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ABSTRACT

A survey of health risk behaviors was administered to a representative sample of 7,776 Idaho students in grades 8-12. Respondents were 86% White, 6% Hispanic, 4% American Indian, 3% Asian, and 2% Black. These rural adolescents reported that they had engaged in some health risk behaviors at rates comparable to those of other U.S. adolescents: 57% had smoked cigarettes; 37% had sampled chewing tobacco or snuff; and 33% had had five or more drinks at least once in the past month. Over 25% had had serious suicidal thoughts in the past year. However, drug-related risk behaviors were comparatively lower among rural youth, with 86% stating they had never used illicit drugs of any kind. Few respondents engaged in regular exercise. Adolescents who engaged in one risk behavior were more likely to engage in others and less likely to practice wellness behaviors. American Indian and Hispanic teenagers reported significantly higher rates of alcohol and drug use than Whites or Asians. Non-Whites had higher rates of suicidal thought than Whites, while Whites were more likely to have used diet pills and smokeless tobacco. Males were more likely than females to engage in risk taking and experimentation with cars and motorcycles, alcohol, and drugs, while females were more likely to report behaviors associated with eating disorders. This paper contains responses to survey items and statistics for the total sample and break-down data by gender, ethnicity, and age. (SV)

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Rural Adolescent Health Risk Behaviors:
Age, Gender, and Ethnic Differences

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Rural Adolescent Health Risk Behaviors:

Age, Gender, and Ethnic Differences

Adolescence can be a time of considerable stress and tension. Environmental demands, as well as changes brought on by rapid physical development, contribute to the turmoil experienced by many adolescents. Common environmental stressors include academic pressures, conflicting family and/or peer relationships, and pressure to make career choices. These stressors are exerted simultaneously with the adolescent's evolving personal, social, and physical identities.

In light of the number of stressors during adolescence, it is not surprising that many teens have difficulty coping with their everyday lives. The scope and severity of the problem are evidenced by the increasing number of adolescents engaging in health risk behaviors, i.e., behaviors that place the adolescent at risk for injury, illness, or death. For example, two-thirds of all high school seniors report drinking alcohol, a quarter report using marijuana, and one in 15 report using cocaine (Select Committee on Children, Youth, and Families, 1989).

While there have been numerous studies investigating the health risk behaviors among adolescents (Barnes, 1987; National Institute on Drug Abuse, 1990; Walker, 1988), most research has focused on samples in urban settings and the study of single factors such as tobacco or alcohol use. To date, there has not been adequate investigation of the interrelationships between health risk behaviors among rural adolescents.

Toward that end, the purpose of the present study was to assess the incidence of health risk behaviors among rural adolescents and to further examine if that incidence differs by age, gender, or ethnicity. The study also sought to determine if adolescents engage in multiple risk behaviors, to what extent and in which combinations.

Method

Subjects

The sample for the present study consisted of eighth-grade and senior high students enrolled in selected representative Idaho public schools. Schools participating in the study were selected using the following stratified cluster sampling procedures. First, the state of Idaho was portioned into four geographic regions (i.e., Snake River Valley, Magic Valley, Treasure Valley, and the Palouse Region) with a relatively balanced number of districts and schools within each region. All junior high/middle and senior high schools were then categorized as small (student population = 250 or less), medium (student population = 251-650), or large (student population = 651 and above) using school enrollment statistics listed in the 1989-1990 Idaho Educational Directory.

Following categorization of schools by size, two schools (one junior high/middle and one senior high) of each size category (i.e., small, medium, and large) were randomly selected using computer randomization procedures from each of the four geographic regions. Thus, the total sample of students ($n = 7,776$) consisted of the eighth-grade and senior high students enrolled in two small, two

medium, and two large schools in the four geographic regions of Idaho (i.e., 12 junior high/middle schools and 12 senior high schools).

Study subjects ranged in age from 12 through 19 years ($\bar{X} = 15.6$, $SD = .80$) with 3955 (51%) males and 3821 (49%) females. Of the 7,776 students, 308 (4%) were American Indian, 213 (3%) were Asian, 102 (2%) were black, 485 (6%) were Hispanic, and 6560 (86%) were white. When categorized by grade level, the sample included 1524 (20%) eighth graders, 2059 (26%) ninth graders, 1349 (18%) tenth graders, 1582 (20%) eleventh graders, and 1212 (16%) twelfth graders.

Procedures

Public school district contact persons or superintendents were contacted in January of 1990 through preliminary correspondence, sponsored by the Idaho Department of Education, to solicit district support and provide minimal leverage for participation in the study. The principal investigators concurrently established contact with each school explaining the study, its importance, and the purpose and utilization of data. School-site data collection visits were subsequently scheduled for one or two days as determined by school size and geographic factors.

School-site visits were completed during February, March, and April of 1990 during which students in grades 8-12 completed a health risk behavior survey. The survey was administered by classroom teachers during regularly scheduled first-period classes. In addition to the health risk behavior survey, each student completed a questionnaire requesting demographic data including age, gender, grade in school, and ethnicity.

The health risk behavior survey, developed by the principal investigators in consultation with Idaho Department of Education staff, was adapted from a survey compiled by the Division of Adolescent and School Health, Centers for Disease Control. The survey requested information regarding health risk behaviors relative to drug, alcohol, and tobacco use, diet and eating habits, suicidal ideation, body concept, helmet and seatbelt use, exercise and physical activity, and television viewing habits. Responses to the 20 multiple-choice survey items were recorded by students on Scantron sheets to facilitate computer coding and data analysis and to maintain confidentiality.

Data Analysis

Descriptive statistics, primarily frequencies and percentages, were computed to summarize responses for the total sample of students for each survey item. Cross-tabulations were then completed to determine the incidence of multiple health risk behaviors, to what extent and in which combinations. Finally, a series of χ^2 analyses were conducted in order to investigate the occurrence of health risk behaviors by age, gender, and ethnicity.

Results

Because the data were collected within the constraints of an actual academic setting, complete sets of data were not always available. Pairwise or listwise deletion procedures were used to accommodate to this situation, the choice depending on the nature of the analysis and the requirements of the statistical method employed.

Health Risk Behaviors: Total Sample

Descriptive statistics for the entire sample of students relative to responses for each survey item are presented in Table 1. Data from the student survey on health risk behaviors show that, without doubt, rural adolescents are engaging in some health risk behaviors at rates comparable to their agemates in other parts of the United States. Of the students surveyed, 57% have smoked cigarettes, 37% have sampled chewing tobacco or snuff, and 33% have had 5 or more drinks on at least one occasion in the past month. More than one-fourth of the students reported having seriously thought about suicide in the last year.

The incidence of drug-related risk behaviors, however, appears to be comparatively lower among rural youth. Only 11% of the students reported using marijuana in the last month and less than 4% reported using cocaine in the last 30 days. Moreover, 86% of the rural adolescents stated that they had never used illicit drugs of any kind.

In terms of diet and exercise, the data indicate that few rural youth are practicing wellness behaviors conducive to good health. Less than 15% of the students surveyed said they had exercised for a minimum of 20 minutes per day at least 6-8 days in the last two weeks. In addition, more than 20% of the adolescents reported watching between 3-6 hours of television or videos each day.

With regard to the incidence of multiple health risk behaviors, data from the present study indicate that rural adolescents who engage in one risk behavior are also more likely to engage in other

risk behaviors. For example, 87% of the students who reported using alcohol in the last month said they also smoked cigarettes regularly. More than 90% of the adolescents who said they had used marijuana in the last 30 days also reported having 5 or more drinks on more than one occasion in the last month.

In addition, the students who engaged in health risk behaviors were less likely to practice wellness behaviors. Less than 3% of the students using illicit drugs and 10% using alcohol in the last month said they had exercised for a minimum of 20 minutes per day at least 6-8 days in the last two weeks. Moreover, less than 2% of the students who reported watching television or videos 3-6 hours each day said they participated in any regular exercise.

Health Risk Behaviors: Comparative Analyses

Results of the χ^2 analyses comparing incidence of health risk behaviors by gender, ethnicity, and age are presented in Tables 2, 3, and 4, respectively. As the large sample n utilized in the present study creates the potential for overestimation of statistical significance, effect sizes are provided for each χ^2 analysis. Effect sizes were computed using procedures for estimating effect sizes from nonparametric statistics outlined by Glass, McGaw, and Smith (1981).

Comparisons by gender yielded significant differences between male and female adolescents on all health risk behaviors. A significantly greater proportion of males reported using marijuana ($\chi^2 = 64.64, p < .001$) or cocaine ($\chi^2 = 51.43, p < .001$) in the last 30 days and having 5 or more drinks on more than one occasion during

the last month ($\chi^2 = 61.56, p < .001$). On the other hand, a significantly greater proportion of females considered themselves "too fat" ($\chi^2 = 634.64, p < .001$) and reported using diet pills ($\chi^2 = 518.72, p < .001$), vomiting ($\chi^2 = 270.59, p < .001$), or skipping meals ($\chi^2 = 1045.13, p < .001$) to lose weight. In addition, a significantly greater proportion of girls said they had seriously considered suicide in the past 12 months ($\chi^2 = 112.54, p < .001$).

Incidence of health risk behaviors also differed by ethnicity of the adolescent. A significantly greater proportion of American Indian and Hispanic students reported using injected drugs ($\chi^2 = 120.58, p < .001$) or alcohol ($\chi^2 = 85.58, p < .001$) in the last 30 days. Furthermore, a greater proportion of Asian, black, and Hispanic students said they had seriously thought about suicide in the past year ($\chi^2 = 44.92, p < .001$). Among the white students, a greater proportion reported using diet pills ($\chi^2 = 48.36, p < .001$) and smokeless tobacco ($\chi^2 = 99.61, p < .001$).

Incidence of health risk behaviors also differed by age of the adolescent. While students of all ages reported engaging in health risk behaviors, a significantly greater proportion of older adolescents (15-19 years) said they had used marijuana ($\chi^2 = 337.61, p < .001$) or cocaine ($\chi^2 = 205.19, p < .001$) in the last 30 days. A greater proportion of 15-19 year-olds also reported having five or more drinks on more than one occasion during the last month ($\chi^2 = 372.76, p < .001$). In terms of tobacco use, a significantly greater proportion of younger adolescents (12-14 years) said they use

smokeless tobacco ($\chi^2 = 251.00, p < .001$). A significantly greater proportion of 12-14 year-olds also reported watching 3-6 hours of television or videos each day ($\chi^2 = 71.96, p < .001$).

Conclusions

The purpose of the present study was to assess the incidence of health risk behaviors among rural adolescents and to further examine if that incidence differs by age, gender, and ethnicity. The study also sought to determine if adolescents engage in multiple risk behaviors, to what extent and in which combinations. A total of 7,776 eighth- through twelfth-grade students from across Idaho were administered a written questionnaire during the 1990 spring semester.

Data from the present study support the conclusion that rural adolescents are engaging in risk behaviors that are potentially damaging to their health. These findings are consistent with national statistics showing that, compared with younger children or adults, adolescents are more likely to be injured in motor vehicle accidents, to misuse alcohol or drugs, and to have poor eating and health care habits (Smith, Bierman, & Robinson, 1988). Furthermore, the incidence of health risk behaviors among rural teenagers in the present study firmly dispels the myth that living in a rural environment somehow provides immunity from the stressors and tensions often experienced during adolescence.

The incidence of drug-related health risk behaviors, however, is lower among rural youth as compared with national statistics. Although experimentation with both drugs and alcohol is typical of

adolescence (Huba & Bentler, 1985), the choice of drug and patterns of use depend in part on what drugs are available and at what price. In most rural areas, marijuana and cocaine are relatively expensive and difficult to obtain. As alcohol is heavily advertised and socially valued as a sign of adulthood and independence and is readily available at low cost, it continues to be the drug of choice among rural adolescents.

Data from the present study also indicate the incidence of health risk behaviors varies by gender and ethnicity. American Indian and Hispanic teenagers in the rural sample reported significantly higher rates of alcohol or drug use than their white or Asian counterparts. In addition, rural males were more likely to engage in risk taking and experimentation with cars and motorcycles, alcohol, and other drugs, perhaps viewing these behaviors as signs of masculinity. On the other hand, incidence of health risk behaviors associated with eating disorders was greater among rural females. Because slenderness is the dominant contemporary cultural standard for feminine beauty, many adolescent girls try to lose weight in an effort to achieve an image that may not be possible for them.

Like their urban peers, rural adolescents are in general not likely to have positive attitudes toward health care or to engage in wellness behaviors consistently and appropriately. Why is this the case? One explanation is that adolescents tend to believe they are invulnerable; that is, they have an unrealistic sense that they are safe from illness and other physical harm. This belief may in part be

due to the fact that teens rarely see the consequences of negative health choices played out on themselves or their peers. In addition, from the adolescent's point of view, health care, like schools, is managed by the adult world (Lewis & Lewis, 1989). This view does not necessarily create hostility toward good health practices, but it probably does encourage passivity or indifference to personal health.

The self-reported health risk behaviors of rural adolescents in the present study substantiate the need for school-based comprehensive K-12 grade health education programs. Through comprehensive health education, adolescents can become effective managers of their own health. As such, comprehensive health education can help students understand health in terms of multiple causes, prevention, and cures and to realize the interrelationships between thoughts, feelings, and physical well-being. By providing a firm foundation for health choices, by giving accurate health information, and by encouraging development of decision-making skills complete with analyzing the consequences of actions, comprehensive health education equips adolescents to take responsibility for their own health. And the achievement of a sense of responsibility for one's own life signals progress in the transition from adolescence to adulthood.

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Table 1

Health Risk Behaviors: Total Sample

Survey Item	n	%
How often do you wear a seat belt when riding in a car or truck when driven by someone else?		
Never	931	12.1
Rarely	1690	22.0
Sometimes	2042	26.6
Most of the time	3016	39.3
How often do you wear a helmet when riding a bike?		
I do not ride bicycles.	1423	18.4
Never	5550	72.4
Sometimes	446	5.8
Most of the time	126	1.6
Always	128	1.7
How often do you wear a helmet when riding a motorcycle?		
I do not ride motorcycles.	3115	40.5
Never	661	8.6
Sometimes	1037	13.5
Most of the time	1019	13.2
Always	1868	24.3
During the past 30 days, how many times have you been in a physical fight in which you or the person you were fighting was injured?		
None	7025	91.3
1 time	316	4.0
2-3 times	173	2.2
4-5 times	36	.4
6 or more times	164	2.1
During the past 12 months, have you seriously thought about attempting suicide?		
No	5649	73.9
Yes	1992	26.1
Have you ever tried cigarette smoking?		
No	3141	41.1
Yes	4508	58.9
Have you ever tried chewing tobacco or snuff?		
No	4874	63.2
Yes	2799	36.8

Table 1 (continued)

Health Risk Behaviors: Total Sample

Survey Item	n	%
During the last 30 days, on how many occasions did you drink alcohol?		
I have never drunk alcohol.	1845	24.1
None	2228	29.1
1-5 occasions	2494	32.5
6-15 occasions	710	9.3
16 or more occasions	391	5.1
During the last 30 days, how many times did you have 5 or more drinks on one occasion?		
I have never drunk alcohol.	1855	24.1
None	3122	40.6
1 time	924	12.0
2-5 times	1111	14.5
6 or more times	670	8.7
How old were you when you had your first drink of alcohol?		
I have never drunk alcohol.	2070	26.9
Less than 10 years old	1219	15.9
10-14 years old	3434	44.7
15-17 years old	918	11.9
18 or more years old	43	.6
During your life have you injected any drug not prescribed by a doctor?		
No	7333	96.2
Yes	286	3.8
During the past 30 days, on how many occasions have you used marijuana?		
I have never used marijuana.	5361	69.6
None	1384	18.0
1-4 occasions	571	7.4
5-15 occasions	178	2.2
16 or more occasions	212	2.8
During the past 30 days, on how many occasions have you used cocaine?		
I have never used cocaine.	6599	85.6
None	828	10.7
1-4 occasions	189	2.5
5-15 occasions	30	.4
16 or more occasions	66	.9

Table 1 (continued)

Health Risk Behaviors: Total Sample

Survey Item	n	%
Do you think of yourself as		
Too thin (underweight)	909	11.9
About the right weight	4552	59.5
Too fat (overweight)	2191	28.6
During the last 7 days, how many meals have you skipped to lose weight?		
None	4791	62.3
1-2 meals	1326	17.2
3-6 meals	909	11.8
7-14 meals	500	6.5
15 or more meals	170	2.2
During the last 7 days, how many times did you take a diet pill to lose weight?		
I have never done this.	6473	84.1
I have done this, but not in the last 7 days.	916	11.9
1 or 2 times	150	1.9
3-6 times	68	.9
7 or more times	88	1.1
During the past 7 days, how many times did you purposely vomit to lose weight?		
I have never done this.	6770	88.1
I have done this, but not in the past 7 days.	626	8.1
1 or 2 times	130	1.7
3-6 times	71	.9
7 or more times	85	1.1
On how many of the past 14 days have you done at least 20 minutes of hard exercise that made you breathe heavily and made your heart beat fast? (For example, playing basketball, jogging, fast dancing, or fast bicycling.)		
None	906	11.9
1 or 2 days	1291	16.9
3-5 days	1673	21.9
6-8 days	1121	14.7
9 or more days	2642	34.6

(table continues)

Table 1 (continued)

Health Risk Behaviors: Total Sample

Survey Item	n	Z
During the past 7 days, on an average school day, how many hours a day did you watch television, videos, or play computer or video games?		
None	626	8.2
1 hour or less per day	2346	30.7
More than 2 but less than 3 hours per day	2646	34.6
Between 3 and 6 hours per day	1571	20.6
6 or more hours per day	454	5.9
Compared to other students in your class, what kind of student would you say you are?		
One of the best	1433	18.7
Above the middle	2568	33.6
In the middle	2992	39.1
Below the middle	430	5.6
Near the bottom	226	3.0

Table 2

Health Risk Behaviors: Comparisons by Gender

Survey Item	Male n	Female n	χ^2	p	Effect size
Seat belt use					
Never	586	328	205.60	.001	1.76
Rarely	973	700			
Sometimes	1055	967			
Most of the time	1235	1741			
Helmet use: bicycle					
Do not ride	701	640	18.59	.001	.04
Never	2740	2755			
Sometimes	255	179			
Most of the time	75	48			
Always	68	58			
Helmet use: motorcycle					
Do not ride	1105	1974	466.65	.001	2.09
Never	406	246			
Sometimes	591	432			
Most of the time	637	367			
Always	1124	724			
Physical fights in the last 30 days					
None	3350	3597	78.59	.001	.51
1	231	81			
2-3	0	0			
4-5	0	0			
6 or more	0	0			
Suicidal thoughts in the last 30 days					
No	3038	2553	112.34	.001	.89
Yes	791	1168			
Cigarette smoking					
No	1466	1635	24.19	.001	.11
Yes	2362	1090			
Chewing tobacco/snuff					
No	1789	2040	989.18	.001	4.93
Yes	3034	696			

(table continues)

Table 2 (continued)

Health Risk Behaviors: Comparisons by Gender

Survey Item	Male n	Female n	χ^2	p	Effect size
Occasions of alcohol in last 30 days					
Never	882	935	60.31	.001	.39
None	1094	1114			
1-5	1214	1255			
6-15	406	291			
16 or more	253	128			
Occasions of 5 or more drinks in last 30 days					
Never	878	947	61.56	.001	.40
None	1495	1599			
1	485	436			
2-5	580	510			
6 or more	419	237			
Age of first drink					
Never	988	1054	66.29	.001	.43
Less than 10	729	464			
10-14	1694	1707			
15-17	419	489			
18 or more	26	17			
Injected drugs					
No	3619	3631	43.04	.001	.30
Yes	195	83			
Occasions of marijuana in last 30 days					
Never	2575	2720	64.64	.001	.41
None	736	633			
1-4	305	262			
5-15	103	64			
16 or more	150	56			
Occasions of cocaine in last 30 days					
Never	3229	3297	51.43	.001	.33
None	464	354			
1-4	110	69			
5-15	19	11			
16 or more	52	11			

Table 2 (continued)

Health Risk Behaviors: Comparisons by Gender

Survey Item	Male n	Female n	χ^2	p	Effect size
Body concept					
Too thin	680	219	634.64	.001	3.43
About right	2535	1964			
Too fat	623	1538			
Skipped meals in last 30 days					
None	3088	1651	1045.13	.001	5.04
1-2	394	915			
3-6	224	671			
7-14	106	389			
15 or more	55	111			
Diet pills in last 30 days					
Never	1606	2791	518.72	.001	2.74
None	163	743			
1-2	48	100			
3-6	13	53			
7 or more	34	50			
Vomiting in last 30 days to lose weight					
Never	3618	3074	270.59	.001	1.81
None	127	491			
1-2	45	81			
3-6	28	42			
7 or more	37	45			
Exercise in last 14 days					
None	392	501	248.39	.001	1.79
1-2	495	783			
3-5	758	896			
6-8	550	557			
9 or more	1627	981			
Hours of television					
None	306	308	28.27	.001	.14
1 or less	1119	1206			
2	1363	1256			
3-5	771	780			
6 or more	271	172			

Table 3

Health Risk Behaviors: Comparisons by Ethnicity

Survey Item	Black n	AmInd n	Asian n	Hispanic n	White n	χ^2	p	Effect size
Seat belt use								
Never	30	64	17	126	664	259.45	.001	1.78
Rarely	13	74	28	117	1417			
Sometimes	17	81	43	132	1710			
Most of the time	21	86	46	80	1710			
Helmet use: bicycle								
Do not ride	32	62	26	138	1118	101.12	.001	.79
Never	39	213	89	265	4798			
Sometimes	6	18	8	29	373			
Most of the time	0	2	4	6	110			
Always	2	9	6	8	95			
Helmet use: motorcycle								
Do not ride	32	117	66	243	2577	172.71	.001	.93
Never	15	46	12	77	491			
Sometimes	12	57	14	54	872			
Most of the time	6	31	17	31	906			
Always	15	54	25	47	1675			
Physical fights in last 30 days								
None	48	249	116	387	6046	44.13	.001	.31
1	8	25	6	31	235			
2-3	0	0	0	0	0			
4-5	0	0	0	0	0			
6 or more	0	0	0	0	0			

Table 3 (continued)

Health Risk Behaviors: Comparisons by Ethnicity

Survey Item	Black <i>n</i>	AmInd <i>n</i>	Asian <i>n</i>	Hispanic <i>n</i>	White <i>n</i>	χ^2	<i>p</i>	Effect size
Suicidal thoughts in last 30 days								
No	41	188	93	312	4875	44.92	.001	.33
Yes	35	112	41	131	1611			
Cigarette smoking								
No	25	83	66	153	2741	39.24	.001	.29
Yes	49	212	63	294	3579			
Chewing tobacco/snuff								
No	29	160	81	276	4213	99.61	.001	.79
Yes	48	138	51	170	2288			
Occasions of alcohol in last 30 days								
Never	13	41	32	74	1649	147.41	.001	.94
None	25	92	47	129	1869			
1-5	15	110	41	156	2106			
6-15	8	26	9	43	598			
16 or more	17	35	5	48	272			
Occasions of 5 or more drinks in last 30 days								
Never	17	49	28	78	1647	85.58	.001	.51
None	27	113	63	172	2666			
1	6	42	18	52	781			
2-5	12	55	14	85	902			
6 or more	17	44	9	63	516			

Table 3 (continued)

Health Risk Behaviors: Comparisons by Ethnicity

Survey Item	Black n	AmInd n	Asian n	Hispanic n	White n	χ^2	p	Effect size
Age of first drink								
Never	19	54	35	85	1835	80.88	.001	.48
Less than 10	25	71	31	82	971			
10-14	31	143	50	210	2900			
15-17	2	34	16	70	773			
18 or more	2	2	0	5	31			
Injected drugs								
No	59	270	120	421	6271	120.58	.001	.81
Yes	17	27	10	27	193			
Occasions of marijuana in last 30 days								
Never	37	161	101	274	4670	122.73	.001	.83
None	25	80	19	99	1107			
1-4	5	40	9	46	451			
5-15	3	9	0	14	139			
16 or more	10	16	5	17	157			
Occasions of cocaine in last 30 days								
Never	48	221	101	359	5709	251.32	.001	1.70
None	17	60	21	61	638			
1-4	3	17	8	24	128			
5-15	3	2	0	2	17			
16 or more	9	6	4	7	40			

Table 3 (continued)

Health Risk Behaviors: Comparisons by Ethnicity

Survey Item	Black n	AmInd n	Asian n	Hispanic n	White n	χ^2	p	Effect size
Body concept								
Too thin	17	40	16	47	756	23.97	.001	.10
About right	46	158	75	246	3914			
Too fat	15	100	43	154	1825			
Skipped meals in last 30 days								
None	50	171	86	244	4119	44.37	.001	.31
1-2	12	64	25	104	1082			
3-6	7	44	12	53	764			
7-14	4	15	8	34	426			
15 or more	6	11	2	16	132			
Diet pills in last 30 days								
Never	66	240	116	361	5516	48.36	.001	.35
None	6	42	10	61	778			
1-2	3	10	4	17	109			
3-6	1	8	0	6	48			
7 or more	3	5	4	7	68			
Vomiting in last 30 days to lose weight								
Never	58	242	115	377	5799	108.98	.001	.86
None	7	43	7	47	503			
1-2	3	9	3	10	102			
3-6	3	4	5	4	52			
7 or more	6	6	2	15	55			

Health Risk Behaviors

Table 3 (continued)

Health Risk Behaviors: Comparisons by Ethnicity

Survey Item	Black n	AmInd n	Asian n	Hispanic n	White n	χ^2	p	Effect size
Exercise in last 14 days								
None	19	36	29	71	732	53.20	.001	.38
1-2	7	48	19	86	1097			
3-5	10	71	31	108	1407			
6-8	9	49	20	53	968			
9 or more	33	97	32	129	2269			
Hours of television								
None	13	36	17	39	499	93.50	.001	.72
1 or less	13	80	33	117	2047			
2	25	92	46	152	2268			
3-5	8	60	26	104	1327			
6 or more	17	32	9	38	343			
Academic self-rating								
One of best	28	46	24	54	1247	122.04	.001	.83
Above average	20	78	33	122	2251			
Average	20	135	55	210	2480			
Below average	3	24	12	38	343			
Near bottom	7	20	6	26	163			

Health Risk Behaviors

Table 4

Health Risk Behaviors: Comparisons by Age

Survey Item	9-12 <i>n</i>	13-14 <i>n</i>	15-16 <i>n</i>	17-18 <i>n</i>	19+ <i>n</i>	χ^2	<i>p</i>	Effect size
Seat belt use								
Never	11	212	356	309	32	66.75	.001	.43
Rarely	8	395	737	505	31			
Sometimes	6	556	889	586	28			
Most of the time	10	848	1303	785	43			
Helmet use: bicycle								
Do not ride	6	195	630	529	42	199.08	.001	.95
Never	20	1626	2309	1462	75			
Sometimes	2	127	193	106	12			
Most of the time	2	34	46	39	1			
Always	2	25	53	43	2			
Helmet use: motorcycle								
Do not ride	12	877	1270	867	53	40.81	.001	.30
Never	7	172	273	188	15			
Sometimes	6	250	434	315	23			
Most of the time	5	223	443	331	11			
Always	5	495	823	487	34			
Physical fights in the last 30 days								
None	21	1847	2942	2033	111	11.51	.021	.02
1	3	94	136	71	8			
2-3	0	0	0	0	0			
4-5	0	0	0	0	0			
6 or more	0	0	0	0	0			

Table 4 (continued)

Health Risk Behaviors: Comparisons by Age

Survey Item	9-12 n	13-14 n	15-16 n	17-18 n	19+ n	χ^2	p	Effect size
Suicidal thoughts in last 30 days								
No	19	1507	2336	1649	81	24.64	.001	.11
Yes	15	489	884	532	50			
Cigarette smoking								
No	13	1057	1276	709	45	184.39	.001	.94
Yes	20	947	1944	1469	90			
Chewing tobacco/snuff								
No	14	1534	2007	1196	71	251.00	.001	1.79
Yes	21	468	1213	985	64			
Occasions of alcohol in last 30 days								
Never	8	696	752	353	15	389.85	.001	1.90
None	6	639	940	592	31			
1-5	9	518	1075	814	49			
6-15	1	91	297	293	20			
16 or more	10	66	160	133	19			
Occasions of 5 or more drinks in past 30 days								
Never	8	692	756	364	17	372.76	.001	1.89
None	6	871	1322	844	48			
1	3	199	420	273	22			
2-5	8	168	455	440	25			
6 or more	9	85	278	266	22			

Table 4 (continued)

Health Risk Behaviors: Comparisons by Age

Survey Item	9-12 n	13-14 n	15-16 n	17-18 n	19+ n	χ^2	p	Effect size
Age of first drink								
Never	8	796	831	393	20	963.36	.001	4.89
Less than 10	12	353	545	273	27			
10-14	11	846	1545	955	44			
15-17	0	16	301	553	29			
18 or more	0	0	3	16	11			
Injected drugs								
No	25	1937	3087	2093	117	51.02	.001	.33
Yes	6	58	124	76	16			
Occasions of marijuana in last 30 days								
Never	19	1645	2269	1299	70	337.66	.001	1.86
None	4	226	566	543	32			
1-4	2	94	231	222	14			
5-15	3	27	78	57	7			
16 or more	7	26	91	74	13			
Occasions of cocaine in last 30 days								
Never	21	1805	2804	1812	89	205.19	.001	1.75
None	6	154	330	305	26			
1-4	3	35	71	62	13			
5-15	1	13	11	3	1			
16 or more	4	13	27	14	8			

Health Risk Behaviors

Table 4 (continued)

Health Risk Behaviors: Comparisons by Age

Survey Item	9-12 n	13-14 n	15-16 n	17-18 n	19+ n	χ^2	ρ	Effect size
Body concept								
Too thin	6	211	401	269	17	13.31	.102	.01
About right	21	1251	1904	1264	74			
Too fat	8	539	915	650	42			
Skipped meals in last 30 days								
None	25	1273	1986	1382	79	34.02	.005	.28
1-2	4	372	552	355	27			
3-6	3	216	384	285	13			
7-14	1	114	234	138	7			
15 or more	2	43	82	34	8			
Diet pills in last 30 days								
Never	30	1743	2744	1784	107	81.47	.001	.53
None	1	186	367	334	17			
1-2	1	42	56	47	3			
3-6	0	22	26	16	4			
7 or more	3	20	43	14	5			
Vomiting in last 30 days to lose weight								
Never	28	1822	2837	1904	114	77.10	.001	.50
None	2	119	266	219	10			
1-2	1	36	53	36	3			
3-6	0	17	30	19	4			
7 or more	4	19	44	13	4			

Table 4 (continued)

Health Risk Behaviors: Comparisons by Age

Survey Item	9-12 n	13-14 n	15-16 n	17-18 n	19+ n	χ^2	ρ	Effect size
Exercise in last 14 days								
None	8	204	352	305	29	78.69	.001	.51
1-2	1	307	542	402	25			
3-5	6	413	683	515	29			
6-8	5	287	480	321	18			
9 or more	15	782	1151	643	34			
Hours of television								
None	2	134	249	210	18	71.96	.001	.49
1 or less	9	579	998	711	28			
2	13	686	1117	764	39			
3-5	5	462	655	406	30			
6 or more	6	138	197	93	18			
Academic self-rating								
One of best	8	393	580	418	22	49.11	.001	.31
Above average	10	664	1078	771	23			
Average	12	765	1265	842	72			
Below average	1	132	186	98	8			
Near bottom	4	53	106	54	8			