



Suicide in Native Hawaiian Adolescents Current Findings

Hawaii State Suicide Statistics

15-24 year old age group

~ 20 youths die by suicide annually

10-14 year old age group

~3-4 youths die by suicide annually

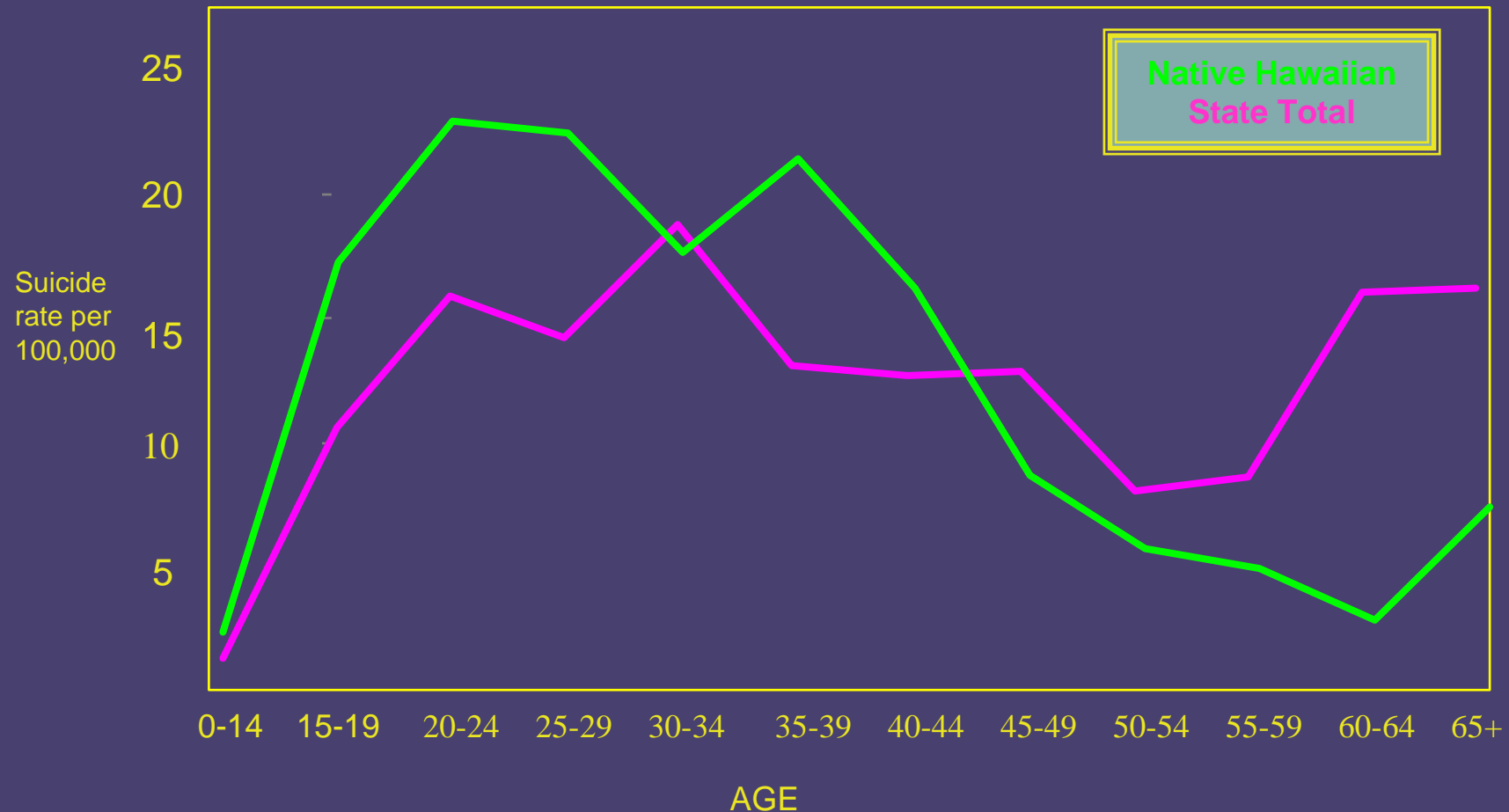
Suicidal Behavior

- ➔ Approximately 30% of youth have contemplated suicide in the past 12 months
- ➔ Approximately 12% of students have made a suicide attempt in the past year

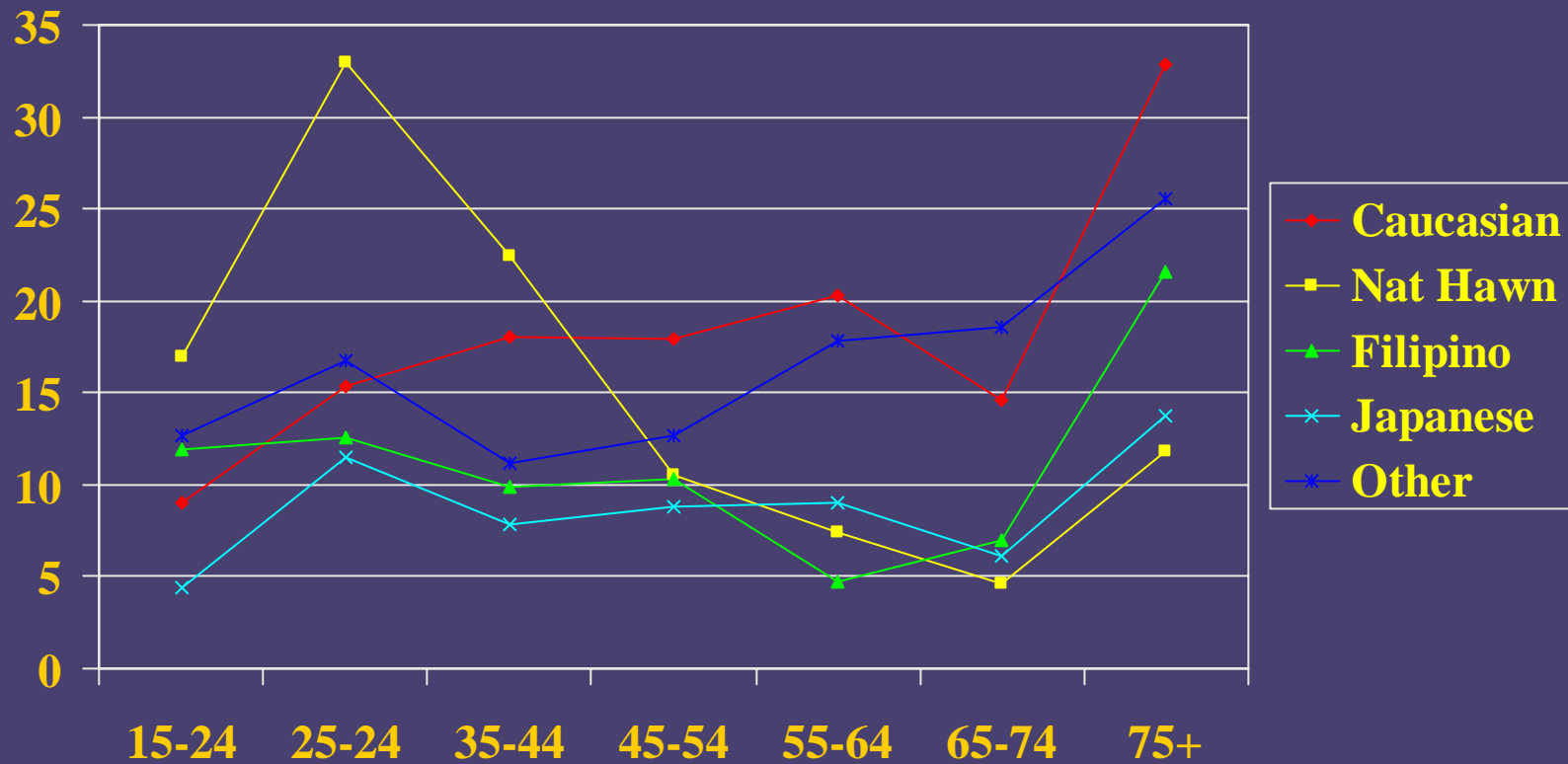
(Youth Risk Behavior Survey 1995)

Suicide Mortality Rates: Native Hawaiian vs. State Total, from 1990 – 1995

(rates per 100,000)



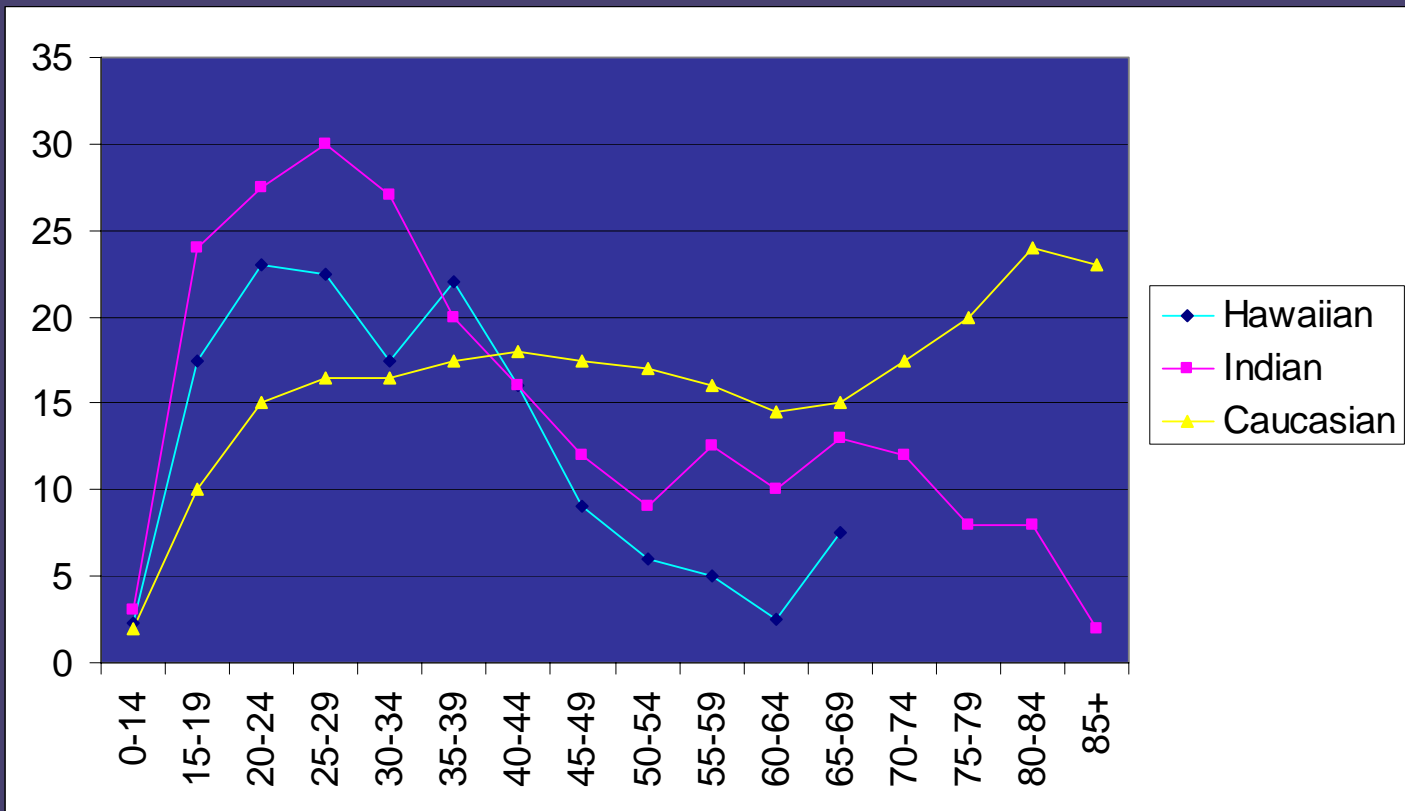
Suicide Mortality Rates in Hawaii by Ethnicity from 1991-2000 (per 100,000)



Age Distribution of Native Hawaiian Suicide

Age group	suicide rate/ 100,000	% pop in state	%suicide in state
10 -14	2.3	27%	50%
15 - 19	17.3	24.6%	40.4%
20 - 24	23	21.4%	31%

Comparison of Native Hawaiian and Native American Indian suicide rates



Native Hawaiian Mental Health Research Project

Purpose:

Determine the rate of mental disorders in the Native Hawaiian population.

Examine risk and protective factors for mental disorders in the Native Hawaiian population.

Hypothesized Risk Factors for Suicide Attempts in Native Hawaiians

⇒ Psychopathology:

- ▣ Studies of other populations indicated high rates of depression, substance abuse, anxiety disorders, conduct disorder and aggressive behaviors correlated with suicidal behavior.
- ▣ We questioned whether the same types of psychopathology seen in Western populations would apply to Native Hawaiians.

Hypothesized Risk Factors for Suicide Attempts in Native Hawaiians

Poor social support

Family support was thought to be especially crucial for Native Hawaiian youth, because of the importance of the family in traditional Native Hawaiian culture.

Peer support had been shown to protect against suicidal behavior in Western populations, and was thought to be protective against suicidal behavior in Native Hawaiian youth as well.

Hypothesized Risk Factors for Suicide Attempts in Native Hawaiians

Socioeconomic stress

- Native Hawaiians have a lower mean socioeconomic status than the state and national average.
- Socioeconomic stress on families was thought to predispose adolescents to both personal and family stress, thus increasing risk for depression and suicidal behavior.

Hypothesized Risk Factors for Suicide Attempts in Native Hawaiians

Hawaiian cultural affiliation

We expected that those adolescents who have a strong Hawaiian cultural affiliation would be protected against suicide attempts.

Those adolescents who are caught between Hawaiian and Western culture would be under greater stress (acculturative stress) and at greater risk for suicide attempts.

Subjects:

N = 3644

Students

(grades 9-12)

5 high schools

Surveys took place on
three of the seven
inhabited Hawaiian
islands

Native Hawaiian = 62%

Non-Hawaiian = 38%

Male = 47.7%

Female = 52.3%

Instruments:

⇒ Hawaiian High School Health Survey

- ◆ Demographic and SES measures
- ◆ Center for Epidemiologic Study Depression Scale (CES-D)
- ◆ Subtle Abuse Substance Screening Inventory (SASSI-A)
- ◆ Braver Aggression Dimension Scale (BADDS)
- ◆ Spielberger State-Trait Anxiety Scale (STAI)
- ◆ Hawaiian Culture Scale (HCS)
- ◆ Procidano Family and Friend Support Scale (PSS)

Methods:

Assessment of Suicide Attempts

“Have you ever attempted suicide (tried to kill yourself) ?”

“Tried to commit suicide (in the past 6 months)?”

Table 1.1 Suicide attempt rates for Hawaiians and Non-Hawaiians, by gender and grade level

N = 3644	Hawaiian	Non-Hawaiian	p
Total	12.9%	9.6%	.0024
Male	10.5%	7.0%	.0117
Female	15.0%	12.0%	NS
9 th grade	13.2%	8.8%	.0386
10 th grade	9.9%	7.6%	NS
11 th grade	13.0%	11.6%	NS
12 th grade	15.5%	10.1%	.0250

Table 1.2 Suicide attempt rates for Hawaiians and Non-Hawaiians by parent's educational level

N – 3613	Hawaiian	Non-Hawaiian
8 th grade or less	21.9%	14.0%
Some high school	13.7%	14.9%
High school/GED	15.0%	8.3%
Some college	10.7%	12.0%
College degree	9.2%	7.3%
Master degree	13.1%	7.6%
Doctoral degree	13.9%	10.8

Table 1.3 Suicide attempt rates for Hawaiians and Non-Hawaiians by parent's employment status

N = 3644

Hawaiian

Non-Hawaiian

Unemployed, welfare
Disability

18.0%

12.5%

Retired

8.7%

17.2%

Part time employed

14.2%

6.7%

Self employed

11.5%

11.4%

Full time employed

12.6

9.0%

Table 2. Mean psychopathology symptom scores for subjects who attempted suicide vs. did not attempt suicide

Symptom scales	suicide attempt	no suicide attempt	R ²	p
CES-D (0-60) (depression)	23.6	12.8	14.1%	<.0001
STAI (0-60) (anxiety)	25.8	17.1	10.0%	<.0001
BADS (0-28) (aggression)	8.8	4.6	9.0%	<.0001
SASSI-A (0-6) (substance abuse)	1.7	0.6	9.7%	<.0001

Procidano Social Support Scales

- ⇒ My friends/ family give me the moral support I need.
- ⇒ Certain friends/ family come to me when they have problems or need advise.
- ⇒ I rely on friends/ family for emotional support.
- ⇒ There is a friend/family member I could go to if I were just feeling down, without feeling funny about it later.
- ⇒ I have a very close relationship with a number of friends/ family members.
- ⇒ I wish my friends/ family were much different.

Table 3. Mean social support scores for those who attempted suicide in the past 6 months vs. those who did not attempt suicide

	Suicide attempt	No suicide attempt	p
Family support (0-5)	2.74	3.72	<.0001
Friend support (0-5)	3.87	4.00	NS

Table 4 Multiple logistic regression of variables predicting suicide attempts in the previous 6 month

Variable	X2	OR	p
Gender	4.01	0.57	.05
Depression (CES-D)	71.56	1.11	.0001
Substance abuse (SASSI)	9.94	1.27	.002
Perceived family support	19.72	0.56	.0001

Table 5.1 Multiple logistic regression of sociodemographic, SES, and psychopathology variables predicting lifetime suicide attempts in Native Hawaiians

Variables	X2	R2	OR	P
Sex	0.0	0.0%	1.00	NS
Grade	11.7	0.8%	Na	<.01
Parents education level	8.9	0.6%	Na	NS
Parents employment	2.0	0.1%	Na	NS
Hawaiian culture scale	7.5	0.5%	1.82	.0061
CES-D (depression)	44.4	3.2%	1.07	<.0001
STAI (anxiety)	0.9	0.1%	1.01	NS
BADS (aggression)	1.7	0.1%	1.02	NS
SASSI (substance abuse)	40.3	2.9%	1.41	<.0001
TOTAL	279.0	20.1%		<.0001

Table 5.2 Multiple logistic regression of variables predicting lifetime suicide attempts in Non-Hawaiians

	X2	R2	OR	p
Sex	1.3	0.2%	1.32	NS
Grade	4.7	0.6%	Na	NS
Parent's education	7.9	1.1%	Na	NS
Parent's employment	4.4	0.6%	Na	NS
Hawaiian culture scale	0.0	0.0%	1.03	NS
CES-D (depression)	10.3	1.4%	1.05	.0013
STAI (anxiety)	2.6	0.4%	1.03	NS
BADS (aggression)	7.9	1.1%	1.07	.0050
SASSI (subst abuse)	20.8	2.8%	1.46	<.0001
TOTAL	162.8	22.0%		<.0001

Hawaiian cultural affiliation and suicide risk

- ⇒ Hawaiian cultural affiliation is associated with increased suicide risk for Native Hawaiians, but not non-Hawaiians.
- ⇒ The risk posed by Hawaiian cultural affiliation is independent of socioeconomic status, or symptoms of depression or substance abuse.

Hawaiian Culture Scale

- ⇒ I learned about the Native Hawaiian way of life from my family at home
- ⇒ I learned about the Native Hawaiian way of life from school
- ⇒ I learned about the Native Hawaiian way of life from friends and neighbors
- ⇒ Check anyone in your household who can carry on a conversation in Hawaiian:
- ⇒ What language is primarily spoken in your home ?
- ⇒ Rate your ability to understand the Hawaiian language.
- ⇒ Rate your ability to speak the Hawaiian language
- ⇒ How much do you value Hawaiian beliefs, behaviors and attitudes ?
- ⇒ How much do you value Non-Hawaiian beliefs, behaviors and attitudes ?
- ⇒ How important is it to you to maintain Hawaiian cultural traditions ?
- ⇒ Do you have any Hawaiian blood ?(100%, 50% or more, less than 50%)

Hawaiian Culture Scale – Customs and Beliefs

- ⇒ Family home blessed by Hawaiian priest or kahuna
- ⇒ Taking part in Native healing practices (Ho'oponopono, Lomilomi)
- ⇒ Offerings at Heiau
- ⇒ Hula Halau
- ⇒ 'Aumakua
- ⇒ Kapu system
- ⇒ Learning genealogy/origin of family
- ⇒ Formal passing of knowledge from generation to generation
- ⇒ Ho'ailona – signs of nature
- ⇒ Lokahi
- ⇒ 'Ohana
- ⇒ Aloha'aina

Hawaiian Culture Scale - Hawaiian Causes

- ⇒ Sovereignty
- ⇒ Office of Hawaiian Affairs (OHA)
- ⇒ Hawaiian Homestead
- ⇒ Waiahole/Waikane
- ⇒ Waimanalo Beach
- ⇒ Kahoolawe
- ⇒ Sand Island
- ⇒ Hawaiian Health
- ⇒ Access rights to the ocean
- ⇒ Access rights to the mountains

Hawaiian Culture Scale – Folklore/ Legends

- ⇒ Night marchers
- ⇒ Menehunes
- ⇒ Pele
- ⇒ Maui the Demigod
- ⇒ Ti leaf as protection
- ⇒ Rain blessing
- ⇒ Kahuna

Hawaiian Culture Scale - Lifestyles

- ⇒ Hawaiian diet – poi, sweet potato, fish, banana
- ⇒ Net fishing
- ⇒ Taro farming
- ⇒ Limu picking
- ⇒ Opelu fishing
- ⇒ Trolling
- ⇒ Making poi
- ⇒ Drying fish
- ⇒ Making a luau (food gathering, preparation, imu, etc.)
- ⇒ Cooking Hawaiian foods
- ⇒ Hunting

Hawaiian Culture Scale

– Hawaiian Activities/Social Events

- ⇒ Hula
- ⇒ Chanting/ playing music
- ⇒ Listening to Hawaiian music
- ⇒ Listening to Hawaiian radio stations
- ⇒ Merry Monarch
- ⇒ Hawaiian Clubs
- ⇒ Canoe paddling
- ⇒ Lei making
- ⇒ Hawaiian Sports
- ⇒ Hawaiian crafts
- ⇒ Baby luau

Possible explanations:

Are there psychosocial risk factors (which we did not measure), but which may be correlated with Hawaiian culture and are known to increase suicide risk ?

- ◆ Physical/ sexual abuse
- ◆ Gender identity issues
- ◆ Exposure to suicide in the family
- ◆ Family violence
- ◆ Help seeking behavior
- ◆ Antidepressant use