anomalies or environmental factors that might jeopardize fertility within a community, as well as levels of health maintenance, nutrition, and safety among expectant mothers. Similarly, low birthweight births are often a measure of poor or hazardous prenatal health of the mother and can also serve as an indicator of the future health of the child. The findings presented here show that the infant mortality rates among Native Hawaiians, despite a dramatic decline in recent years, remain well above the state average. Native Hawaiian infants are also more likely than others to be deemed low birthweight.

Risk behaviors can compromise the overall physical well-being of the Native Hawaiian people. Our findings indicate that the rates of smoking, premature sexual activity, and obesity among Native Hawaiians are higher than comparable statewide rates.

In addition to risk behaviors, Native Hawaiians are disproportionately affected by certain chronic and terminal health conditions. Health data show that Native Hawaiians suffer more frequently from chronic health problems and are more likely to die from specific diseases, compared with non-Hawaiians. For example, Native Hawaiians have the highest mortality rates for cancer, heart disease, and cerebrovascular disease.

A discussion of physical well-being would be incomplete without mention of access to—and usage of—medical care. Statistics show that compared with other racial/ethnic groups in the state, Native Hawaiians have disproportionately low rates of medical insurance coverage and are less likely to receive prenatal care or regular checkups from a physician.

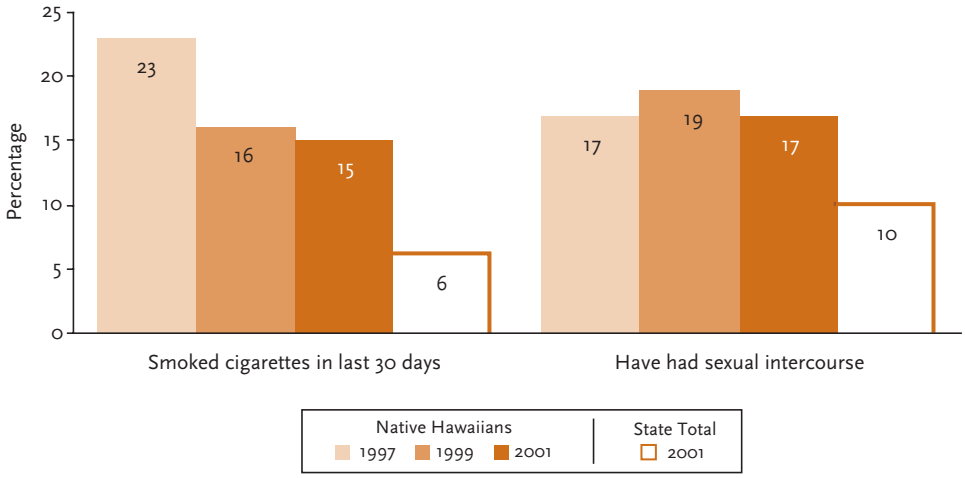
FIGURE 6.11 Infant mortality rates and low birthweight babies as a percentage of all births [by Native Hawaiian and state total, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, Vital Statistics Reports, various years.

- **Infant mortality among Native Hawaiians has decreased dramatically over the past two decades.** Although the three-year averaged infant mortality rates among Native Hawaiians are higher than the rates of nearly all other racial/ethnic groups, they have fallen steadily in recent years: from a high three-year average of 11.1 deaths per one thousand births in 1981 to 7.0 by 2000 (Figure 6.11). The three-year averaged infant morality rate in 2000 was only slightly higher than that of the entire state, suggesting that the physical health of Native Hawaiian newborns is approaching parity with that of other groups.
- **The percentage of low birthweight babies is increasing among Native Hawaiians.** Of all Native Hawaiian births, the percentage classified as low birthweight (less than 2,500 grams, or about 5.5 pounds) has risen steadily over the past twenty years, from 6.9 percent of all births in 1980 to 8.0 percent in 2000. The 2000 percentage continued to exceed the state average (7.5 percent), albeit by less than one percentage point (Figure 6.11).
- **Native Hawaiian life expectancy has improved greatly over the past fifty years.** In 1950, Native Hawaiian life expectancy at birth was 62.5 years, compared with 72.6 years for Japanese individuals—a difference of more than ten years. Since 1980, the gap between Hawaiians and non-Hawaiians has narrowed. In 1990, Native Hawaiian life expectancy was 74.3 years, comparable with that of non-Hispanic Whites (75.5 years) but below the state average of 78.9 years (see Figure 2.43).

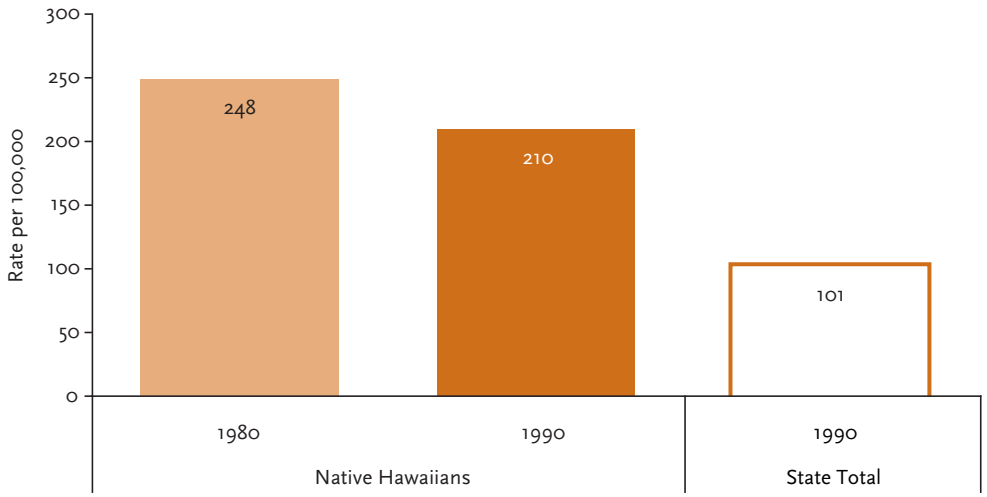
FIGURE 6.12 Students reporting selected risk behaviors as a percentage of all middle school students
[by Native Hawaiian and state total, state of Hawai'i, selected years]



Source: Saka and Lai 2004.

- **Native Hawaiian youths are more likely than their peers to have smoked cigarettes.** The percentage of Native Hawaiian middle school students who reported having smoked cigarettes within the previous thirty days declined from 23 percent in 1997 to 15 percent in 2001 but was still well above the 6 percent reported by non-Hawaiian students (Figure 6.12). This has serious implications for Native Hawaiian health, given the documented risks of smoking.
- **Smoking is more prevalent among Native Hawaiian adults than in the general population.** In 2001, the Behavior and Risk Factor Surveillance Study (BRFSS) found that approximately one-third of Native Hawaiian adults (31.1 percent, based on three-year averages) were smokers, compared with 20.4 percent of the total state adult population (see Figure 2.46). Further, the percentage of smokers within the Native Hawaiian population has gradually increased since 1995, a trend which may be reflected in the high rates of lung cancer mortality among Native Hawaiians. For example, from 1995 to 2000, lung cancer deaths were almost twice as common among Native Hawaiian females (see Figure 2.51) and one and a half times as common among Native Hawaiian males (see Figure 2.50) as they were among the larger population.
- **Native Hawaiian middle school students are more likely to initiate sexual activity than are other students.** Since 1997, nearly one out of five Native Hawaiian middle school students reported being sexually active, compared with 10 percent among non-Hawaiians (Figure 6.12). Sexual activity can lead to health risks such as sexually transmitted disease, AIDS/HIV, and unwanted pregnancy, all of which are exacerbated by early initiation, placing young people at greater risk.
- **Three-quarters of Native Hawaiian adults are classified as overweight.** The BRFSS showed that 71.8 percent of Native Hawaiian adults were overweight or obese in 2001 (based on three-year averages), nearly 50 percent higher than the state average of 51.8 percent (see Figure 2.45). The prevalence of overweight or obese Native Hawaiian adults has gradually increased over the past decade. Furthermore, 41.0 percent of Native Hawaiian students in middle school and 31.5 percent of their high school counterparts were overweight or at risk of becoming overweight (see Table 4.9).

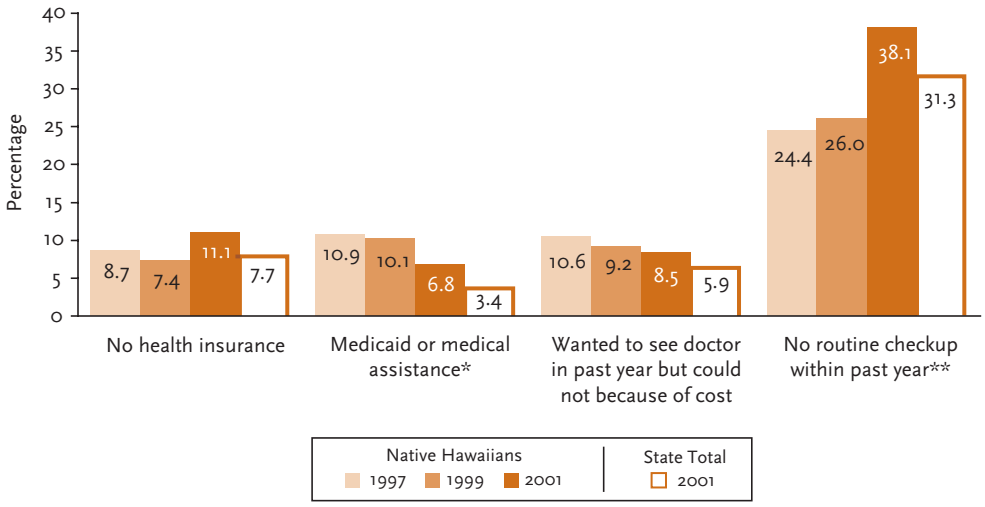
FIGURE 6.13 Heart disease death rates [by Native Hawaiian and state total, state of Hawai'i, 1980 and 1990]



Source: Braun 2002.

- **Native Hawaiians are particularly vulnerable to death resulting from heart disease.** At 248 deaths per one hundred thousand individuals, the heart disease mortality rate for Native Hawaiians in 1980 exceeded that of all other ethnic groups in the state. By 1990, the rate had decreased to 210 deaths but was more than double the statewide average (101 deaths), suggesting that Native Hawaiians are at a distinct disadvantage with respect to heart disease (Figure 6.13).
- **Native Hawaiians experience high mortality rates from cancers—especially lung cancer.** From 1995 to 2000, the mortality rates for all cancer types among Native Hawaiian men was 220.1 deaths per one hundred thousand individuals, compared with the statewide rate of 179.0 deaths (see Figure 2.50). Over the same time period, the lung cancer mortality rate among Native Hawaiian men was 50 percent higher than the statewide rate (75.9 deaths versus 50.6 deaths). Native Hawaiian women followed a similar pattern, with a total cancer mortality rate roughly 65 percent higher than the statewide rate (193.1 deaths versus 117.0 deaths), and a lung cancer mortality rate that nearly doubled the statewide rate (48.2 deaths versus 24.8 deaths) (see Figure 2.51).
- **About one out of six Native Hawaiian children suffers from asthma.** In 1998, fully 19.5 percent of Native Hawaiian children suffered from asthma, compared with the state average of 13.7 percent (see Figure 4.30). However, by 2002, the prevalence of asthma among Native Hawaiian children had declined to 16.9 percent (based on three-year averages), a modest improvement and slightly closer to the state average of 11.4 percent (see Figure 4.30).

FIGURE 6.14 Individuals reporting selected health care characteristics as a percentage of all adults [three-year averages, by Native Hawaiian and state total, state of Hawai'i, selected years]



Data source: Hawai'i Department of Health, Hawai'i Health Survey various years.

Note: For summary purposes, the years for which data are arranged in this summary chart may differ from those used in the original charts in Part Two.

* Data for 2001 are based on two-year averages owing to missing data in 2002.

** Data for 2001 are based on two-year averages owing to missing data in 2001.

- **One out of ten Native Hawaiians lacks medical insurance.** In a state that boasts some of the highest rates of insured residents, Native Hawaiians are less likely than most other major ethnic groups to have health insurance. In 1997, the three-year averaged percentage of uninsured Native Hawaiians was 8.7 percent, falling to 7.4 percent by 1999, but then climbing to 11.1 percent by 2001 (Figure 6.14).
- **The percentage of Native Hawaiians on Medicaid or medical assistance has declined in recent years.** Contrary to the increasing percentages of uninsured, Native Hawaiian usage of public medical assistance has decreased in recent years, from 10.9 percent in 1997 to only 6.8 percent in 2001.
- **Fewer Native Hawaiians are forgoing doctors' visits for cost-related reasons.** The percentage of Native Hawaiians who chose not to seek medical care because of financial constraints decreased from 10.6 percent in 1997 to 8.5 percent in 2001. Still, this statistic suggests that roughly one out of every twelve Native Hawaiians will do without a needed doctor's visit because of a lack of money.
- **The percentage of Native Hawaiians receiving an annual medical checkup has decreased.** More than one-third of Native Hawaiians (38.1 percent) did not receive an annual medical checkup in 2001, an increase of more than 10 percentage points from 1997.

EMOTIONAL WELL-BEING

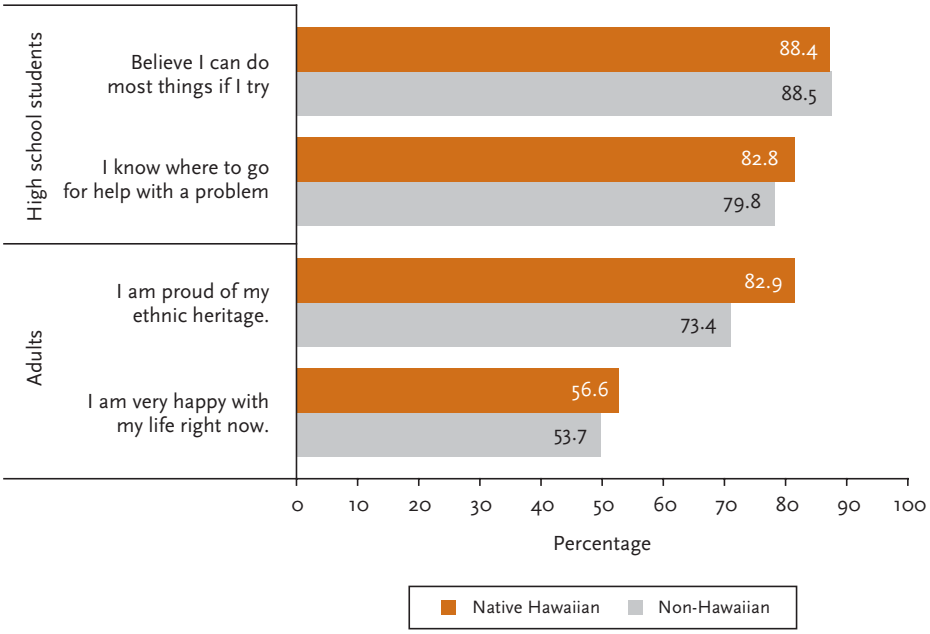
Emotional well-being is an integral part of overall wellness and refers to attitudes, spirituality, self-esteem, mental health, and life satisfaction. For Native Hawaiians in particular, emotional well-being also encompasses cultural identity and a sense of place—connections to land, ʻohana, and ancestors. Over time, the emotional well-being of the Native Hawaiian population has been confronted with imbalances such as socioeconomic stresses, health care concerns, loss of land and sources of cultural knowledge, and other external influences that threaten to erode the confidence and affect the *mana* (power) of individuals.

Data on the mental health and emotional well-being of Native Hawaiians are somewhat limited. Much of the available data focus on the extreme end of the mental health spectrum: suicide. Studies indicate that Native Hawaiians are more prone to depression and suicidal thoughts than are non-Hawaiians. However, actual adult suicide rates are comparable with state averages. These two disparate trends in suicide ideation and completion suggest the existence of intervening factors that build resilience and help to prevent depressed Native Hawaiians from acting on suicidal thoughts.

Resilience refers to the ability to weather the negative forces that might otherwise diminish emotional well-being. For some, the availability of support systems can serve to alleviate distress caused by external forces; for others, emotional fortitude is gleaned from inner strength and spirituality.

Our findings show that, compared with other major ethic groups in the state, Native Hawaiians are more likely to turn to family or spirituality for support. Native Hawaiian youths express positive feelings about themselves and have strong emotional support networks through their close ties to family and community. These findings suggest that for Native Hawaiians, support networks and spirituality may enhance resilience and mitigate the emotional effects associated with life stressors.

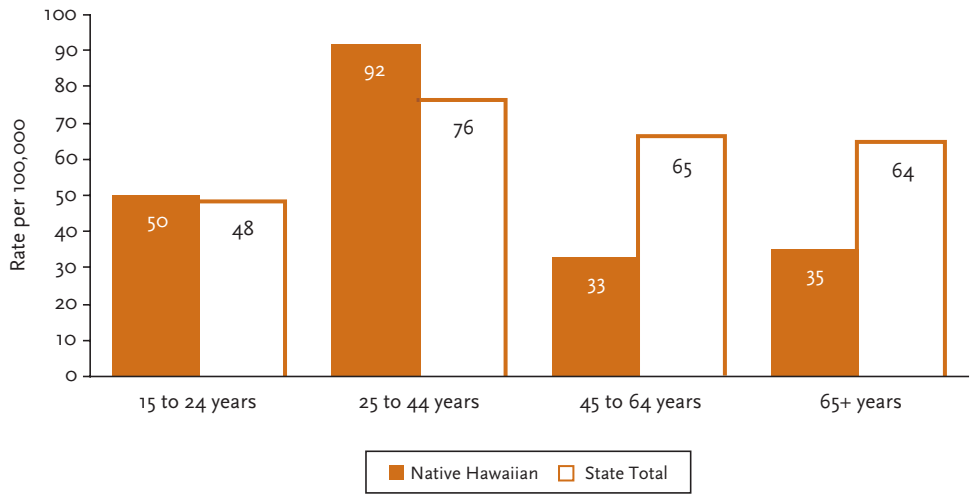
FIGURE 6.15 Individuals who agree with selected emotional stability statements as a percentage of all individuals [by age group, by Native Hawaiian ethnicity, state of Hawai'i, 2001 (students) and 2003 (adults)]



Source: Saka and Lai 2004.
Data source: Kamehameha Schools, Hawai'i Health Survey special tabulations, 2003.

- **Four out of five Native Hawaiians are proud of their ethnic heritage.** Fully 82.9 percent of Native Hawaiian adults agreed with the statement, "I am proud of my ethnic heritage," nearly 10 percentage points higher than the non-Hawaiian average of 73.4 percent (Figure 6.15). Research shows that strong cultural identity can build self-esteem and confidence, permitting individuals to successfully navigate obstacles that threaten one's self-perception.
- **Native Hawaiian adolescents are self-confident and optimistic about the future.** Among high school students, equally large proportions (almost 90 percent) of Native Hawaiian and non-Hawaiian respondents said they have goals for the future and believe they can do most things if they try (Figure 6.15). Roughly 87 percent of students in both groups reported having goals and plans for the future (not shown).
- **Native Hawaiian high schoolers are aware of their social and emotional support systems.** Fully 82.8 percent of Native Hawaiian students said they know where to go for help with a problem, compared with 79.8 percent of non-Hawaiians (Figure 6.15). A total of 83.8 percent of Native Hawaiian students reported knowing a nonparental adult they could turn to for help, compared with 77.7 percent among non-Hawaiians (see Figure 4.12).
- **The majority of Native Hawaiian adult respondents are "very happy" with their life.** More than half (56.6 percent) of Native Hawaiian respondents reported they were very happy with their life, compared with 53.7 percent of non-Hawaiian respondents (Figure 6.15). Despite this finding, Native Hawaiian respondents were more likely than non-Hawaiians (see Figure 2.58) to report money worries (26.7 percent versus 17.9 percent), educational dissatisfaction (64.3 percent versus 55.0 percent), and lack of time (47.5 percent versus 37.9 percent).

FIGURE 6.16 Suicide rates [by age group, by Native Hawaiian and state total, state of Hawai'i, 1996 to 2000 (combined)]

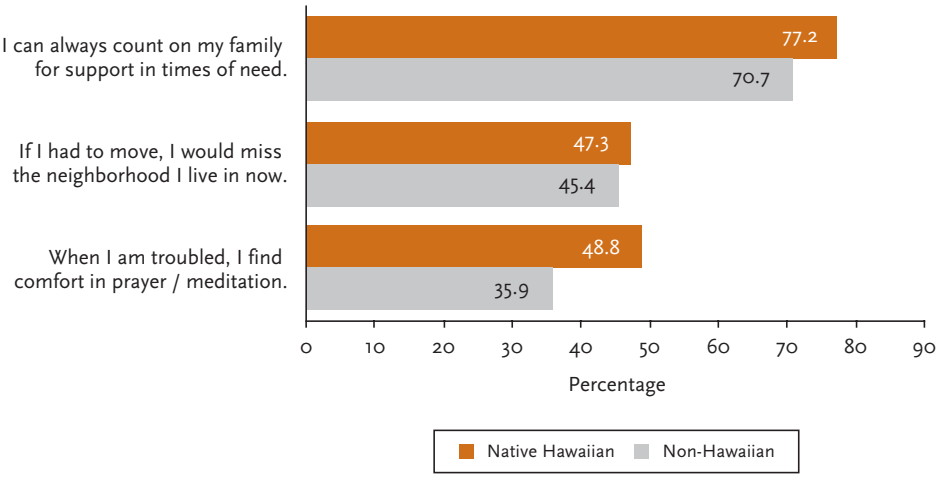


Source: Hawai'i Department of Health, Injury Prevention and Control Program 2004.

- **Native Hawaiians have a high incidence of depression and suicide ideation.** One-third (34.5 percent) of Native Hawaiian high school students reported feeling sad or hopeless for two weeks or more during the previous year, compared with roughly one-fourth (27.9 percent) of non-Hawaiian students (not shown). Suicide attempts were also more common among Native Hawaiian students than among their non-Hawaiian peers (18.7 percent versus 14.6 percent, respectively). Although less frequent, similar trends were apparent for Native Hawaiian adults: Approximately 2.2 percent of all Native Hawaiian adults surveyed in the Hawai'i Healthy Survey of 2001 had considered suicide at some point during the previous year, compared with 1.7 percent statewide (see Figure 2.60).
- **The rate of suicide deaths among Native Hawaiian adolescents and young adults is comparable with state averages.** Despite the disproportionately high prevalence of depression and suicide ideation among Native Hawaiian teens, they are no more likely to die from suicide than is the average adolescent in the state. Between 1996 and 2000, the rate among young Native Hawaiians (ages fifteen to twenty-four) was 50 suicides per one hundred thousand individuals, compared with a statewide rate of 48 suicides (Figure 6.16). In 2004, the Hawai'i Department of Health reported a similar finding: 60 suicides per one hundred thousand individuals among Native Hawaiians, compared with 61 statewide (see Figure 2.61).
- **Native Hawaiians are relatively less likely to act on suicidal impulses.** These findings suggest that although suicide is considered by many Native Hawaiians, they are less likely than other groups to follow through on self-destructive impulses. This may alert policymakers and service providers to focus attention on the disproportionate number of Native Hawaiians who are under sufficient psychological stress to consider an end to their lives. For researchers, the question concerns not only those factors that predispose Native Hawaiians to such dire conditions but also those that support more hopeful choices.

- **Native Hawaiian kūpuna are comparatively less likely to commit suicide.** The suicide rate among Native Hawaiians ages forty-five and older is roughly half the state average. Among seniors ages sixty-five and older, the suicide rate is 35 per one hundred thousand individuals among Native Hawaiians, compared with the statewide rate of 64 suicides (Figure 6.16). These statistics may be indicative of reduced survivorship among Native Hawaiians experiencing depression and high-risk behaviors at earlier ages. Alternatively, the comparatively low rate of suicide for Native Hawaiian kūpuna may be attributable to heightened self-esteem and social involvement stemming from Hawaiian cultural traditions that value, respect, and honor kūpuna.

FIGURE 6.17 Individuals who "strongly agree" with selected resiliency statements as a percentage of all adults [by Native Hawaiian ethnicity, state of Hawai'i, 2003]



Data source: Hawai'i Department of Health, Hawai'i Health Survey 2003.

- **Native Hawaiians look to the family in times of need.** More than three-quarters of Native Hawaiians (77.2 percent) who responded to the 2003 Hawai'i Health Survey expressed that they can count on their family in times of need, compared with 70.7 percent of non-Hawaiians (Figure 6.17). This finding resonates with Native Hawaiian values, which promote close ties among the 'ohana. Further, Native Hawaiians are somewhat more likely than non-Hawaiians to feel an attachment to their neighborhoods, which may in turn contribute to a sense of strength, stability, and resilience during times of trouble.
- **Spirituality is a prominent coping strategy among Native Hawaiians.** Nearly half (48.8 percent) of all Native Hawaiian respondents to the 2003 Hawai'i Health Survey reported that they pray or meditate when faced with difficulties, far exceeding the 35.9 percent among non-Hawaiians (Figure 6.17).

EDUCATIONAL WELL-BEING

Native Hawaiian educational well-being is the primary focus of *Ka Huaka'i*. Overall, our assessment reveals gains in certain areas, including the percentage of Native Hawaiian students pursuing postsecondary and graduate degrees, the number of choices available for educational opportunities besides the standard Department of Education curriculum (e.g., Hawaiian immersion schools and charter schools), and the narrowing of achievement gaps in selected standardized tests. However, based on standard measures of academic outcomes, Native Hawaiian learners need to make significant progress before reaching parity with other ethnic groups in the state.

Our analysis addresses both sides of school readiness: whether children are prepared for the grades they enter, and whether schools are prepared to meet the needs of students. This approach provides a unique view of many Native Hawaiian learners who often lack the foundation necessary for success at various grade levels. It also examines specific aspects within the school system—for example, curricula, environments, and instructors—in an effort to identify ways to best serve Native Hawaiian learners.

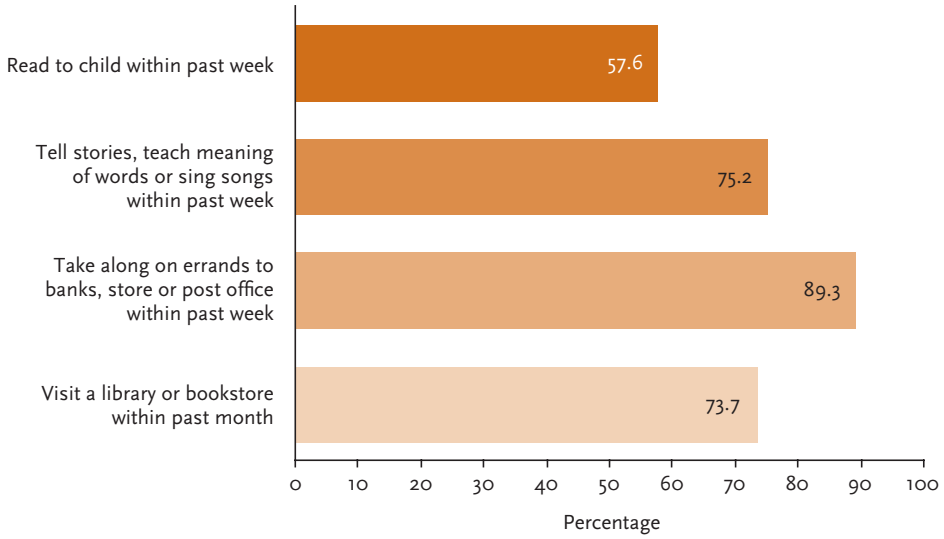
Individual achievement is a standard indicator that sheds light on the educational well-being of the Native Hawaiian population. Using standardized test scores at different grade levels, one can compare the academic standing of Native Hawaiian students in relation to that of their peers. Overall, we find that average test scores of many Native Hawaiians are lower than those of their non-Hawaiian peers in both reading and math.

Years of education, as well as the completion of degree/program requirements, is another important indicator of educational well-being. Research shows that the attainment of a diploma or degree significantly increases the economic benefits associated with education. Existing data indicate that rates of timely graduation among Native Hawaiians have increased slightly in recent years; however, Native Hawaiian students are less likely than their non-Hawaiian counterparts to complete high school within four years.

In addition to school readiness, test scores, and completion rates, educational well-being can also be gauged by the ongoing pursuit of education by learners. We explore this concept by looking at enrollment levels, dropout rates, and continuation of education after high school.

Research confirms that the benefits of education affect the well-being of future generations. Consequently, in the following discussion, we present several trends in well-being measures with respect to parental educational attainment. The overall message of this section emphasizes the measurable impact of education and its implications—both positive and negative—for Native Hawaiian children.

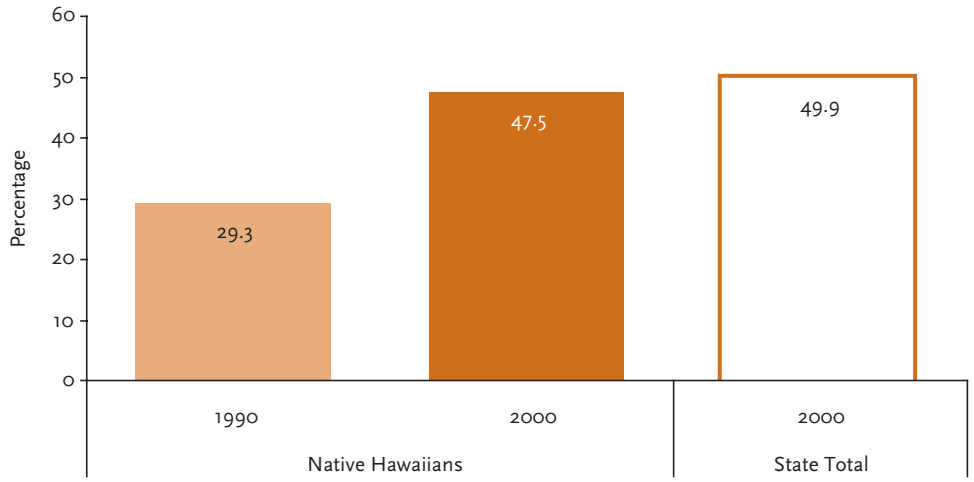
FIGURE 6.18 Individuals reporting participation in selected parent–child activities as a percentage of Native Hawaiian respondents with children [respondents with children under 18, by activity, state of Hawai'i, 2002]



Data source: Kamehameha Schools, Hawaiian Community Survey 2002.

- **The majority of Hawaiian Community Survey respondents provide educationally supportive environments for their children.** Reading to or with children at home contributes much to successful academic performance. Although the ideal goal would be closer to 100 percent, data show that more than half (57.6 percent) of all Native Hawaiian families surveyed had read a book or story to their children during the previous week (Figure 6.18). A greater percentage of families engaged their children in other activities that encourage language skills: 81.0 percent regularly talked to their children about family history, culture, and cultural values (not shown), and 75.2 percent regularly told stories, taught the meaning of words, or sang songs with their keiki (Figure 6.18).
- **Many children of Hawaiian Community Survey respondents participate in household activities that promote learning and responsibility.** Nearly nine out of ten respondents (89.3 percent) included their young children when conducting errands such as trips to the bank, shopping at stores, or visits to the post office (Figure 6.18). Further, 94.4 percent of Native Hawaiian respondents involved their children in daily chores such as cooking, setting the table, and caring for pets, and 65.0 percent included their children in home projects that require building or fixing things (not shown). These activities provide opportunities for parents and other older family members to educate children and reinforce the value of *kuleana* (responsibility).
- **Hawaiian Community Survey respondents engage in outside activities that can influence positive educational outcomes for children.** Three-quarters of respondents (73.7 percent) reported taking their children to libraries or bookstores (Figure 6.18). These activities expose children to new social interactions and augment awareness of the value of reading.

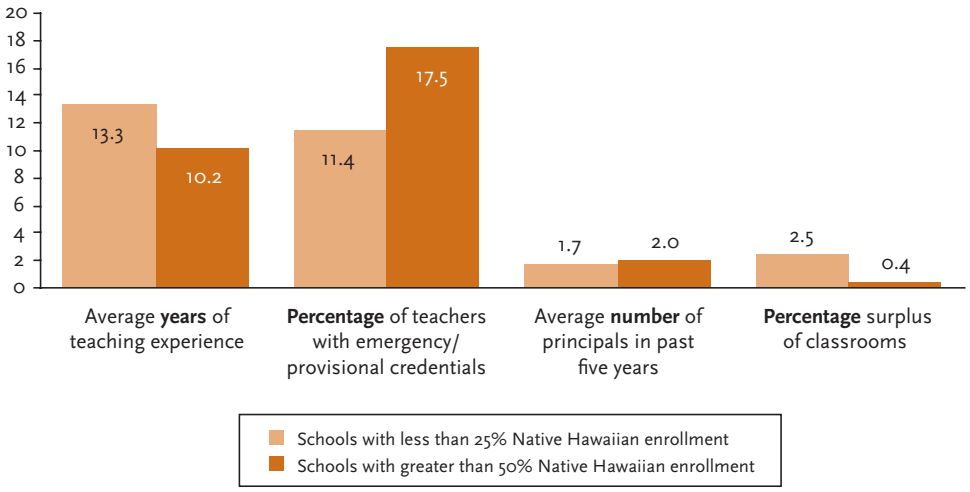
FIGURE 6.19 Children enrolled in preschool as a percentage of all three- and four-year-olds [by Native Hawaiian and state total, state of Hawai'i, 1990 and 2000]



Data source: U.S. Census 2000, Summary File 4.

- **Preschool enrollment among Native Hawaiians is approaching the state average but remains well below the rates for several other major ethnic groups.** In Hawai'i, about one-half (49.9 percent) of all three- and four-year-old children attended some form of preschool in 2000. Trend data show that Native Hawaiian preschool enrollment has increased by nearly 20 percentage points, from 29.3 percent in 1990 to 47.5 percent in 2000 (Figure 6.19). Though only 2.4 percentage points lower than the state average, Native Hawaiian preschool enrollment was much lower than that of non-Hispanic Whites (55.9 percent), Chinese (56.4 percent), and Japanese (60.1 percent) (see Figure 3.26).
- **Geographic disparities are apparent in Native Hawaiian preschool enrollment and the quality of preschool programs is uncertain.** Young Native Hawaiian children in East Hawai'i and Leeward O'ahu are underrepresented in the population of enrolled preschoolers. Although 24.0 percent of Native Hawaiian three- and four-year-olds reside in Leeward O'ahu, the district accounts for just 19.5 percent of Native Hawaiian preschoolers (see Figure 3.27). Further, we know little about the quality of the preschool programs in which young Native Hawaiian children are enrolled. The socioeconomic disadvantage many Native Hawaiian families struggle with may limit their opportunities to obtain quality early childhood education.
- **On the whole, Native Hawaiian families with young children seem to prefer in-home childcare by relatives.** Preschool enrollment rates among Native Hawaiians may be indicative of a preference for "kith and kin" care, especially given the prevalence of grandparents who serve as the primary caregiver for young children. A survey of Native Hawaiian households indicated that roughly three-quarters (73.9 percent) of Native Hawaiian families with young children (younger than age five) either cared for their children themselves or relied on relatives; almost two-thirds (62.4 percent) had their children cared for within their homes (see Figure 3.22). Because kith and kin care arrangements may be more variable in quality compared with licensed facilities, the availability of center-based childcare opportunities and support for kith and kin care providers remains an important goal for Native Hawaiian families (see Figure 3.23).

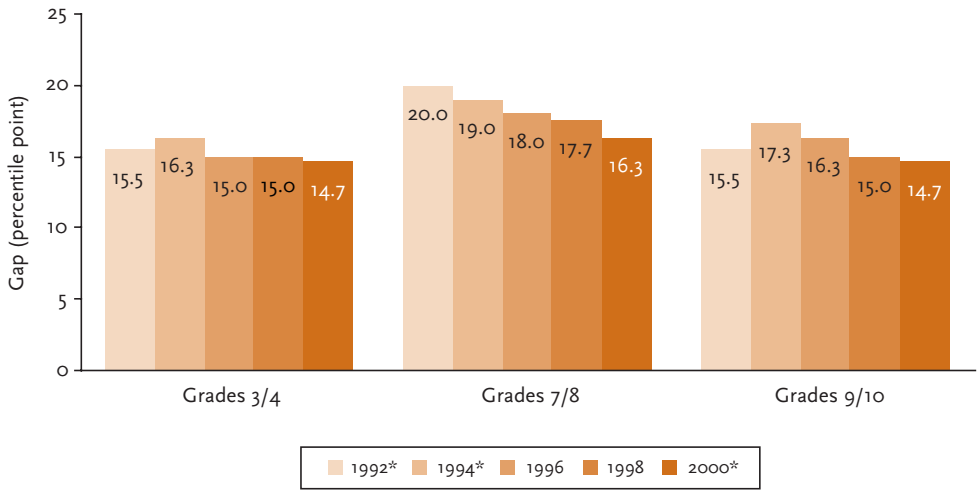
FIGURE 6.20 Selected resources in public schools [by level of Native Hawaiian enrollment, state of Hawai'i, school year 2001–02]



Source: Hawai'i Department of Education, School Status and Improvement Reports 2001–02.

- **Predominantly Native Hawaiian schools typically employ less experienced teachers.** Among public schools with high (greater than 50 percent) Native Hawaiian enrollment, the average teaching experience among staff was 10.2 years, compared with 13.3 years in schools with low (less than 25 percent) Native Hawaiian enrollment (Figure 6.20).
- **Teachers in predominantly Native Hawaiian schools are relatively less likely to be fully licensed.** Whereas only 11.4 percent of teachers in public schools with low Native Hawaiian enrollment held emergency or provisional teaching credentials (in lieu of full certification), 17.5 percent of teachers in schools with high Native Hawaiian enrollment were using these temporary credentials.
- **Predominantly Native Hawaiian schools have higher principal turnover.** Public schools with high Native Hawaiian enrollment reported, on average, 2.0 principals over the previous five years, compared with 1.7 principals over the same period among schools with low Native Hawaiian enrollment (Figure 6.20). Further, 21.2 percent of parents with children enrolled in predominantly Native Hawaiian schools gave negative ratings of the school leadership, compared with 15.7 percent of parents whose children were enrolled in schools with low Native Hawaiian enrollment (see Figure 4.40).
- **Public schools with high Native Hawaiian enrollment have less classroom space.** The surplus of classrooms among schools with lower levels of Native Hawaiian enrollment was six times greater than the corresponding surplus among predominantly Native Hawaiian schools (2.5 percent versus 0.4 percent).
- **Predominantly Native Hawaiian schools are twice as likely to be in "corrective action" as are other schools.** Based on school year 2002–03 assessments of adequate yearly progress (AYP), as defined by the No Child Left Behind Act, 38.6 percent of all public schools with 50 percent or more Native Hawaiian enrollment were in "corrective action" (which means they had failed AYP criteria for four or more years), compared with 17.6 percent of public schools with lower Native Hawaiian enrollment (not shown). Conversely, whereas three-quarters (76.8 percent) of schools with lower Native Hawaiian enrollment are in "good standing," only 55.9 percent of predominantly Native Hawaiian schools merit this status (see Figure 4.55).

FIGURE 6.21 Trends in the reading achievement gap between Native Hawaiian and non-Hawaiian public school students, by grade level [SAT, three-year averages, difference between percentile ranks of average SAT scores, state of Hawai'i, selected years]



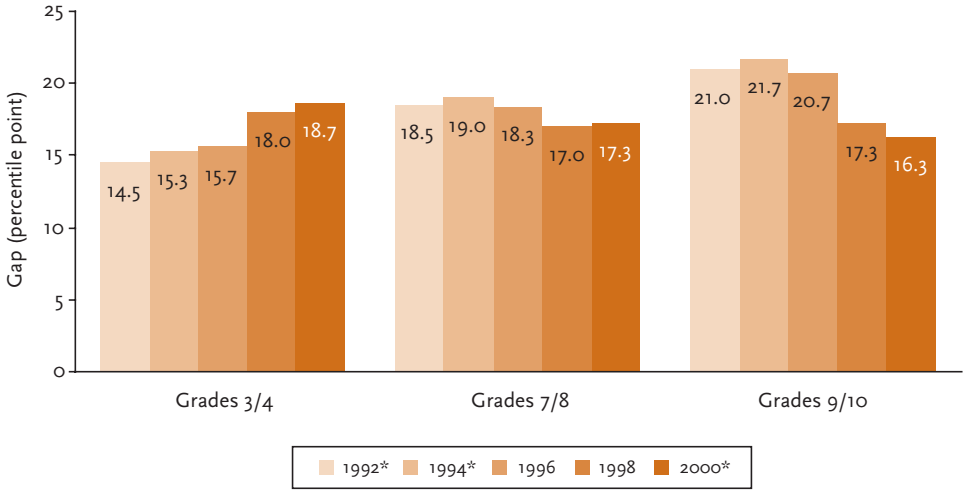
Data source: Hawai'i Department of Education, various years.

Note: Gaps are three-year averages of differences, which are defined as the average non-Hawaiian locally normed percentile rank minus the average Native Hawaiian locally normed percentile rank. The figure must be viewed with the understanding that three different Stanford Achievement Test (SAT) versions were administered by the public school system over the last ten years, and that each iteration may have affected test scores. The comparative data are presented to suggest the relative standing of Native Hawaiian and non-Hawaiian students and are not intended to assess year-to-year changes in actual test scores.

* The 1992 average is based on two years for all grades; the 1994 average is based on two years for Grades 7/8; the 2000 average is based on SAT-9 scores for 1999 and 2000 with SAT-9-Abbreviated in 2002.

- **Reading tests reveal persistent underperformance among Native Hawaiian elementary students.** Over the past decade, there has been little success in closing the reading test score gap between Native Hawaiian elementary students and their non-Hawaiian peers. Despite slight fluctuations from year to year, the average reading gap in the SAT scores of third and fourth graders has remained roughly constant at a 15-point deficit since 1992 (Figure 6.21).
- **Native Hawaiian middle school students have narrowed the gap in reading.** Between 1992 and 2000, the average reading gap among middle school students decreased by about 4 percentiles, representing a decrease of 20 percent for the ten-year period. However, the gap of 16.3 percentile points in 2000 is substantial and signifies persistent disparities.
- **Native Hawaiian high school students show slight improvement in reading over the past decade.** The reading gap between Native Hawaiian high schoolers and their non-Hawaiian peers persisted throughout the decade, starting with an average 15.5-point deficit in 1992, rising to a 17.3-point deficit in 1994, and eventually falling back to a 14.7-point deficit by 2000. The gap persisted over the years despite changes to SAT-9 testing instruments and methods.

FIGURE 6.22 Trends in the mathematics achievement gap between Native Hawaiian and non-Hawaiian public school students, by grade level [SAT, three-year averages, difference between percentile ranks of average SAT scores, state of Hawai'i, selected years]



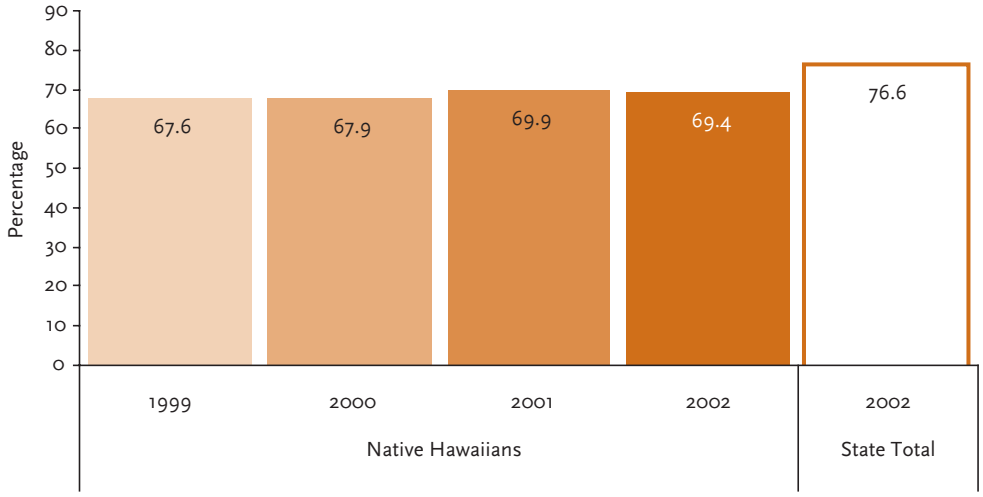
Data source: Hawai'i Department of Education, various years.

Note: Gaps are 3-year averages of differences, which are defined as the average non-Hawaiian locally normed percentile rank minus the average Native Hawaiian locally normed percentile rank. The following findings must be viewed with the understanding that three different SAT versions were administered by the public school system over the last ten years, and that each iteration may have affected test scores. The comparative data are presented to suggest the relative standing of Native Hawaiian and non-Hawaiian students and are not intended to assess year-to-year changes in actual test scores.

* The 1992 average is based on two years for all grades; the 1994 average is based on two years for Grades 7/8; the 2000 average is based on SAT-9 scores for 1999 and 2000 with SAT-9-Abbreviated in 2002.

- **The math gap between Native Hawaiian and non-Hawaiian elementary students has steadily increased.** The average gap between Native Hawaiian third and fourth graders and their non-Native Hawaiian counterparts on SAT-9 math tests appears to have risen, from a 14.5 point deficit in 1992 to a 18.7 point deficit by 2000, a 36 percent increase over eight years (Figure 6.22).
- **Native Hawaiian middle school students have slightly narrowed the math gap.** Native Hawaiian students in middle school appear to have made small gains in math scores in relation to their non-Hawaiians peers.
- **Native Hawaiian high school students have narrowed the math gap by an average of 5 percentiles.** At the high school level, the average math gap decreased by about 5 percentiles (24 percent) in recent years, from 21.0 percentiles in 1992 to 16.3 percentiles by 2000. However, the gap of 16.3 points in 2000 indicates that considerable improvement needs to be made for Native Hawaiians to achieve parity with their non-Hawaiian peers.

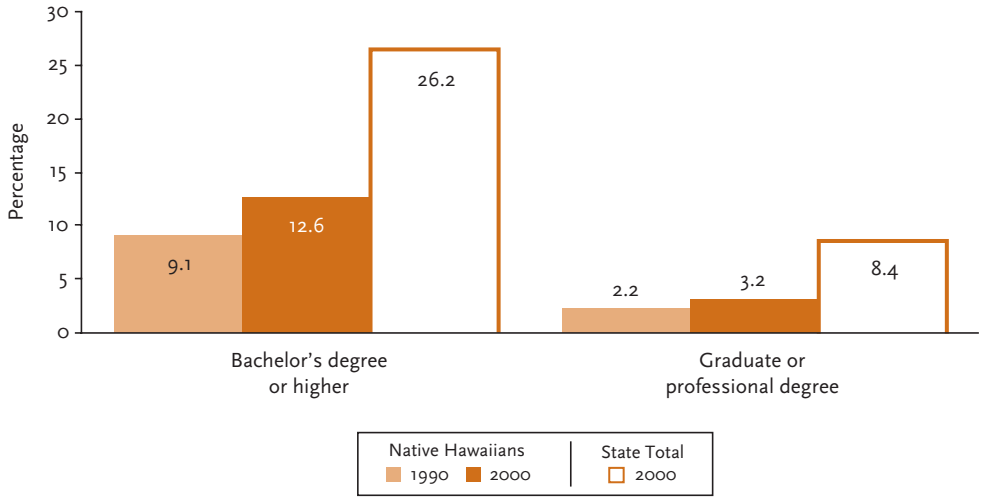
FIGURE 6.23 Students who achieve timely high school graduation as a percentage of all public high school students
[three-year averages, students expected to graduate within four years of high school, by Native Hawaiian and state total, state of Hawai'i, 1999 to 2002]



Data source: Hawai'i Department of Education, various years.

- **The graduation rate of Native Hawaiian high school students has increased slightly in recent years.** Three-year averages for 1999 through 2002 show the percentage of Hawaiian students who completed high school within four years increased slightly from 67.6 percent to 69.4 percent. However, this rate was well below the 2002 statewide average of 76.6 (Figure 6.23).
- **Native Hawaiian college students take longer than other students to graduate.** The continuation rate (i.e., the number of students who continue to be enrolled after six years of college) for Native Hawaiian students at the University of Hawai'i from 1990 to 2000 was relatively high (10.5 percent) compared with that of other ethnic groups (see Figure 2.67).
- **Of all Native Hawaiian students who enter college, about half graduate.** Combining the continuation rate with graduation rates from 1990 to 2000 reveals that more than half (51.8 percent) of Native Hawaiian college students graduated (or were nearing graduation). This figure, though encouraging, is still lower than that of nearly every other ethnic group in the University of Hawai'i system (see Figure 2.67).

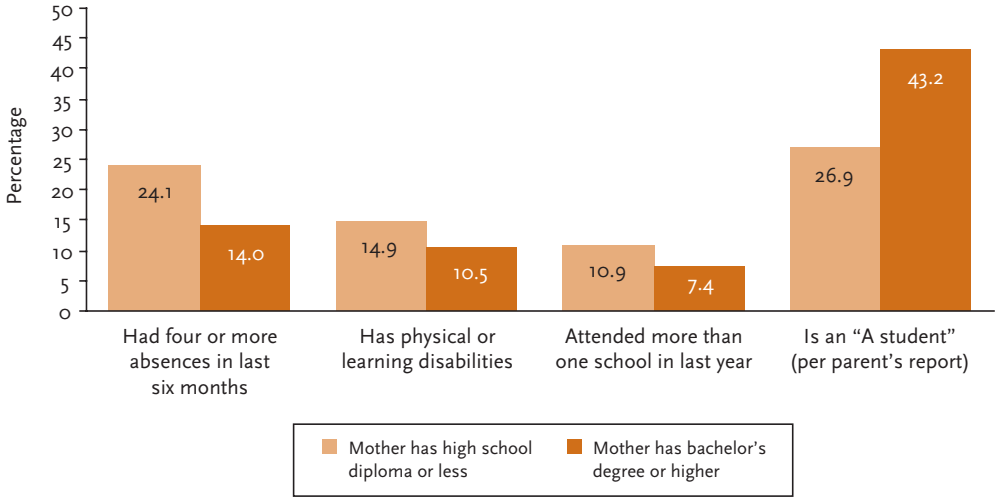
FIGURE 6.24 Individuals reporting selected educational attainment levels as a percentage of all adults [adults ages 25 and older, by educational level, by Native Hawaiian and state total, state of Hawai'i, 1990 and 2000]



Data source: U.S. Census 2000, Summary File 4.

- **The percentage of Native Hawaiian adults holding a bachelor's degree is on the rise.** In 2000, the percentage of Native Hawaiian adults (ages twenty-five and older) who had obtained a bachelor's degree or higher rose to 12.6 percent, an increase of 3.5 percentage points from 1990 (Figure 6.24). Despite these gains, the percentage of college-educated Native Hawaiians in the state falls well below the state average (26.2 percent).
- **The percentage of Native Hawaiians with graduate and professional degrees has increased.** The percentage of Hawaiian adults (ages twenty-five and older) who had completed a graduate or professional degree increased from 2.2 percent in 1990 to 3.2 percent in 2000. The statewide percentage in 2000 was 8.4 percent, suggesting the ongoing lack of parity between Native Hawaiians and other ethnic groups. For example, Chinese and Japanese adults are more than twice as likely as Native Hawaiians to have a graduate or professional degree, whereas non-Hispanic Whites are more than four times as likely to hold such credentials (see Figure 2.71).

FIGURE 6.25 Students with selected educational characteristics as a percentage of all respondent Native Hawaiian students [reported by respondent parents of children ages 5 to 17, by mother's educational attainment, state of Hawai'i, 2001]



Data source: Kamehameha Schools, Hawaiian Community Survey 2001.

- **The higher the parent's education, the lower the child's tendency to be absent from school.** In 2001, a survey of Native Hawaiian households found that among mothers with a high school diploma or less, 24.1 percent of their children had four or more absences during the previous six months. However, among mothers with a bachelor's degree or higher, the absentee rate was only 14.0 percent, a 42 percent difference (Figure 6.25). Further, parents with higher educational attainment reported fewer learning disabilities among their children (10.5 percent) than did those with a high school diploma or less (14.9 percent). These findings suggest that higher educational attainment among parents is linked to improved health and school readiness.
- **College-educated Native Hawaiian parents relocate less frequently and provide a comparatively stable home environment.** While over one in ten Native Hawaiian children of mothers with a high school diploma (10.9 percent) attended more than one school in the 2000–01 school year, only about one in fifteen children of mothers with bachelor's degrees or higher (7.4 percent) was transient. This finding supports other research that shows a strong link between parents' education and children's educational outcomes.
- **The higher the parent's education, the higher the child's grades.** The 2001 Hawaiian Community Survey found that 43.2 percent of Native Hawaiian mothers with bachelor's degrees or higher reported that their children were "A students," compared with only 26.9 percent of mothers with a high school diploma or less. The gap (16.3 percentage points) may be indicative of the educational resources more highly educated parents can provide to their children, including assistance with study habits, homework tasks, and educational planning and expenses.

INNOVATIVE STRATEGIES FOR NATIVE HAWAIIAN EDUCATION

There is ample evidence of forward motion in Native Hawaiian education. Several promising directions have evolved in the past decade, including strategies, projects, programs, and policies that draw on the strengths of Native Hawaiian learners, families, and communities. For the purposes of this report, we organize these initiatives into the following categories:

- *I Ka 'Ōlelo Nō Ke Ola:* Promoting Hawaiian language as the medium of instruction
- *He Hawai'i Au:* Reinforcing Hawaiian cultural identity and traditional practices
- *'O Ka 'Āina Ke Ali'i:* Learning through place-based education and experience
- *Ka 'Ohana A Me Ke Kaiāulu:* Engaging support from family and community

We emphasize that the strategies and programs summarized in this section are not exhaustive, and we envision a more complete discussion of promising practices in future iterations of the Native Hawaiian Educational Assessment.

I Ka 'Ōlelo Nō Ke Ola: Promoting Hawaiian Language as the Medium of Instruction

Staton (2005) reported that the Hawaiian language appears to be "the only indigenous language in the United States that showed growth in the 2000 census" (paragraph 8). The proliferation of *kula kaiapuni* (Hawaiian-medium or immersion schools) offers some of the most compelling evidence of the growth in Hawaiian language. The guiding philosophy of Hawaiian immersion schools is that language is the basis of culture, and that a strong cultural identity will in turn promote successful educational outcomes.

- **Hawaiian immersion schools have spread to five islands.** 'Aha Pūnana Leo ("language nest") was established in 1983 and currently administers twelve preschools and three K–12 charter schools on five islands. These immersion schools engage native-speaking kūpuna and other *kumu* (teachers) to transmit language and cultural values to young children by interacting with them entirely in Hawaiian. The 'Aha Pūnana Leo teaching model frames content and curriculum in a way that emphasizes a Hawaiian worldview.
- **Hawaiian language immersion is integrated in the public school system.** Papahana Kaiapuni, a public school program that took root in 1986, situates existing curricular standards within a Hawaiian framework by immersing students in the Hawaiian language, traditional methods of learning, and culturally relevant topics of study. Today there are twenty-one kula kaiapuni in the state, serving about 1,400 students from kindergarten through Grade 12.

Hawaiian-medium schools teach content knowledge through Hawaiian language in a culturally rich environment. *Photo by Kaimana Barcarse*

- **Anecdotal evidence suggests progress is being made.** Hawaiian-medium schools are known to motivate and engage Native Hawaiian children who might otherwise be prone to alienation from school. Immersion schools are also praised for their high levels of parent involvement.

He Hawai'i Au: Reinforcing Hawaiian Cultural Identity

Native Hawaiian identity is tied to genealogy, place, and ancestral traditions. Recent years have witnessed an increase in programs that reinforce strong ethnic identity, pride in Hawaiian cultural roots, and self-confidence. Forming meaningful connections to one's native heritage also strengthens cultural moorings and spiritual well-being.

- **Recovery programs utilize Hawaiian culture as an intervention strategy.** Hawaiian cultural elements are increasingly prevalent in programs that serve Native Hawaiian prisoners, ex-inmates, and populations affected by domestic violence and drug addiction. By being exposed to—and in some cases introduced to—traditional concepts such as genealogy, *oli* (chant), hula, and crafts, participants learn to reconnect with their Hawaiian cultural heritage. This approach is reported to have a positive effect on participants' self-esteem, self-awareness, and social well-being.

Hula and other traditional arts help Native Hawaiian learners identify with their cultural heritage, build self-esteem, and strengthen social and emotional well-being. *Photo by Michael Young*

- **Students have more exposure to authentic learning environments.** Program activities that emphasize authentic cultural experiences—both in public and private school contexts—have flourished in the past decade. Examples include visits to the island of Kaho'olawe, fieldtrips to a traditional voyaging canoe, working in fishponds and *lo'i kalo* (taro fields), and poi making.
- **Teachers have more access to culturally relevant training.** Some innovative university-level training opportunities now exist to prepare teachers to serve in Hawaiian immersion schools and other language and culture programs for Native Hawaiian students. Additionally, an indigenous teacher certification program is now offered through the University of Hawai'i–Hilo.
- **Cutting-edge approaches connect Hawaiian traditions and Western science.** Several science programs have begun to merge traditional Native Hawaiian perspectives on resource management and environmental studies with modern technology and sophisticated monitoring tools. Other programs provide internships, tutorials, and grants for Native Hawaiian students studying math, geology, chemistry, biology, astronomy, and other sciences.

'O Ka 'Āina Ke Ali'i: Learning through Place-Based Education and Experience

Traditional Hawaiian perspectives consider the land and sea to be part of a person's identity, a link to his or her ancestry, and a source of mana. Place-based learning not only serves as a unique medium for education but also reinforces Native Hawaiian identity and complements traditional hands-on methods of knowledge acquisition.

- **Mālama 'āina has progressed from concept to curriculum.** Hawaiian-focused charter schools utilize "outdoor learning laboratories" that reinforce *mālama 'āina* (caring for the land) through an extensive project-based curriculum centered on agriculture, water, forestry, and recycling.
- **Nature is a classroom.** Established programs expose learners to the state's land and waters while infusing Native Hawaiian history and culture. For example, the Polynesian Voyaging Society's Ocean Learning Academy offers ocean-based learning to selected eleventh and twelfth graders; the Hawaiian Studies program at Wai'anae High School integrates culturally relevant activities, such as studying native plants and voyaging, into the broader school curriculum.
- **Students learn from the ahupua'a.** Several organizations have developed educational programs based on the *ahupua'a* (a traditional Hawaiian land division that typically extends from the mountains to the sea), land and water access, and traditional *kalo* (taro) farming. Placed-based learning in the ahupua'a teaches stewardship and preservation of valuable agricultural and conservation lands. Examples of these programs include 'Āina Ulu (Kamehameha Schools) and Ka'ala Farm.

Place-based learning in culturally significant places helps learners connect tradition and technology. *Photo by Michael Young*

Ka ʻOhana A Me Ke Kaiāulu: Engaging Support from Family and Community

The ʻohana—both immediate and extended—is the nucleus of Hawaiian culture, and many Native Hawaiian programs tailor their services to support the family. Recent educational initiatives in the state of Hawaiʻi actively cultivate both family involvement and community input.

ʻOhana is the core of Hawaiian culture.
Photo by Michael Young

- **It takes a village.** Families and community members are the pillars of Hawaiian immersion programs and Hawaiian-focused charter schools. Some charter schools, for example, have adopted the Aho Loa program, in which learners are instructed and mentored by family, community members, or other subject-matter experts.
- **Focus on keiki.** Many organizations serving Native Hawaiians are turning their focus to young children. For example, Tūtū & Me is a traveling preschool program that serves Native Hawaiian children ages five and younger and their caregivers, primarily kūpuna, or *tūtū* (grandparents). Tūtū & Me acknowledges the benefits of multigenerational interaction on child development and capitalizes on the strengths of Native Hawaiian households. The program emphasizes Hawaiian culture and values through stories, songs, and exposure to language and literacy.
- **Focus on parents.** Various initiatives provide coaching and support for Native Hawaiian parents. Among these, programs such as Keiki Steps, Pūlama i nā Keiki, and those developed by the Keiki o ka ʻĀina Family Learning Center promote the idea of "parents as teachers" and integrate Native Hawaiian language, cultural values, songs, stories, myths, and legends in the curriculum.

IMPLICATIONS AND CONCLUSIONS

Native Hawaiian families have the building blocks for success.

Overall, our findings show that Native Hawaiian children, families, and communities continue to face persistent challenges. Importantly, however, multiple sources evidence some fundamental social and cultural assets that have afforded Native Hawaiians the resiliency and adaptability to meet the challenges that have emerged in the last two hundred years. The strength of relationships—based on cultural values of compassion and aloha—represents building blocks for future successes in improving educational outcomes. Currently, the poor educational outcomes of Native Hawaiian children are both a cause and an effect of poverty and its related disadvantages: The conditions faced by many Native Hawaiian children hinder their educational development. As a result, substandard academic outcomes and other disadvantages persist over time. Our goal for future generations is to ensure that education is both a cause and an

effect of Native Hawaiian advancement. The realization of this goal will require drawing on the enduring characteristics of Native Hawaiian communities—such as strong family and social bonds, cultural values, and traditional knowledge—to construct models for education that build on indigenous strengths and translate into social advantages for Native Hawaiians. Education, which is critical to the perpetuation of traditional ways and the survival of Native Hawaiians, is one of our greatest resources.

Progress is found in Native Hawaiian leadership, vision, and accountability.

Native Hawaiian leadership is essential for building broader strategies to improve the well-being of Native Hawaiians as a whole. It is important that education funders and providers systematically cultivate, respect, and reinforce the capacity and existing expertise within Native Hawaiian communities. Therein lies the commitment and accountability to Native Hawaiian communities, and hence a way of optimizing the impact of resource expenditures. The Council for Native Hawaiian Advancement (2003) estimates that more than $70 million in federal funds is directed toward Native Hawaiian programs each year. Because these funds are intended to benefit the Native Hawaiian community, programs—which essentially act as the executors of these funds—are accountable to the larger Native Hawaiian population for the way these monies are spent. It is imperative to ensure that such resources be used effectively and efficiently to promote Native Hawaiian well-being. Native Hawaiian leadership in these efforts brings invaluable vision, unique commitment, and community accountability to maximize program investments in Native Hawaiian health and education.

Collaborations and partnerships are key.

On the whole, this report demonstrates that understanding and improving Native Hawaiian well-being is a complex and interrelated process that involves many disciplines, organizations, and service providers. While certain programs or initiatives may achieve great success within a target population, greater collaboration and coordination of efforts will be increasingly important to improve Native Hawaiian well-being on a larger scale. The recent progress of language immersion programs and Hawaiian-based charter schools—as well as the less positive indicators of Native Hawaiians in the public education system—points to the importance of working together to serve Native Hawaiian learners.

This report tells only part of the story.

A significant limitation of a report of this nature is that it cannot do justice to inherent concepts of well-being that defy empirical analysis and quantification. For example, valid measures of spirituality, cultural identity, traditional practices and belief systems, connections to the ʻāina, and even cultural loss and internalized depression that may exist from a history of colonization, are not (and some perhaps should not be) easily measured and quantified with statistics. Although the past decade has seen many promising new initiatives designed in accordance with Hawaiian cultural values and traditional perspectives on well-being, data measuring the impact of these efforts are not always readily available. Thus, the analyses in this report are, by necessity, structured around the more widely available Western measures of well-being, many of which rely on deficit-based reporting (e.g., teen pregnancy, criminal deviance, and poverty). This approach leaves some of the most promising and hopeful parts of the Native Hawaiian story untold.

The time is ripe for Native Hawaiians to ask the questions, gather the data, and shape new stories.

The limited availability of indigenous indicators highlights the urgency of gathering appropriate data to share a Hawaiian perspective of well-being. The shape and form of Hawaiian concepts of well-being must be determined within the Native Hawaiian community. Some Native Hawaiian programs and service providers may be skeptical about evaluations, which typically have involved outsiders imposing their indicators and judgments on programs whose goals are often difficult to measure. However, programs that have grown from within the Native Hawaiian community should also be evaluated from within community. Native Hawaiian ownership of programs and their evaluations will enable us to determine the measures by which our programs are judged. In so doing, we will also develop internal expertise to define and build Native Hawaiian well-being and Native Hawaiian success.

Some data is better than no data.

At the same time, researchers, program administrators, and community leaders must ensure that conventional Western data systems continue to support assessment needs for Native Hawaiians. This report would not have been possible without the increasingly diligent data and reporting conventions of agencies such as the U.S. Census Bureau, the Hawai'i Department of Education, the Hawai'i Department of Health, and others who recognize the need for disaggregated data. However, Native Hawaiians continue to be subsumed under the broad "Asian/Pacific Islander" category in many data reports, and large-scale, national studies too often fail to even sample the Native Hawaiian population. The Native Hawaiian community must continue to demand responsible data collection and reporting that reflect the racial and ethnic diversity of the state of Hawai'i and the larger nation.

Further research is critical to improve Native Hawaiian well-being.

The process of research and self-evaluation in the Native Hawaiian community reveals Native Hawaiian strengths and challenges and helps to determine which efforts have been successful and why. Further research is needed to understand the work and the achievements of programs serving Native Hawaiians, especially those grounded in a native worldview. Western approaches to education are grounded in scientific paradigms of rationalism and empiricism and are thus aligned with reporting demands based on counts, percentages, and quantitative impact. The ontology of Hawaiian epistemologies is found in spirituality and relationships, and resulting program objectives and outcomes do not always fall neatly into statistical portraits. Recognizing and valuing these differences requires flexible and innovative approaches not only in education research and programs but also in the design of projects, models, management, and measurement. The benefits that accompany a more comprehensive and nuanced understanding of the Native Hawaiian community and its providers will be found in increased ability to coordinate efforts, build on strengths, and expand our successes through the replication of effective strategies on a broader basis.

APPENDIX A
Native Hawaiian Population: Data Collection and Definition

Definition of Native Hawaiian

The definition of "Native Hawaiian" has evolved over time, resulting in multiple uses of the term and differing interpretations of its meaning. The term has continued to capture a similar range of individuals (i.e., individuals with *any* Native Hawaiian ancestry), reflected by the relatively high degree of consistency in social and demographic outcomes to date reported for Native Hawaiians who reside in the state of Hawai'i.

For the purposes of this report, the term "Native Hawaiian" is used to describe any individual who can trace his or her genealogy to the aboriginal inhabitants of the Hawaiian Islands, regardless of blood quantum or ethnic ideology. Because the vast majority of Native Hawaiians are multiracial, multiple-race reporting conventions, as found in Census 2000, permit the most realistic and valid accounting of the status of these individuals.

Data Collection about Native Hawaiians

The primary data sources for this report include the U.S. Census, the Hawai'i Department of Health, and the Hawai'i Department of Education. Differences in data format, structure, and content exist because statistics derived from these sources are collected by various governmental agencies. In some instances, different methods of data collection are used; in others, differing definitions of key measures are applied. Though sometimes confusing, changes to the definitions of certain population measures are not entirely unwelcome. For example, as populations mature and data needs become more refined, the manner in which organizations and agencies request data often evolves to reflect higher levels of understanding, new areas of interest, and unique methods for obtaining difficult-to-gather information. The data included in this publication come primarily from population-based sources rather than smaller, nonrandom or case studies.

All methods of data collection about Native Hawaiians inevitably rely on self-reported data, given the limited means available to verify racial heritage (e.g., expert witness, historical archives, etc.). Even efforts to restrict Native Hawaiian ethnic reporting by blood quantum rely on self-reports. For example, to qualify for Hawaiian Homestead Lands requires a minimum of 50 percent blood quantum, verified by birth certificates, which are filled out by individuals or sometimes medical personnel. The level of certainty attained via birth certificates falls along a continuum, where the greatest certainty may be achieved by tracing historical records to the once relatively isolated Native Hawaiian population. However, some Native Hawaiians may not be able to provide these historical records, or their records may contain some omission that could preclude verification of their legitimate ancestry. From a practical standpoint, most researchers and agencies use self-reported data for data collection purposes; others use certified birth certificates or similar proof when verification of Native Hawaiian ancestry is required, as is the case with Kamehameha Schools.

Perhaps the most significant change to data sources since the publication of the 1993 Native Hawaiian Educational Assessment Project report involves the Census Bureau's definition of race. In 1997, the Office of Management and Budget (OMB) of the executive branch of the U.S. government issued a directive *(Statistical Policy Directive No. 15, Race and Ethnic Standards for Federal Statistics and Administrative*

Reporting), which sought to remedy an antiquated race classification system used by most federal agencies. In brief, OMB Directive 15 issued three mandates: (1) permit program participants and survey/census respondents the option to report more than a single race classification; (2) separate Native Hawaiians and other Pacific Islanders from the generic "Asian and Pacific Islander" category; and, (3) provide a "bridge" (method) for comparing data over time in light of the changes reflected in (1) and (2).

Federal agencies were given until 2003 to comply with the new directive, but it was the Census Bureau that first instituted the changes on a wide-scale basis by implementing the OMB recommendations in the decennial census conducted in 2000 (otherwise known as Census 2000). Owing to the high numbers of Native Hawaiians of mixed races and ethnicities, as well as the stark differences between the Native Hawaiian and Asian populations on several measures, the OMB directive permitted the data collected by the Census Bureau to better represent people of Native Hawaiian ancestry. Consequently, Census 2000 represents some of the most comprehensive estimates of the Native Hawaiian population since Hawai'i became a U.S. state in 1959.

In 1990, there were approximately 238,000 Native Hawaiians in the United States, whereas Census 2000 reports about 401,000, including 40 percent residing in the continental United States (see Kana'iaupuni and Liebler 2005; Kana'iaupuni and Malone 2004). Within the state of Hawai'i, the 1990 Census reported that Native Hawaiians constituted 12 percent of the population (using the single-race reporting system), whereas Census 2000 shows the percentage of Native Hawaiians to be roughly 20 percent (permitting multiple-race reporting). This level of Hawaiian representation is comparable with censuses conducted *prior* to statehood, as well as in 1960, which also permitted Hawaiian or part-Hawaiian race responses. Other contemporary state data sources show findings similar to Census 2000, such as the Hawai'i Department of Health, which recorded that Native Hawaiians constituted 22.1 percent of the state population in 2000, and the Hawai'i Department of Education, which reported that about 26 percent of its students were part- or full-Hawaiian in 2000.

Reporting Conventions by Race/Ethnicity

The Hawai'i Department of Health uses multiple methods for deriving the ethnic background of an individual, depending on the original data source. Although the Department of Health has historically permitted multiple-race/ethnic reporting, the department classifies both single- and multiple-race individuals into mutually exclusive categories in its reporting conventions. These groupings are based on the race/ethnic specifications of the subject's parents and a unique racial/ethnic classification hierarchy used by the department. The Hawai'i Department of Education, in contrast, uses other methods that rely on the predominant race or ethnicity of students, including full- or part-Hawaiian, based on parent reports. Because the Department of Education allows families to claim only a single race or ethnicity, the actual percentage of part-Hawaiian children in the public school system is likely much higher than 25 percent, owing to families that have Hawaiian ancestry but identify with a different part of their ethnic background. Hawaiian enrollment in the public school system may also be higher than Hawaiian population estimates by the U.S. Census and the Department of Health because the Hawaiian population is comparatively young. In other words, there are proportionately more Native Hawaiians among the state's youth population than among older segments of the population.

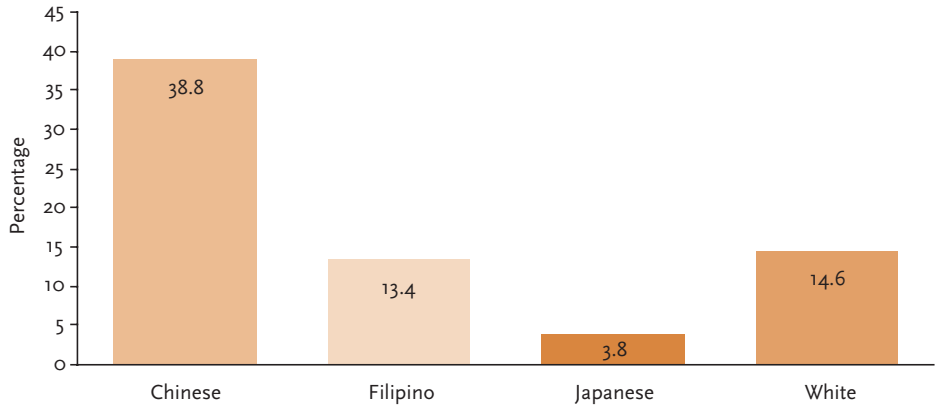
Data limitations and nuances exist for ethnic groups in the state besides Native Hawaiians. For example, in certain sections of this report—particularly those based on data from the Hawai'i Department of Education—we may not include figures for the Chinese population. This is partly because the Hawai'i

Department of Education defines a student's ethnicity as whatever the student (or parent) indicates as his or her primary race or ethnicity, and a relatively small proportion of students list Chinese as their primary race or ethnicity. For example, if a student's ethnic heritage includes Filipino, Chinese, and Hawaiian and her parents list Filipino as her primary ethnicity, the student would be considered as Filipino only and would not be reported under any other category. (This method contrasts with that of Census 2000, which permits multirace reporting and potential double counts.)

Special U.S. Census Data Considerations

Census 2000 data presented in this volume consistently include all members of a U.S. Census Bureau race category, regardless of any other race groups that they may report, with the exception of non-Hispanic Whites, who are of one race only (White) and are included solely for comparative purposes. For example, an individual who claims Native Hawaiian, Chinese, and White ethnic heritage would be counted within both Native Hawaiian and Chinese categories in the figures and tables found throughout this analysis. On the basis of this reporting convention, our estimates of intergroup differences are conservative (or "watered-down") because of multiple reports of races/ethnicities. To illustrate, Figure A.1 presents those who reported Native Hawaiian race on the Census 2000 as a percentage of each major race/ethnic group enumerated within the state of Hawai'i.[1] Based on these findings, 38.8 percent of Chinese residents of Hawai'i are also Native Hawaiian, whereas only 3.8 percent of Japanese residents of Hawai'i claim simultaneous Native Hawaiian ethnicity. The prevalence of Native Hawaiians among the Chinese population should caution readers when making comparisons between the two groups, as non-Hawaiian Chinese may exhibit greater differences from Native Hawaiians.

FIGURE A.1 Native Hawaiians as a percentage of individual racial/ethnic populations [state of Hawai'i, 2000]



Data source: U.S. Census 2000, PUMS.

1. Owing to the limited availability of unique race combinations in Census 2000 public use data, not all races of multiracial Native Hawaiians are identifiable. Therefore, these percentages should be viewed as lower-bound estimates of the total Native Hawaiian representation possible within each race category.

Further, unlike Census 2000, prior census data (i.e., 1990 and earlier) include only single-race reporting, which raises the issue of comparability with 2000 data. In spite of this inconsistency, comparisons of these data provide, at the very least, some level of trends among racial/ethnic groups over time. Finally, owing to differing sources of census data products—for example, "long-form" and "short-form" data—estimates may differ slightly in tables and figures although the subject matter appears identical. Therefore, caution should be exercised when comparing figures across data sources.

APPENDIX B

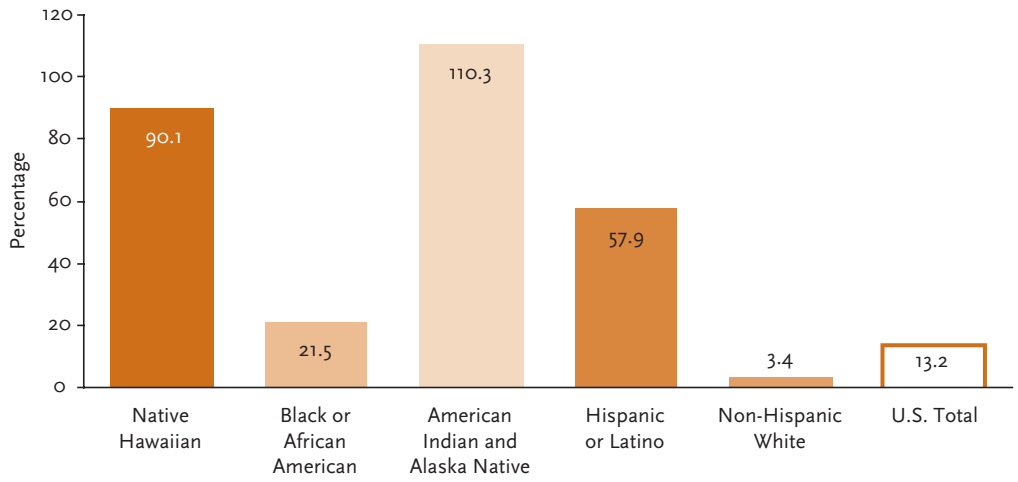
Native Hawaiians in the National Policy Context: Highlights and Comparisons

Ka Huaka'i provides a distinct view of the characteristics and conditions of Native Hawaiians residing in the Hawaiian Islands. However, given that roughly 40 percent of Native Hawaiians live in the continental United States, the national policy context is also important in an assessment of overall Native Hawaiian well-being. For this reason, we provide selected highlights of various well-being indicators for Native Hawaiians compared with those of other racial/ethnic groups in the United States.

Population Characteristics

The demographic structure of selected populations offers insights related to population growth, age structure, fertility and mortality rates, and prominence within the larger population.

FIGURE B.1 Percentage change in population size, 1990 to 2000 [by race/ethnicity, United States, 1990 and 2000]

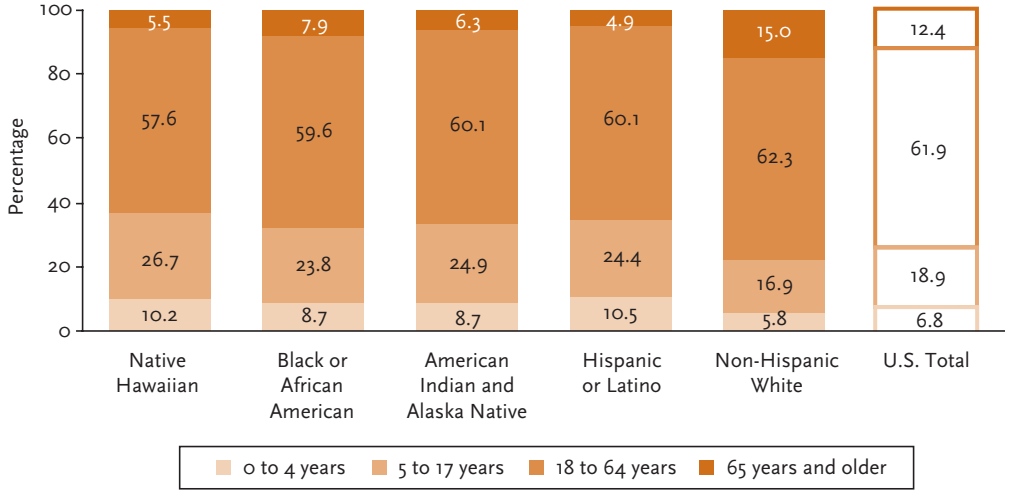


Data sources: 1990 Census of Population and Housing; U.S. Census 2000, Summary File 2.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- Between 1990 and 2000, Native Hawaiians experienced a **population increase** from 211,014 persons to 401,162 persons, a 90.1 percentage increase. This percentage change is nearly seven times greater than the increase witnessed among the total population in the country, and is second only to the increase demonstrated by the American Indian and Alaska Native population (Figure B.1).

- The observed increase in population among certain groups is largely the result of **multirace reporting** introduced in Census 2000. However, demographic analyses show higher rates of fertility and intermarriage among Native Hawaiians than among many other ethnic groups, especially in the state of Hawai'i (Schmitt 1965).
- **Population forecasts** estimate that by 2050, the country's Native Hawaiian population will increase from 401,162 to 987,602, an increase of 146.2 percent (Malone 2005).

FIGURE B.2 Age distribution of the population [percentage distribution, by race/ethnicity, United States, 2000]



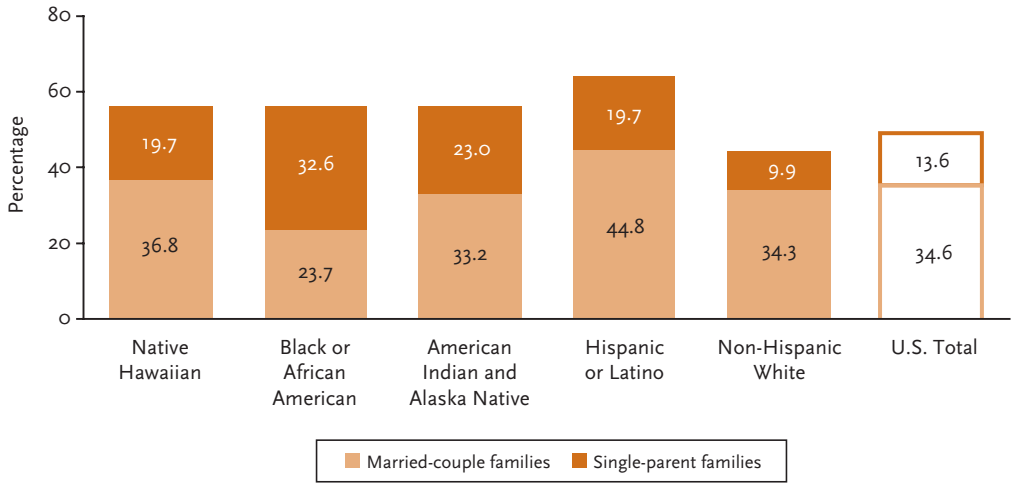
Data source: U.S. Census 2000, Summary File 2.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- On the whole, Native Hawaiians are a **young population**, representing one of the youngest ethnic groups in the country. Fully 36.9 percent of all Native Hawaiians are younger than eighteen years old, well above the national percentage (25.7 percent). Children ages four and younger represent 10.2 percent of the total Native Hawaiian population, second only to Hispanic or Latino young children (10.5 percent) of the ethnic groups in this analysis (Figure B.2).

Social and Material Well-Being

The social well-being of a population is grounded in the characteristics, relationships, and group behaviors of its members. Material/economic well-being refers to access to resources and the ability to sustain an acceptable standard of living. The following discussion examines several indicators of social and economic well-being among the country's Native Hawaiian population compared with outcomes among other ethnic groups.

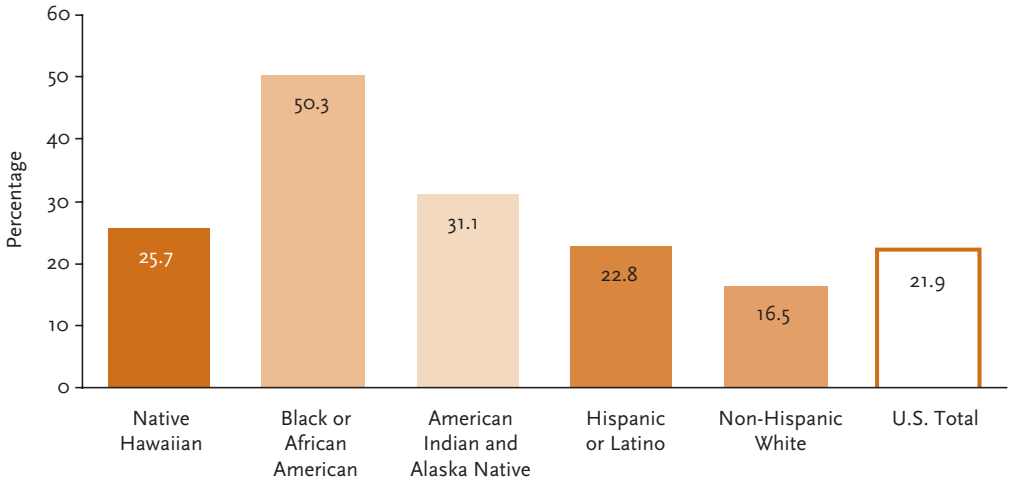
FIGURE B.3 Families with children as a percentage of all families [families with children under 18, by family type, by race/ethnicity, United States, 2000]



Data source: U.S. Census 2000, Summary File 2.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- Among all Native Hawaiian families in the United States in 2000, more than half (56.5 percent) were **families with children** younger than eighteen years old (Figure B.3). This percentage was roughly equal to that of Black or African American households (56.3 percent) and American Indian and Alaska Native households (56.2 percent), but 8 percentage points lower than that of Hispanic or Latino households (64.5 percent) and more than 10 percentage points higher than that of non-Hispanic White households (44.2 percent).
- More than one-third (36.8 percent) of Native Hawaiian families consisted of **married-couple families** with children younger than eighteen years old, and another one-fifth (19.7 percent) were **single-parent families** with children. The Native Hawaiian percentage consisting of single parents with children mirrored that of Hispanic or Latino families (19.7 percent) and was more than 6 percentage points higher than the national average of 13.6 percent (Figure B.3).
- More than one-quarter (27.2 percent) of all Native Hawaiian **households** consisted of married-couple families with children, nearly 4 percentage points higher than the national average of 23.5 percent. Native Hawaiian households (14.6 percent) were 50 percent more likely to consist of single-parent families with children compared with the national average of 9.2 percent (not shown).

FIGURE B.4 Single-mother families as a percentage of all families with children [families with children under 18 years, by race/ethnicity, United States, 2000]

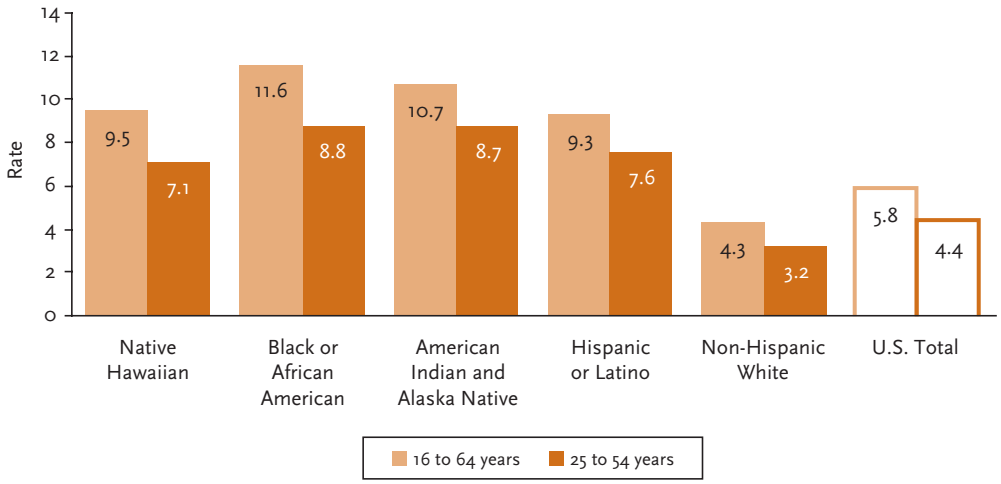


Data source: U.S. Census 2000, Summary File 2.

Note: For the sake of brevity, families headed by a single female with no husband present are referred to as "single-mother families." However, the individuals who head these families are not necessarily the biological mothers of the children in these families. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- Among all Native Hawaiian families *with children* in 2000, more than half (51.9 percent) were headed by **single parents.** Figure B.4 shows that single mothers headed 25.7 percent of all Native Hawaiian families with children, nearly 4 percentage points higher than the national average (21.9 percent) and more than 9 percentage points higher than that of non-Hispanic White families (16.5 percent). Single-father families constituted a similar portion of Native Hawaiian families: Fully 26.2 percent of Native Hawaiian families with children were headed by single males, with no wife present (not shown).
- Fully 8.0 percent of all Native Hawaiian adults ages thirty and older were **grandparents** residing with their own grandchildren (not shown). The percentage of Native Hawaiian grandparent coresidency was similar to that of other minority ethnic groups but was about twice the national average (3.6 percent) and more than three times the percentage among non-Hispanic White adults (2.2 percent).

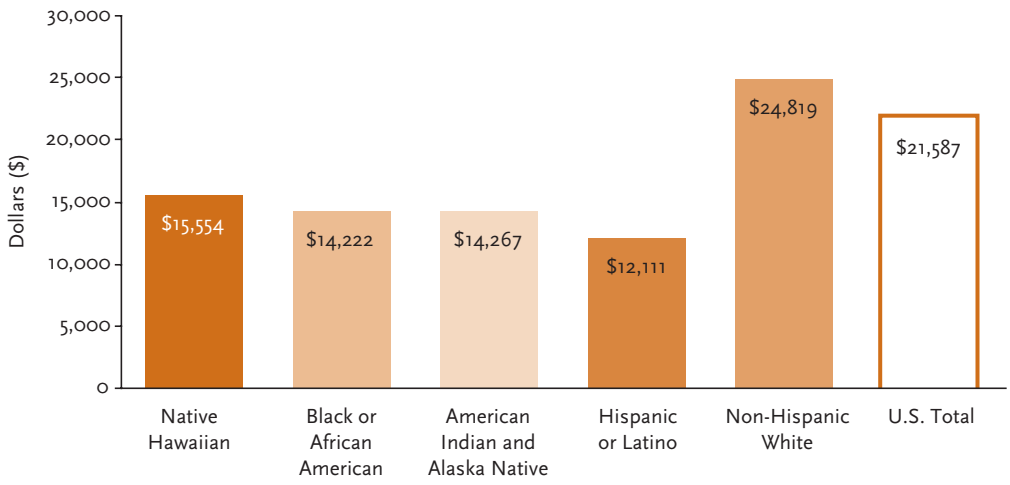
FIGURE B.5 Unemployment rates, by selected age groups [unemployed as a percentage of the civilian labor force, by race/ethnicity, United States, 2000]



Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- In 2000, Native Hawaiian working-age adults (ages sixteen to sixty-four) exhibited some of the highest **unemployment** rates in the nation: Fully 9.5 percent were unemployed compared with 5.8 percent of all such adults nationwide (Figure B.5).
- Among adults in prime working ages (twenty-five to fifty-four years old), 7.1 percent of Native Hawaiians were unemployed. This rate was more than twice that of non-Hispanic Whites (3.2 percent) and nearly 3 percentage points higher than the national average (Figure B.5).
- Despite relatively high rates of unemployment, the **labor force participation** among parents of Native Hawaiian children was strong. Among Native Hawaiian children in married-couple families, 65.3 percent had both parents in the labor force, more than 5 percentage points higher than the national average of 60.1 percent for all children in married-couple families (not shown). Nearly three-quarters of Native Hawaiian children residing in single-mother families (73.5 percent) had working mothers, a figure greater than that of most other minority ethnic groups (not shown).
- Working Native Hawaiians were disproportionately represented in service, sales, and office **occupations**. About one-quarter (25.3 percent) of Native Hawaiian workers held management or professional jobs in the United States, a percentage similar to that of Black or African American workers (25.3 percent) and American Indian and Alaska Native workers (25.9 percent), but considerably less than that of non-Hispanic Whites (36.6 percent) (not shown). The majority of Native Hawaiian workers (51.1 percent) held service, sales and office occupations, nearly 10 percentage points higher than the national average (not shown).

FIGURE B.6 Unadjusted per capita income [by race/ethnicity, United States, 2000]

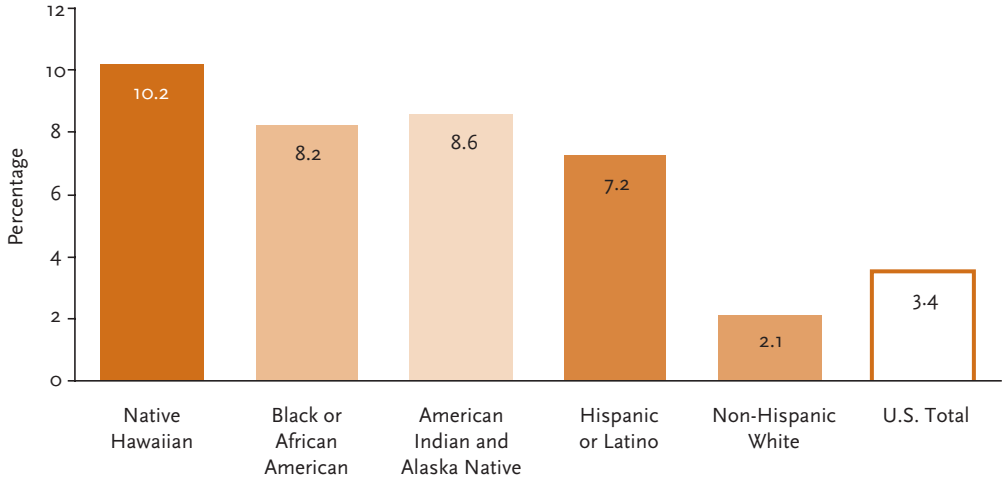


Data source: U.S. Census 2000, Summary File 4.

Note: Incomes are not adjusted for cost-of-living differences between the state of Hawai'i (in which roughly 60 percent of the Native Hawaiian population resides) and the continental United States. Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- Native Hawaiian families reported an unadjusted **median family income** of $49,214 in 1999, slightly less than the national average of $50,046. Among single-mother families with children younger than eighteen years old, the median family income among Native Hawaiians was $19,530, slightly lower than the national average of $20,284 (not shown).
- Based on a cost-of-living differential of 27 percent (Hawai'i Department of Business, Economic Development, and Tourism 2000), we adjusted the average income for the 60 percent of Native Hawaiian families who reside in Hawai'i. The resulting estimated median family income was $42,353 for all Native Hawaiian families and $16,807 for single-mother Native Hawaiian families with children, substantially lower than national median family incomes (not shown).
- Household size and **family size** influence the degree to which individuals must stretch their available resources. On average, households headed by a Native Hawaiian had 3.19 persons, fully 0.60 persons more than the national average (2.59 persons) and higher than that of most other ethnic groups. Similarly, the average family size among Native Hawaiian-headed families (3.63 persons), exceeded the national average (3.14 persons) by 0.50 persons (not shown).
- **Per capita income**—the total income in a population divided by the total number of individuals in that population—serves as a measure of how much income is available to all possible beneficiaries. The unadjusted per capita income of the national Native Hawaiian population was $15,554, about $6,000 less than the national per capita income ($21,587). Native Hawaiian unadjusted per capita income was roughly $1,000 greater than that of Black or African American and American Indian and Alaska Native individuals, but more than $9,000 below the non-Hispanic White unadjusted per capita income (Figure B.6).
- Based on a cost-of-living differential of 27 percent (Hawai'i Department of Business, Economic Development, and Tourism 2000), we adjusted the average income for the 60 percent of Native Hawaiian families who reside in Hawai'i. The resulting estimated per capita income for Native Hawaiians was $13,386, substantially lower than the national per capita income and that of most other ethnic groups (not shown).

FIGURE B.7 Households receiving public assistance income as a percentage of all households [by race/ethnicity, United States, 2000]

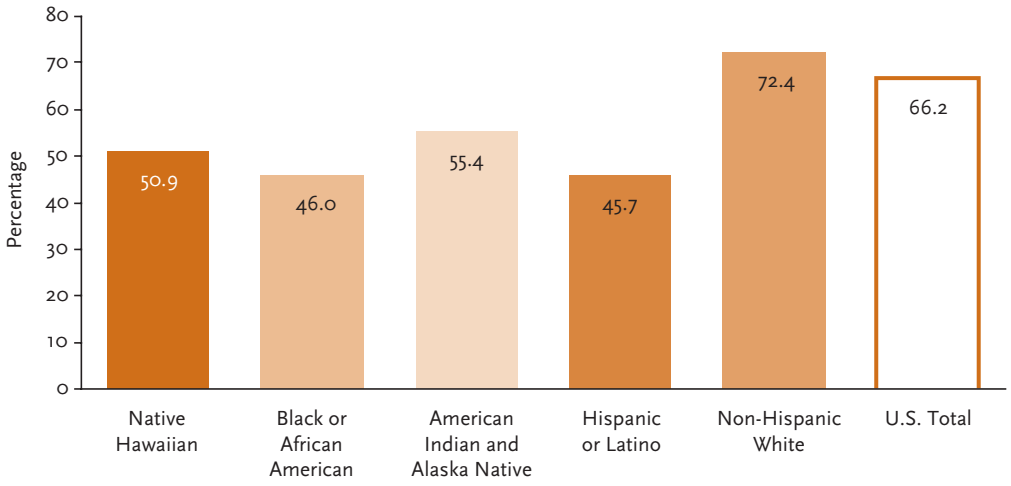


Data source: U.S. Census 2000, Summary File 4.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- In 2000, fully 85.7 percent of Native Hawaiian households derived their income from **wages and salaries**, 8 percentage points higher than the total households reporting this income source (77.7 percent), and higher than all other ethnic groups except Hispanic or Latino households, of whom 85.8 percent reported wage and salary incomes (not shown). These statistics—combined with data from previous sections—suggest that although a comparatively high percentage of Native Hawaiians are working and earning wages, their incomes are often significantly lower than the national average.
- Fully 10.2 percent of Native Hawaiian households reported the receipt of **public assistance income**, compared with 3.4 percent of all households nationwide (Figure B.7). Native Hawaiian public assistance usage was 25 percent higher than that of Black or African American households or American Indian and Alaska Native households, and more than 40 percent higher than that of Hispanic or Latino households.

FIGURE B.8 Owner-occupied residences as a percentage of all occupied housing units [by race/ethnicity, United States, 2000]



Data source: U.S. Census 2000, Summary File 2.

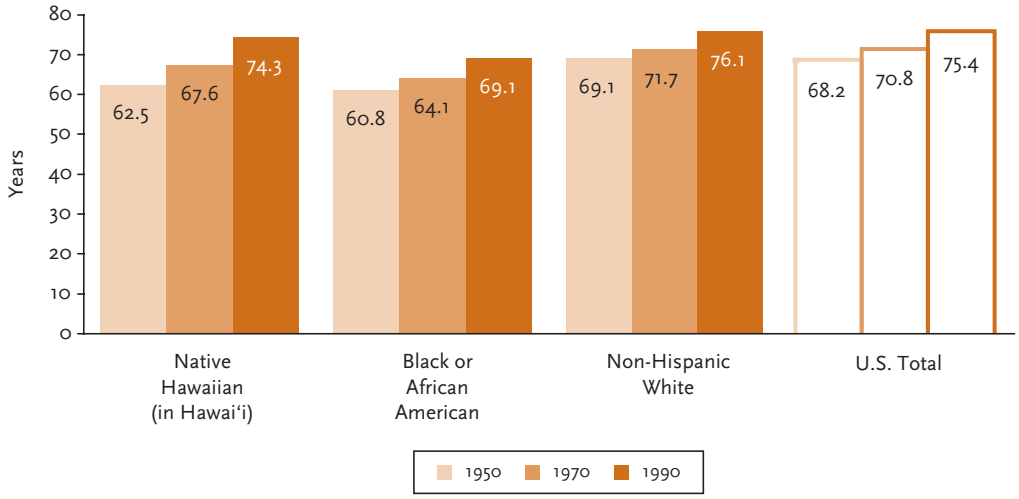
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- In 2000, roughly half of Native Hawaiian households (50.9 percent) owned their residences (Figure B.8). This percentage was substantially lower than the nationwide percentage of **owner-occupied housing** (66.2 percent).
- The higher cost of living in Hawai'i means that more income is tied up in daily expenses. For example, the median **gross rent** paid by Native Hawaiian households was $702 per month, $100 greater than the national median ($602 per month). The Native Hawaiian median rent was more than $150 higher than that of Black or African American households ($544 per month) and American Indian and Alaska Native households ($548 per month), and nearly $90 greater than the $613 per month paid by non-Hispanic White households (not shown).
- **Family poverty** is based on income, family size, and number of children. According to poverty thresholds, more than one in eight Native Hawaiian households in the United States lived in poverty (12.4 percent), exceeding the national average (9.2 percent) by more than 3 percentage points. Among Native Hawaiian single-mother families with children, more than one-third lived in poverty (36.6 percent), slightly more than the national average of 34.3 percent (not shown).
- Regarding **individual poverty**, nearly one out of five young Native Hawaiian children (younger than age five) lived in poverty (19.2 percent), while 16.4 percent of Native Hawaiian school-age children (ages five to seventeen) fell below the poverty line. These rates exceeded the national averages of 18.2 percent and 16.0 percent, respectively (not shown).

Physical Well-Being

Physical well-being concerns the health and environmental conditions that can limit or promote the lifetime pursuits of a given population. The following indicators compare the physical health of Native Hawaiians in the state of Hawai'i with that of ethnic groups throughout the United States.

FIGURE B.9 Trends in average life expectancy [by race/ethnicity, United States and state of Hawai'i, selected years]

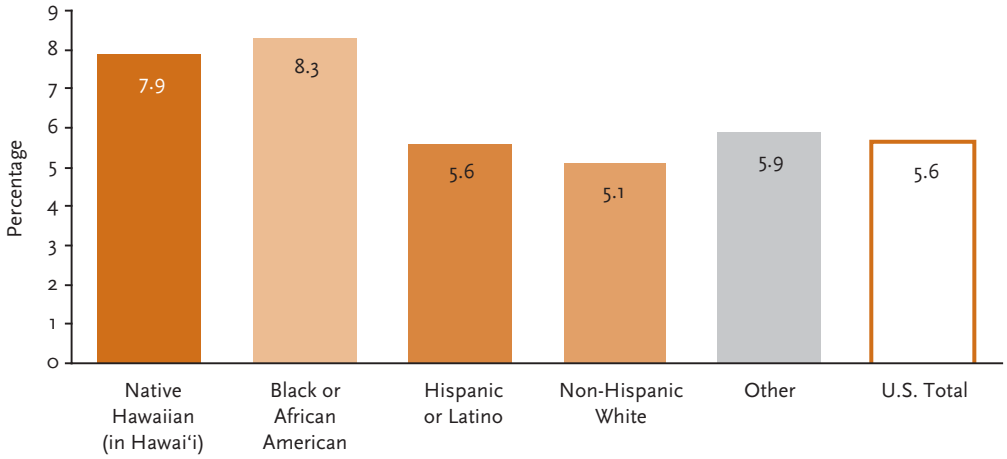


Data sources: U.S. Department of Health and Human Services, National Center for Health Statistics 2004; Hawai'i Department of Business, Economic Development, and Tourism 2003.

Note: Life expectancy data for "American Indian and Alaska Native" and "Hispanic or Latino" are unavailable.

- The **life expectancy** of Native Hawaiians (in the state of Hawai'i) has lagged behind national averages for the past fifty years, but the gap is closing: from a gap of 5.7 years in 1950, to 3.2 years in 1970, and finally 1.1 years in 1990 (Figure B.9). Native Hawaiian life expectancy exceeded that of Blacks or African Americans for the years covered, although it was much lower than that of non-Hispanic Whites.
- **Low birthweight** is an early indicator of future health outcomes. The percentage of low birthweight births among Native Hawaiians (8.0 percent) was higher than the national average (7.7 percent) and higher than that of all other major groups except Blacks or African Americans, who had a 12.3 percent incidence of low birthweight births (not shown).
- Fully 6.1 percent of Native Hawaiian children ages five to fifteen had a **disability**, compared with 5.4 percent of Hispanic or Latino children and 5.7 percent of non-Hispanic White children (not shown).
- Among adults ages sixty-five and older, almost half of Native Hawaiians reported at least one disability (45.3 percent), a rate comparable with that of Hispanic or Latino elderly (48.5 percent) but higher than the 40.4 percent among non-Hispanic Whites (not shown).

FIGURE B.10 Individuals diagnosed with diabetes as a percentage of all adults [adults 18 and older, by race/ethnicity, United States and state of Hawai'i, circa 2001 (Native Hawaiians) and 1999]

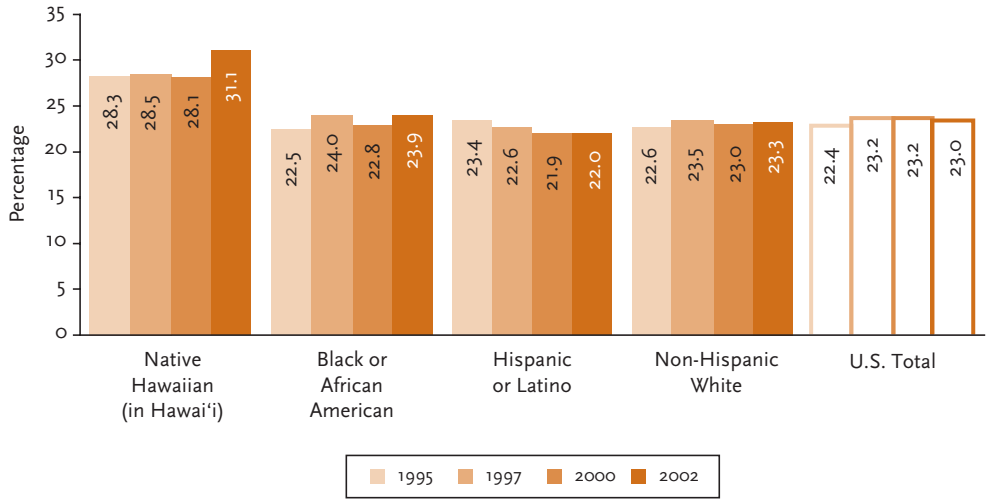


Data sources: Hawai'i Department of Health, BRFSS 1999, 2000, and 2001; U.S. Department of Health and Human Services, BRFSS 1999.

Note: Statistics for Native Hawaiians are the average of three years (2000, 2001, and 2002). Data for other ethnic groups reflect diagnoses in 1999. Data were not available for American Indian and Alaska Native individuals.

- Almost one out of twelve Native Hawaiian adults (7.9 percent) was diagnosed with **diabetes**, a rate nearly 50 percent higher than the national average (5.6 percent). Native Hawaiians and African Americans (8.3 percent) exhibited the highest incidence of diabetes among all ethnic groups in this analysis (Figure B.10).
- The rate of **cancer** diagnoses among Native Hawaiian men (443.4 per one hundred thousand) was lower than that of Black or African American men (642.9 per one hundred thousand) but nearly double the rate of 244.9 per one hundred thousand among American Indian and Alaska Native men (not shown).

FIGURE B.11 Trends in individuals who smoke as a percentage of all adults [adults 18 and older, by race/ethnicity, United States and state of Hawai'i, selected years]



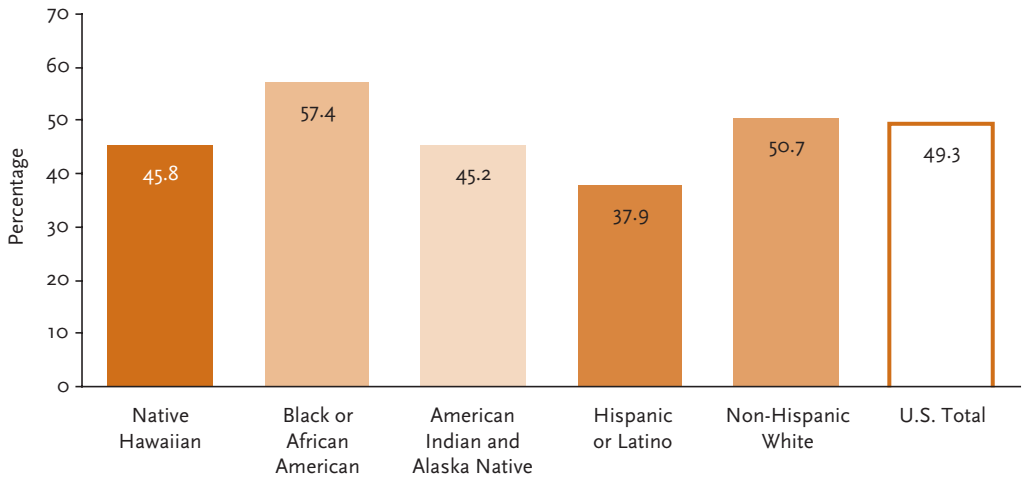
Data sources: Hawai'i Department of Health, BRFSS 1994 to 2002; U.S. Department of Health and Human Services, BRFSS 1995 to 2002.
Note: Statistics for Native Hawaiians are three-year averages. Data were not available for American Indian and Alaska Native individuals.

- The rate of **smoking** among Native Hawaiians (in Hawai'i) has consistently exceeded national averages for other ethnic groups: In 2002, nearly one-third (31.1 percent) of Native Hawaiians smoked tobacco products, fully 8 percentage points higher than the national average (Figure B.11).
- The percentage of **overweight or obese** Native Hawaiian adults (71.8 percent) exceeds the national average (58.4 percent) and that of most other ethnic groups. The percentage of overweight Native Hawaiians is roughly 15 percentage points higher than that of non-Hispanic Whites, but only 4 percentage points greater than that of Black or African American adults (not shown).

Educational Well-Being

Educational well-being reflects the ability of a population to successfully acquire and assimilate new knowledge for productive use throughout life. The following discussion present selected measures of educational well-being for Native Hawaiians and other groups at the national level.

FIGURE B.12 Children enrolled in preschool as a percentage of all young children [children ages 3 and 4, by race/ethnicity, United States, 2000]

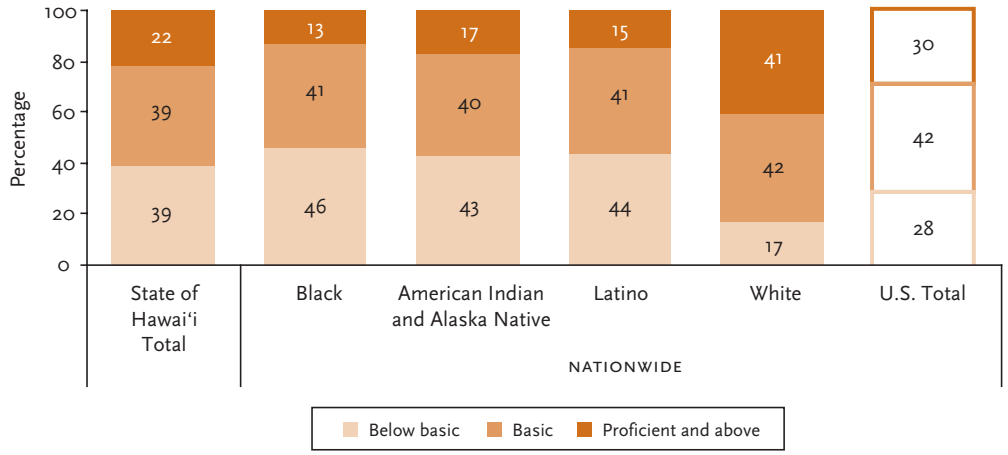


Data source: U.S. Census 2000, Summary File 4.

Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- Slightly less than half of all Native Hawaiian three- and four-year-olds attended **preschool** or nursery school (45.8 percent), almost 4 percentage points lower than the national average for this age group (Figure B.12). Compared with other ethnic groups, young Native Hawaiian children were somewhat more likely to attend early educational programs than were Hispanic or Latino children (37.9 percent) and equally likely as American Indian and Alaska Native children (45.2 percent). Information about the quality of these settings was not available.
- Nearly one-third (32.0 percent) of Native Hawaiian young adults ages eighteen to twenty-four were enrolled in **college**, slightly less than the national average for this age group (34.0 percent) and nearly 6 percentage points lower than the 37.9 percent among non-Hispanic Whites (not shown).

FIGURE B.13 Distribution of reading achievement levels among public school students in Grade 8 [NAEP, percentage distribution across performance levels, students tested in Grade 8, by race/ethnicity, United States and state of Hawai'i, 2003]



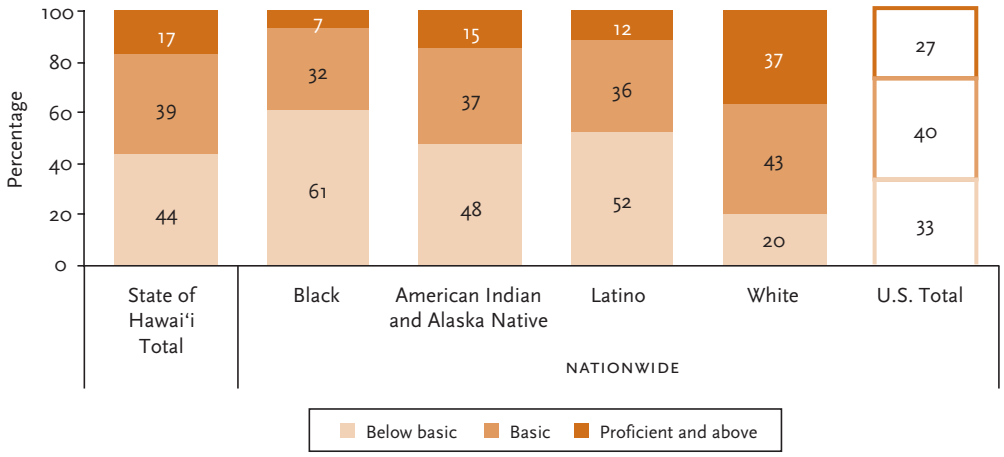
Source: National Center for Education Statistics 2003b.

Figure B.13 shows that nearly two out of five eighth-grade students in the state of Hawai'i[1] (39 percent) scored "below basic" on the National Assessment of Educational Progress (NAEP) **reading** test, more than 10 percentage points higher than the national average (28 percent). Further, 22 percent of eighth-grade students in Hawai'i achieved "proficient and above," nearly 25 percent less than the national average (30 percent).

- While overall student performance in Hawai'i was among the lowest in the nation, Native Hawaiians fared even worse based on Hawai'i state data: The percentage of Native Hawaiian eighth-grade students who were shown to "meet or exceed" proficiency on the reading portion of the Hawai'i State Assessment (HSA) was only 20 percent, compared with 39 percent of all eighth-grade students in the state. Further, the percentage of Native Hawaiian eighth-grade students who scored "well below" proficiency (26 percent) was more than twice as high as the statewide average of 10 percent (not shown).

[1] NAEP test data are not available for Native Hawaiians.

FIGURE B.14 Distribution of mathematics achievement levels among public school students in Grade 8
[NAEP, percentage distribution across performance levels, students tested in Grade 8, by race/ethnicity, United States and state of Hawai'i, 2003]



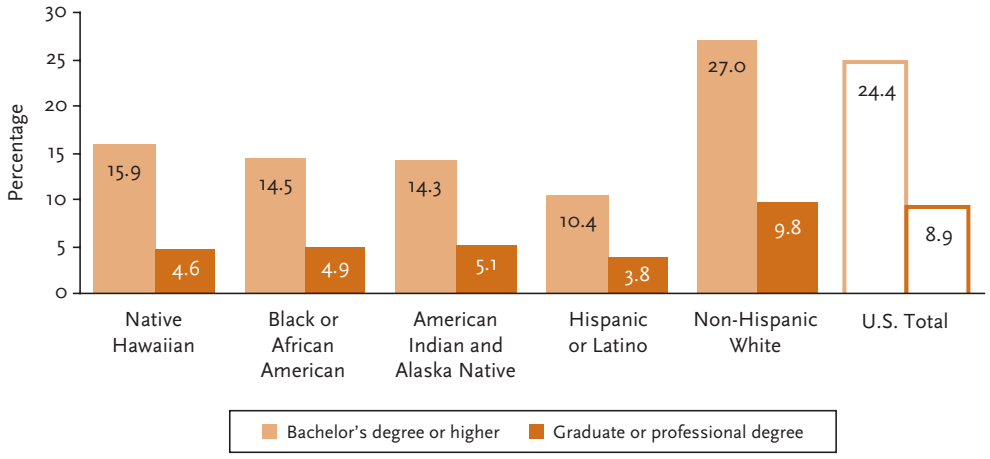
Source: National Center for Education Statistics 2003a.

Figure B.14 indicates that 17 percent of eighth-grade students in Hawai'i[2] achieved "proficient and above" scores in **mathematics**, 10 percentage points less than the national average of 27 percent.

- More than two out of five eighth-grade students in the state of Hawai'i (44 percent) scored "below basic" on the NAEP mathematics test, representing a larger share by 11 percentage points than the national average (33 percent) and more than twice the percentage of White students at this performance level (20 percent).
- As with reading, Native Hawaiian students in the state of Hawai'i fared worse than their peers—and therefore worse than most of their national peers—on standardized mathematics tests. The percentage of Native Hawaiian eighth-grade students who were shown to "meet or exceed" proficiency on the HSA mathematics test was only 6 percent, compared with 17 percent of all eighth-grade students in the state. Further, the percentage of Native Hawaiian eighth-grade students who scored "well below" proficiency (40 percent) was more than 25 percent higher than the statewide average of 28 percent (not shown).

[2] NAEP test data are not available for Native Hawaiians.

FIGURE B.15 Individuals with a bachelor's degree or a graduate/professional degree as a percentage of all adults
[adults ages 25 and older, by race/ethnicity, United States, 2000]



Data source: U.S. Census 2000, Summary File 4.
Note: Except for non-Hispanic Whites, we use Census 2000 multirace/multiethnic reporting conventions where some individuals (including Native Hawaiians) may be counted in more than one ethnic group (see Appendix A).

- Figure B.15 shows that one out of six Native Hawaiian adults ages twenty-five and older held a **bachelor's degree** or higher (15.9 percent), about 8 percentage points below the national average (24.4 percent) and roughly on par with Black or African American and American Indian and Alaska Native adult statistics (14.5 percent and 14.3 percent, respectively).
- Among Native Hawaiian adults nationwide, 4.6 percent have obtained a **graduate or professional degree**, the lowest percentage of the ethnic groups in this analysis except Hispanic or Latino adults (3.8 percent). The percentage of non-Hispanic White adults with graduate or professional degrees (9.8 percent) is more than twice that of Native Hawaiians (Figure B.15).

In sum, Native Hawaiians are a young population compared with other major racial and ethnic groups in the nation. Similar to other ethnic minority populations, Native Hawaiians experience poor social, economic, and health outcomes compared with those of non-Hispanic Whites. Educational well-being among Native Hawaiians is also cause for concern, as indicators of school engagement, achievement test performance, and educational attainment among Native Hawaiian learners continue to fall short of national averages.

APPENDIX C
Native Hawaiian Population: Baselines and Forecasts

For many programs serving the Native Hawaiian community, assessing accurate population estimates for targeted age groups can be elusive. As noted in Appendix A, specific population data for Native Hawaiians are uncommon, and whatever data exist are often reported within larger race/ethnic groups (e.g., "Asian and Pacific Islander") and are typically unavailable for intercensal years.

To address the absence of centralized Native Hawaiian population baselines, the Policy Analysis & System Evaluation (PASE) department of Kamehameha Schools has developed three data tables that may be useful for program planning and needs assessments.

Table C.1 contains a set of contemporary population estimates for the Native Hawaiian population in the state of Hawai'i, providing detailed population counts (2000) and estimates (2005 and 2010) for key age groups and constituencies.

Table C.2 presents detailed Native Hawaiian population forecasts for five-year age groups, spanning 2005 to 2050 (in five-year increments), for the state of Hawai'i. Table C.3 presents similar data for the entire United States.

TABLE C.1 Contemporary Native Hawaiian population baseline counts and estimates [selected age groups, United States and state of Hawai'i, 2000, 2005 and 2010]

	2000		2005		2010	
Native Hawaiian Population	Number	Pct.	Number	Pct.	Number	Pct.
Total Native Hawaiian population in the United States	401,000	100.0	445,000	100.0	484,000	100.0
State of Hawai'i	240,000	59.9	260,000	58.4	279,000	57.6
Continental United States	162,000	40.4	185,000	41.6	205,000	42.4
Total Native Hawaiian population in the state of Hawai'i	240,000	100.0	260,000	100.0	279,000	100.0
0 to 2 years old	15,000	6.3	20,000	7.7	19,000	6.8
3 to 4 years old	10,000	4.2	13,000	5.0	12,000	4.3
5 to 17 years old	68,000	28.3	64,000	24.6	71,000	25.4
18 years and older	147,000	61.3	164,000	63.1	177,000	63.4
Total Native Hawaiian population younger than 18 in the state of Hawai'i	92,000	100.0	97,000	100.0	102,000	100.0
0 to 2 years old	15,000	16.3	20,000	20.6	19,000	18.6
3 to 4 years old	10,000	10.9	12,000	12.4	12,000	11.8
5 to 8 years old	21,000	22.8	19,000	19.6	25,000	24.5
9 to 17 years old	47,000	51.1	46,000	47.4	46,000	45.1
Total Native Hawaiian population, ages 5 to 17, enrolled in the state of Hawai'i*	66,000	100.0	63,000	100.0	69,000	100.0
Enrolled in public schools	58,000	87.9	53,000	84.1	59,000	85.5
Enrolled in Kamehameha Schools**	3,500	5.3	5,500	8.7	5,500	8.0
Enrolled in other private schools***	4,500	6.8	4,500	7.1	4,500	6.5
Total children, ages 5 to 17, enrolled in public schools in the state of Hawai'i	179,000	100.0	173,000	100.0	176,000	100.0
Native Hawaiian	58,000	32.4	53,000	30.6	59,000	33.5
Non-Hawaiian	121,000	67.6	120,000	69.4	117,000	66.5

Source: Malone 2005.

Data sources: U.S. Census 2000, Summary Files 2 and 4.

Note: Line items may not sum to totals because of rounding; estimates are rounded to the nearest hundreds or thousands, or to the nearest percentage.

* Actual K–12 enrollment may be higher, owing to the presence of students younger than five and older than seventeen enrolled in schools.

** Increased to approximately 5,500 students in 2004 with expansion of Hawai'i and Maui campuses.

*** Excludes unenrolled (homeschooled, not in school, dropouts, etc.): roughly 3 percent annually.

TABLE C.2 State Native Hawaiian population counts and forecasts [selected age groups, state of Hawai'i, 2000 to 2050]

Age group	Census 2000	Forecast estimates									
		2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Total	239,655	259,846	278,645	303,773	329,496	355,896	384,527	416,598	452,899	493,109	536,947
0 to 4 years	24,677	32,208	30,851	38,754	40,417	42,403	45,932	50,768	56,201	61,276	65,870
5 to 9 years	26,675	24,054	31,675	30,270	38,153	39,814	41,798	45,321	50,149	55,572	60,639
10 to 14 years	25,660	26,195	23,667	31,236	29,834	37,710	39,372	41,356	44,878	49,704	55,125
15 to 19 years	23,694	25,270	25,862	23,317	30,860	29,465	37,315	38,973	40,953	44,465	49,278
20 to 24 years	18,011	23,158	24,800	25,352	22,826	30,321	28,937	36,738	38,388	40,358	43,852
25 to 29 years	16,539	17,360	22,572	24,152	24,702	22,196	29,640	28,268	36,017	37,658	39,617
30 to 34 years	16,427	15,907	16,819	21,938	23,505	24,053	21,569	28,953	27,595	35,281	36,911
35 to 39 years	17,488	15,853	15,416	16,281	21,342	22,894	23,438	20,983	28,289	26,947	34,553
40 to 44 years	15,866	16,929	15,380	14,917	15,772	20,763	22,295	22,833	20,413	27,623	26,301
45 to 49 years	13,795	15,272	16,373	14,827	14,373	15,213	20,106	21,609	22,139	19,767	26,841
50 to 54 years	11,015	13,100	14,601	15,632	14,149	13,691	14,523	19,252	20,727	21,226	18,944
55 to 59 years	8,814	10,280	12,334	13,730	14,735	13,303	12,879	13,661	18,188	19,583	20,077
60 to 64 years	6,363	8,019	9,421	11,315	12,617	13,559	12,227	11,824	12,560	16,766	18,070
65 to 69 years	5,149	5,562	7,077	8,314	10,022	11,186	12,044	10,844	10,479	11,141	14,912
70 to 74 years	4,078	4,293	4,667	5,943	6,998	8,454	9,448	10,185	9,165	8,843	9,416
75 to 79 years	2,720	3,184	3,359	3,644	4,654	5,467	6,627	7,394	7,995	7,181	6,932
80 years and older	2,684	3,203	3,769	4,150	4,535	5,404	6,379	7,636	8,766	9,717	9,610

Source: Malone 2005.
Data sources: U.S. Census 2000, Summary Files 2 and 4.

TABLE C.3 National Native Hawaiian population counts and forecasts [selected age groups, United States, 2000 to 2050]

Age group	Census 2000	Forecast estimates									
		2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Total	401,162	444,910	483,945	534,081	584,834	637,298	693,572	756,396	825,869	903,491	987,602
0 to 4 years	41,051	55,583	52,740	65,971	69,015	73,438	80,275	89,901	99,490	110,334	119,296
5 to 9 years	42,518	40,933	55,423	52,589	65,782	68,817	73,228	80,044	89,643	99,205	110,017
10 to 14 years	40,759	42,455	40,872	55,341	52,510	65,684	68,714	73,118	79,925	89,509	99,057
15 to 19 years	39,403	40,597	42,286	40,710	55,122	52,303	65,424	68,442	72,829	79,608	89,155
20 to 24 years	33,357	39,134	40,320	41,997	40,432	54,746	51,946	64,978	67,975	72,332	79,065
25 to 29 years	29,563	33,110	38,843	40,019	41,685	40,132	54,339	51,560	64,495	67,470	71,795
30 to 34 years	29,345	29,302	32,820	38,499	39,665	41,317	39,777	53,860	51,106	63,927	66,876
35 to 39 years	30,762	29,015	28,969	32,449	38,062	39,214	40,847	39,326	53,249	50,526	63,201
40 to 44 years	27,283	30,334	28,611	28,563	31,996	37,528	38,663	40,274	38,774	52,504	49,819
45 to 49 years	22,766	26,743	29,735	28,046	27,996	31,362	36,782	37,895	39,474	38,005	51,462
50 to 54 years	18,432	22,074	25,927	28,831	27,193	27,141	30,407	35,658	36,735	38,267	36,843
55 to 59 years	13,978	17,588	21,070	24,746	27,522	25,957	25,901	29,023	34,029	35,056	36,519
60 to 64 years	9,870	13,003	16,361	19,612	23,029	25,619	24,161	24,099	27,010	31,660	32,614
65 to 69 years	8,000	8,847	11,654	14,665	17,592	20,651	22,981	21,673	21,606	24,223	28,383
70 to 74 years	6,095	6,802	7,526	9,913	12,474	14,979	17,578	19,570	18,455	18,385	20,621
75 to 79 years	3,982	4,777	5,326	5,898	7,767	9,774	11,753	13,785	15,357	14,480	14,412
80 years and older	3,998	4,614	5,461	6,231	6,992	8,639	10,795	13,191	15,717	18,000	18,467

Source: Malone 2005.
Data sources: U.S. Census 2000, Summary Files 2 and 4.

GLOSSARY OF HAWAIIAN TERMS

ʻāina land **ʻāina mole** tap root (mole); ancestral lands that have been passed down through inheritance and now serve as the foundation of Kamehameha Schools' estate

ahupuaʻa land division that typically extends from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (puaʻa) or because a pig or other tribute was given as a tax to the chief.

aliʻi chief, chiefess, ruler

aloha love, affection, compassion

aloha ʻāina affectionate regard for the land; reciprocal, caring relationship between humans and land

alu like to work cooperatively

ʻauwai agricultural aqueduct system

hālau traditional school of learning devoted to a specific field

hānai traditional system of fostering and adoption

Hōkūleʻa a modern replica of a double-hulled Polynesian canoe launched in 1975 to retrace the route of Hawaiʻi's first people

hoʻokahu keiki nonparental caregiving

hoʻolālā to plan; to branch out and network with diverse career fields and opportunities

hoʻoponopono to correct; to put right; mental cleansing through family conferences in which relationships are set right

hoʻokumu to connect spiritually to the ʻāina and ʻohana through history, chants, and genealogy; to establish

hoʻomana to worship; to empower one's self, the ʻohana, and the community

hui to meet, intermingle, associate, congregate; club, association, society, corporation, company, institution, organization, band, league, firm, joint ownership, partnership, union, alliance, troupe, team; to form a society or organization

hula traditional Hawaiian dance

ʻimihaku mentor relationship

kai sea

kalo taro

kanaka maoli Native Hawaiian **kānaka maoli** plural of Native Hawaiian

kapu restriction, prohibition, sacredness; taboo

keiki child, descendant, offspring

kula kaiapuni Hawaiian medium or immersion schools

kuleana responsibility, area of responsibility; privilege

kumu teacher; source

kupuna ancestor, grandparent **kūpuna** plural of kupuna

lāhui nation, race, people, nationality

loʻi irrigated terrace or field, especially for taro **loʻi kalo** taro field

lomilomi traditional Hawaiian therapeutic massage

lua traditional Hawaiian martial art

lūʻau leaves of the taro plant; term used from ca. 1856 for Hawaiian feast formerly referred to as a pāʻina or ʻahaʻaina

Mahele land division of 1848 commonly referred to as "the Great Mahele"

makaʻāinana commoner, citizen, subject; literally "eyes of the land"

mālama to care for, preserve **mālama ʻāina** to care for the land in the reciprocal human–land relationship

mana divine or spiritual power; authority

mele poetry, music, song

moʻolelo fact-based story; history, report

nā kamaliʻi very young children

ʻohana family

ʻōlelo to speak; a saying **ʻōlelo Hawaiʻi** Hawaiian language

oli to chant; a chant

ʻōpio youth, juvenile **nā ʻōpio** youths, school-age children

poi pounded taro root

pono goodness, righteousness, moral qualities, correct or proper, just, virtuous, fair, accurate, necessary

pūlumi nīʻau broom made of coconut leaf mid-ribs

tūtū Hawaiian slang for "grandparents"

wahi pana historically significant place

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