

## SELF-DESTRUCTIVE BEHAVIORS IN AMERICAN INDIAN AND ALASKA NATIVE HIGH SCHOOL YOUTH

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*Abstract: Analysis of responses of 10,251 high school students surveyed in the 1997 National School-Based Youth Risk Survey indicated that American Indian and Alaska Native youths engaged more often in risky behaviors than White or Black youths. The pattern of involvement in risky behavior was different for youths from the three ethnic groups.*

There has been great interest in whether the different forms of self-destructive behaviors may be associated, especially in adolescents. In other words, does participation in one of the behaviors predict participation in another? Kelley and associates (Kelley et al., 1985) constructed and validated a measure of self-destructiveness which includes questions on such behaviors as gambling, excessive drinking, poor health care behavior, and thrill-seeking. High scores on the scale were associated with having a stronger external locus of control score, substance abuse and cheating in academic studies, and the scale appeared to have adequate reliability in several cultures including Hong Kong and India as well as the United States (Kelley et al., 1985; Kelley et al., 1986).

Flisher, Ziervogel, Chalton, Leger, and Robertson (1996) studied high school youth in South Africa and found that risky behaviors, such as alcohol, cannabis, carrying knives, and not using seat belts, were strongly associated with one another. These risky behaviors are also predictive of behaviors that are of concern to public health workers, such as suicidal behavior. For example, Woods, Lin, Middleman, Beckford, Chase, and DuRant (1997) studied youths in the 9<sup>th</sup> through 12<sup>th</sup> grade in the Massachusetts Youth Risk Survey in 1993 and found that engaging in risky behaviors (such as regular cigarette use, not using seat belts, carrying guns, and substance use) were predictive of attempting suicide. Simon

and Crosby (1997) found that unplanned suicide attempts in high school youths (but not planned attempts) were predicted by carrying guns, using marihuana, and engaging in sexual intercourse.

Jessor and colleagues have conducted a number of studies on the association of risky behaviors among adolescents. For example, Fortenberry, Costa, Jessor, and Donovan (1997) found that not using contraceptives during sexual intercourse was associated with behaviors such as alcohol and drug abuse, delinquency, poor diet, exercise, and not using seatbelts. They concluded that "substantial organization [exists] among adolescent health and problem behaviors" (p. 307). Turbin, Jessor, and Costa (2000) found that smoking in adolescents was related to a cluster of problem-behaviors such as alcohol and drug use, sexual intercourse, and delinquency.

The incidence and causes of risky and self-destructive behaviors among American Indian youth has been of particular concern because the levels of these behaviors seems to be greater among American Indians than among other ethnic groups in the United States. Some groups of American Indian youths have high rates of attempted and completed suicide and of drug and alcohol abuse (e.g., Bachman, 1992). Young American Indians who are suicidal have been found to come from homes with parental conflict, and their suicidality was predicted by alcohol and drug abuse (Dinges & Quang, 1994). On the Navaho reservation, Grossman, Milligan, and Deyo (1991) found that youths who had attempted suicide more often consumed hard liquor and had poor health, as well as having a history of sexual and physical abuse and a family history of suicidal behavior.

Interestingly, Garrison, Jackson, Abby, McKeown, and Waller (1991) did not find a higher incidence of suicidal ideation and suicide attempts in a small sample of Black high school students as compared to White students. Vega, Gil, Warheit, Apospori, and Zimmerman (1993) found that psychoactive drug use predicted future suicide attempts in a small sample of Black youths, while alcohol and cigarette use did not.

The National Institute for Occupational Safety and Health now conducts an annual survey of high school youth across the U.S. for their involvement in risky behaviors. In the 1997 survey (National Technical Information Service [NTIS], 1997) 16,262 questionnaires were completed by students in grades 9 through 12. The present study examined this data set to see how the involvement of American Indian and Alaska Native youth in risky behaviors compared to the involvement of White and Black youth.

## Method

The Centers for Disease Control and Prevention (CDC) set up a Youth Risk Behavior Surveillance System in order to "monitor the prevalence of youth behaviors that most influence health" (NTIS, 1997, p.1). As part of

this project, the CDC administered a questionnaire to high school students across the United States to assess their involvement in behaviors that can result in unintentional and intentional injuries, behaviors such as tobacco use, alcohol and drug use, sexual behaviors that might result in sexually-transmitted diseases and unintended pregnancies, dietary behaviors, and physical activity. The CDC made a coding manual available<sup>1</sup> and the data set on diskette.<sup>2</sup>

The sample was chosen from public, Catholic, and other private schools in all 50 states and the District of Columbia. Fifty-four sampling units were selected from 1,719 in the United States using stratified sampling for urban and non-urban units. Within the 54 units chosen, 191 schools were selected, and within the schools one or two classes were randomly selected for each grade, 9 through 12. The questionnaire contained 88 questions and was administered in classrooms in a way to ensure anonymity for the respondents. Parental consent was obtained prior to administration of the questionnaire.

The school response rate was 79.1% and the student response rate was 87.2%. A total of 16,262 questionnaires were completed in 151 schools. Of these, 5,554 were from White youth, 4,558 from Black youth, and 139 from American Indian or Alaska Native youth (NTIS, 1997).<sup>3</sup> Given the focus on the American Indian and Alaska Native students in the present paper, details of where these students came from (region of country, urban/sub-urban/rural, etc.) would be of interest. The data set, however, did not provide such information.

The modal ages were 17 for the American Indian and Alaska Native youths, 17 for the Black youths, and 16 for the White youths. The percentages of males were, respectively, 51%, 46%, and 54%. The modal grade for all three groups was 12<sup>th</sup>. The American Indian and Alaska Native youths had parents who had completed significantly less education than the parents of White youths. For example, 25% of the fathers of American Indian and Alaska Native youths were college graduates, 23% of the fathers of Black youths, and 44% of the fathers of White youths.

The results reported here are limited by the questions asked by the survey. Twelve questions were chosen from the 88 questions asked in the survey to study here. There were several questions for each risky behavior. A scale was constructed for the present study by choosing the item in each set of questions for each risky behavior which permitted a yes/no answer for recent involvement in the risky behavior. The follow-up questions often pertained to engaging in the behaviors on school property, the age when the behavior was first engaged, and the intensity of the involvement. For example, the questions on smoking cigarettes were:

1. Have you ever tried smoking, even one or two puffs?
2. How old were you when you smoked a whole cigarette for the first time?
3. During the past 30 days, on how many days did you smoke cigarettes?

4. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?
5. During the past 30 days, how did you usually get your own cigarettes?
6. When you bought cigarettes in a store during the past 30 days, were you ever asked to show proof of age?
7. During the past 30 days, on how many days did you smoke cigarettes on school property?
8. Have you ever tried to quit smoking?

Question 3 was chosen since it measures recent involvement in the risky behavior and had the highest response rate. The other questions were seen as less pertinent for constructing the scale of risky behaviors, although it might be possible to construct a scale that took into account the extent of involvement in the behavior. The present scale, however, coded the questions so as to permit one simple response for each risky behavior of recent involvement versus non-recent involvement, thereby weighting each risky behavior equally. The item on smoking was, therefore, restricted to use in the past 30 days since this was the only recent time period used in the survey. However, the survey question on attempted suicide asked about the past 12 months, not the past 30 days. Obviously, a questionnaire designed by independent researchers would almost certainly phrase many of the questions differently.

The definitions of engaging in risky behaviors were:

1. How often do you wear a seat belt when riding in a car driven by someone else? Answer "never" or "rarely."
2. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol? Answer other than "0 times."
3. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club? Answer other than "0 days."
4. During the past 12 months, how many times were you in a physical fight? Answer other than "0 times."
5. During the past 12 months, how many times did you actually attempt suicide? Answer other than "0 times."
6. During the past 30 days, on how many days did you smoke cigarettes? Answer other than "0 days."
7. During the past 30 days, on how many days did you have at least one drink of alcohol? Answer other than "0 days."
8. During the past 30 days, how many times did you use marijuana? Answer other than "0 times."
9. During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase? Answer other than "0 times."
10. Have you ever had sexual intercourse? Answer "Yes."
11. How do you describe your weight? Answer other than "About the right weight."

12. On how many of the past 7 days did you exercise or participate in sports activities for at least 20 minutes that made you sweat and breathe hard, such as basketball, jogging, fast dancing, swimming laps, tennis, fast bicycling, or similar aerobic activities? Answer "0 days."

## Results

The percentages of youths behaving unsafely in the areas investigated are shown in Table 1 where it can be seen that the major difference was that the American Indian and Alaska Native youths engaged in more unsafe behaviors than the White or Black youths, especially carrying weapons, attempted suicide, marihuana use, and cocaine use. The results are shown for males and females separately also in Table 1.

To quantify this a little more precisely, a self-destructive score was calculated based on these twelve behaviors. The scale proved to be quite reliable. Cronbach's alpha was 0.67 for the White youths, 0.57 for the Black youths, and 0.79 for the American Indian and Alaska Native youths. Although the reliability is low for the Black students and only moderate for the White students, the reliability is acceptable for the American Indian and Alaska Native students.

The difference by ethnic group and sex were statistically significant, but not the interaction term (see Table 2). The mean scores and standard deviations for each group are shown in Table 2. It can be seen that American Indian and Alaska Native male and female youths obtained higher self-destructiveness scores than both White and Black youths.

## Conclusion

The present results from the National School-Based Youth Risk Survey in 1997 indicated that American Indian and Alaska Native youths engaged in more risky behaviors overall than White and Black youths.

A more detailed examination of the results indicated different patterns of involvement in risky behaviors for American Indian and Alaska Native, White, and Black youths. For males, American Indian and Alaska Native youths engaged more often in carrying weapons, attempted suicide, and drug use (cigarettes, marihuana, and cocaine) than White or Black youths. For females, American Indian and Alaska Native youths engaged more often in attempting suicide and cocaine use than White or Black youths.

The NTIS survey is school-based, and thus the respondents are enrolled in high school. Different results might be obtained were the sample to include youths who are not attending high school or those attending schools on American Indian and Alaska Native reservations. However, even with the limitations of the sample, the large percentages of youths from all three ethnic groups engaging in risky behaviors indicates the

**Table 1**  
**Risky Behaviors by Ethnic Group (Percentage Showing**  
**"Unsafe" Behavior)**

	<b>American Indian &amp; Alaska Native</b>	<b>White</b>	<b>Black</b>	<b><math>\chi^2(df=2)</math> (critical value=5.99)</b>
<b>Total Sample</b>				
seat belt	30.2%a	17.9%	31.7%a	262.09
driving/drinking	20.0%a	17.1%a	10.3%	98.11
carry weapon	31.9%	18.6%	20.7%	19.06
physical fight	48.1%a	35.3%	39.8%a	27.90
attempted suicide	27.0%	7.0%a	7.7%a	68.75
cigarettes	46.0%a	40.4%a	21.5%	388.50
alcohol use	54.3%a	52.7%a	40.4%	146.30
marihuana use	38.8%	24.5%a	25.6%a	14.89
cocaine use	12.3%	3.2%	0.7%	136.21
sexual intercourse	68.2%a	43.3%	73.8%a	924.10
weight	45.7%ab	45.9%a	38.7%b	53.18
exercise	21.2%a	16.9%a	29.7%	229.30
<b>Males</b>				
seat belt	36.6%a	22.6%	36.1%a	112.45
driving/drinking	26.1%a	20.2%a	15.7%	18.44
carry weapon	52.9%	30.2%a	28.3%a	20.26
physical fight	56.7%a	46.0%a	47.9%a	4.35 ns
attempted suicide	22.2%	4.0%a	5.2%a	47.20
cigarettes	56.3%	39.9%	27.4%	88.96
alcohol use	56.5%a	54.4%a	43.5%	55.73
marihuana use	49.3%	26.8%	33.7%	39.25
cocaine use	17.1%	3.9%	1.3%	75.60
sexual intercourse	76.1%a	42.1%	81.8%a	766.50
weight	41.4%ab	43.5%a	32.5%b	61.69
exercise	17.4%ab	11.6%a	16.6%b	26.51
<b>Females</b>				
seat belt	23.9%a	12.5%	28.1%a	190.41
driving/drinking	13.6%a	13.5%a	5.8%	85.61
carry weapon	9.2%ab	5.2%a	14.4%b	120.29
physical fight	39.4%a	22.7%	33.1%a	70.82
attempted suicide	32.2%	10.5%a	9.7%a	31.15
cigarettes	35.5%a	41.0%a	16.5%	337.42
alcohol use	52.3%a	50.7%a	37.9%	81.56
marihuana use	28.4%ab	21.9%a	19.0%b	8.87
cocaine use	7.4%	2.3%	0.2%	60.00
sexual intercourse	60.0%a	44.7%	67.3%a	254.40
weight	50.0%ab	48.7%a	43.9%b	12.08
exercise	25.0%a	23.3%a	40.7%	175.98

Groups sharing the same letter of the alphabet did not differ significantly.

**Table 2**  
**Mean Self-Destructiveness Scores by Ethnic Group and Sex**  
**Means (and Standard Deviations) Shown**

	<b>American Indian &amp; Alaska Native</b>	<b>White</b>	<b>Black</b>
females	3.60 (2.37)	2.93 (2.15)	3.08 (1.88)
males	4.80 (3.03)	3.39 (2.38)	3.51 (2.11)
total	4.22 (2.78)	3.18 (2.29)	3.28 (2.00)
<b>TWO-WAY ANOVA</b>			
sex	<i>F</i> =30.94	<i>df</i> =1/10240	<i>p</i> < .001
ethnic group	<i>F</i> =19.29	<i>df</i> =2/10240	<i>p</i> < .001
sex by ethnic group	<i>F</i> =2.09	<i>df</i> =2/10240	<i>p</i> = 0.12, ns
<b>ONE-WAY ANOVAs</b>			
Females (all three groups differed significantly from one another)	<i>F</i> =6.29	<i>df</i> =2/5079	<i>p</i> = .002
Males (all three groups differed significantly from one another)	<i>F</i> =14.43	<i>df</i> =2/5161	<i>p</i> < .0001

importance of appropriate education programs to encourage youths to refrain from engaging in these risky behaviors, especially since these youths in this sample were enrolled in school where it is relatively easier to expose them to public health education.

The results also suggest the importance of addressing more than single problem behaviors. Programs designed to reduce the incidence of smoking in American Indian adolescents may have little impact on the overall level of self-destructive and risky behaviors. Programs should have a more general focus.

Furthermore, more research needs to be conducted into the antecedents and causes of all these self-destructive behaviors, and programs designed to address or counteract these factors. For example, a program to raise the self-esteem of adolescents may have an impact on many of these self-destructive behaviors rather than just one.

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### Footnotes

<sup>1</sup>1997 YRBS, Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Mailstop K-33, 4770 Buford Highway, NE, Atlanta, GA, 30341-3724.

<sup>2</sup>NTIS, 5285 Port Royal Road, Springfield, VA 22161. NTIS Order No. PB98-502479.

<sup>3</sup>In addition, 4547 were from Hispanic youths, 641 from Asian or Pacific Islanders, 695 from "others" and 128 had missing data for ethnic group. The survey intentionally over-sampled from schools with Black and Hispanic students in order to increase their proportion in the sample. The survey did not do this for Asian or American Indian and Alaska Native students.