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Exercise and dietary habits of high school, health science students

Lorri Castro Aguilera

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EXERCISE AND DIETARY HABITS
OF HIGH SCHOOL, HEALTH SCIENCE STUDENTS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Health Services Administration

by
Lorri Castro Aguilera
June 1995
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OF HIGH SCHOOL, HEALTH SCIENCE STUDENTS

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Approved by:

Dr. Joseph Lovett, Chair, Health Sciences

Dr. Dorothy Chen, Foods and Nutrition

Dr. Richard Eberst, Health Sciences
ABSTRACT

The purpose of this research was to conduct a quasi-experimental study on high-school, health science students regarding their exercise and dietary habits to compare this sample with the 1990 National YRBS data.

The researcher administered a modified version of the 1990 YRBS questionnaire to a sample of 67 San Bernardino High School, health science students. The health behavior questions were specifically related to exercise and dietary habits. The results were then compared with the 1990 National data of the Center for Disease Control's (CDC), Youth Risk Behavior Survey (YRBS).

When compared with the 1990 National YRBS study, the 67 San Bernardino High School, health science students consumed more fruits and vegetables. The San Bernardino males consumed 30% more with the San Bernardino females consuming 32% more than the National average. The San Bernardino males consumed 3% more high fat foods than the National average, but the females consumed 24% less. San Bernardino students also exercised for longer periods of time than the National average. There was a 25% difference in the males and a 7% difference in the females.
It is recommended that health education efforts be directed at encouraging high school students to participate in physical fitness activities they enjoy, and participate for longer periods at each session. It is also recommended that school snack bar and vending machine choices be substituted with more fruits and vegetables and with fewer high fat choices. This may increase the fruit and vegetable consumption and decrease the high fat consumption of high school students.
# TABLE OF CONTENTS

ABSTRACT ........................................................................................................ iii
LIST OF TABLES ............................................................................................... vi
LIST OF FIGURES ............................................................................................. vii
I. THE RESEARCH PROBLEM ......................................................................... 1
II. REVIEW OF RELEVANT RESEARCH AND THEORY .............................. 3
III. PROCEDURE/METHODOLOGY ................................................................. 15
IV. RESULTS .................................................................................................... 18
Demographic Statistics ............................................................................... 18
Participation in School Physical Education .............................................. 18
Body Weight Perceptions ........................................................................ 24
Consumption of Fruits and Vegetables .................................................... 28
Consumption of Foods Typically High in Fat ........................................ 30
Vigorous Physical Activity ................................................................. 33
V. DISCUSSION ................................................................................................ 37
Conclusions .............................................................................................. 41
VI. RECOMMENDATIONS .............................................................................. 44
APPENDIX A: SURVEY INSTRUMENT ......................................................... 46
APPENDIX B: YOUTH RISK BEHAVIOR SURVEY, 1990 ....................... 53
APPENDIX C: LETTER TO DR. MICHAEL CARTMAN ............................... 73
APPENDIX D: LETTER TO MR. JIM STOCKARD ....................................... 74
BIBLIOGRAPHY ............................................................................................. 75
LIST OF TABLES

Table 1. Percentage of high school students attending physical education classes by gender and grade of student- United States, Youth Risk Behavior Survey, 1990..........................................20

Table 2. Percentage of high school students attending physical education classes by gender and grade of student, San Bernardino, 1994.....................20

Table 3. Percentage of high school students who exercised >20 minutes during physical education classes, by gender and grade of student- United States, Youth Risk Behavior Survey........................................23

Table 4. Body-weight perceptions of high school students by race/ethnicity and gender-United States, Youth Risk Behavior Survey, 1990.................................25

Table 5. Body-weight perceptions of high school students by race/ethnicity and gender, San Bernardino, 1994...25

Table 6. Percentage of high school students who consumed five or more servings of fruits and vegetables and no more than two servings of foods typically high in fat content the day preceding the survey, by sex and race/ethnicity-United States, Youth Risk Behavior Survey, 1990.. .........................32

Table 7. Percentage of high school students who consumed five or more servings of fruits and vegetables and no more than two servings of foods typically high in fat content the day preceding the survey, by sex and race/ethnicity, San Bernardino, 1994......32

Table 8. Summary of 1990 National YRBS data versus 1994 San Bernardino data.................................35
LIST OF FIGURES

Figure 1. Percentage of high school students attending physical education classes by ethnicity. San Bernardino, 1994........................................21

Figure 2. Percentage of high school students who exercised >20 minutes during physical education classes, by gender and ethnicity. San Bernardino, 1994.......23

Figure 3. Percentage of high school students who did something during the last 7 days to lose weight or keep from gaining weight. San Bernardino, 1994..27
RESEARCH PROBLEM

The purpose of this research was to study the health behaviors of health science, high school students. Inadequate physical activity and unhealthy dietary patterns (particularly diets high in fat and low in fruits, vegetables, and grains) established during youth may extend into adulthood and may increase risk for chronic diseases, such as coronary heart disease and cancer. (MMWR, 1992)

On the other hand, vigorous physical activity can improve the health of both adults and children. (MMWR, 1992) Among adults, regular physical activity can reduce the risk for chronic diseases and lower all-cause death rates. Among children, regular physical activity can reduce chronic disease risk factors such as obesity, elevated cholesterol, and hypertension. Physical activity patterns established during childhood may extend into adulthood. (MMWR, 1992).

In the United States, approximately 35 percent of all cancer deaths are associated with diet. (MMWR, 1992) Because dietary patterns established during youth may extend into adulthood and may increase the risk of cancer and other chronic diseases, we should monitor and address these patterns among youth. (Healthy People 2000, 1990)

Considerable research has established that a relationship exists between demographics and physical health
complaints. Nevertheless, very little is known about the correlation between demographics and actual health behavior.

Although they believe that demographic influences were strong, "empirical findings are decidedly mixed and rest largely on uni-variate, adult-focused studies." In some research, "demographic variables such as socioeconomic status (SES), ethnicity, gender and age have emerged as pair-wise correlates of isolated adult health practices." (Terre, et al. 1992).

This research compares the findings of the Centers for Disease Control (CDC), Division of Adolescent and School Health's (DASH), Youth Risk Behavior Survey (YRBS), by administering the questions related to exercise and dietary habits to local health science students. These students attended San Bernardino High School in San Bernardino, California.

The national school-based YRBS is a component of the Youth Risk Behavior Surveillance System (YRBSS), which periodically measures the prevalence of priority health risk behaviors among youth through comparable national, state and local surveys.

The purpose of this research was to conduct a quasi-experimental study with high school, health science students regarding their exercise and dietary habits.
REVIEW OF RELEVANT RESEARCH AND THEORY

Several literature studies were helpful in pursuing the practices, beliefs, knowledge and sources of information regarding teenagers and their exercise and eating habits. Langer and Warheit, (1992), stated that "no research has been able to account comprehensively for the development of attitudes, beliefs, and behaviors during adolescence." It is because of this statement that the researcher chose to study this area more intensely. One component of this research was to try to find out if gender and ethnicity in adolescents affects certain exercise and eating habits.

The works of Walker et al. (1982), found that "socioeconomic factors are probably more important than geographic location in determining a youth's health needs and perceptions." The study also suggested that a self-reported survey in schools may be effectively used to assess adolescents' perceptions of their health concerns, problems and needs. The Department of Health and Human Services, Centers for Disease Control and Prevention, established a Youth Risk Behavior Surveillance System (YRBSS) to monitor the prevalence of youth behaviors that most influence health. The survey instrument that the researcher compiled for this study consists of questions established for the YRBSS.
Adler, et al. (1994), stated that "throughout history, they have linked socioeconomic status to health." They define socioeconomic status as a "composite measure that typically incorporates economic status as measured by income; social status as measured by education; and work status as measured by occupation."

In the study by Burdine et al. (1984), they looked at the significance of ethnicity and father's occupation in relation to adolescents health behaviors. The study extensively studied healthful eating habits and regular exercise patterns of adolescents. Anglos and children with professional/managerial fathers were more likely than their respective peers to have at least three meals a day. Males, Blacks, and children of service workers or laborers were more likely to have three or more snacks a day.

In Burdine's study, they significantly related ethnicity to every category of food consumed at home and to all but one at school. Blacks were more likely to report eating sweet foods. Gender, ethnicity, and fathers' occupations were significant predictors of the frequency of eating healthful foods at school. They showed that Anglos ate healthful foods less often than Blacks or Hispanics. Children of fathers with lower status occupations ate healthful foods more often than those of fathers with higher
The purpose of the study conducted by Cohen et al. (1990), "was to describe health beliefs, attitudes and habits of children in preparation for a comprehensive school-based cardiovascular risk reduction program."

Although the population in this study was 95% White, some data was used to compare with the findings of this study. The authors found gender differences in food choices and habits among young people. Their findings reported that girls had better food habits than boys; they snack less frequently; eat fast food less often; and choose better foods. Boys consistently reported higher levels of exercise than girls.

Cohen et al. (1990), found when asked "Do you consider yourself to be underweight, about average weight, or overweight?", girls of all ages reported that they perceived themselves to be overweight significantly more often than did boys. This is consistent with all other studies investigating youth and their body-weight perception.

The works of Tinsley (1992) found that moderate relations between health knowledge, health beliefs and avoidance of risk behaviors were found in a sample of adolescents. "An important modifier of children's health
attitudes and behavior is family." Demographic variables have traditionally been the focus of efforts to describe and predict the impact of families on child health. This author also reported that "the most frequently considered demographic variable as an influence on child health has been social class." With the lack of research on demographics and adolescent health practices, this research explores these relationships.

The work of Heath, et al. (1993), defines physical activity as any bodily movement produced by skeletal muscles that results in energy expenditure. Physical activity includes work-related, recreational, and leisure time activity. The authors found that between thirty-six and sixty percent of children in the United States exhibit by age twelve at least one modifiable risk factor for coronary heart disease. Some risk factors associated with coronary heart disease are known to be traceable from childhood and adolescence into adulthood. Adolescents who perform regular physical activity consistently have a healthier cardiorespiratory fitness profile and greater functional capacity than their more sedentary peers.

Trowbridge and Collins (1993), found that dietary patterns developed during youth may contribute to obesity, unsafe weight-loss practices, and eating disorders. "The
adverse social and psychological consequences of obesity in youth may be as detrimental as long-term physical health problems. Adolescents may practice potentially dangerous weight-control strategies, including low-calorie and unbalanced diets, diet pills, diuretics, laxatives, and self-induced vomiting. Trowbridge and Collins found that females often begin their first reducing diet by age sixteen.

The National Health Objectives for the Year 2000, (Healthy People 2000, 1990) present 226 objectives for reducing preventable disease and disability at each of the major life stages. Nine of the objectives are relevant to dietary behaviors among adolescents, while eight of the objectives are relevant to physical activity among adolescents. Among the risk reduction objectives that concern nutrition, Objective 2.5 calls for reducing the consumption of foods high in fat among people ages two and older; to reduce fat intakes from 36 percent of total calories to 30 percent or less. Objective 2.6 calls for increasing consumption of complex carbohydrates and fiber from 2.5 to five servings per day. Although Objective 2.6 specifies a goal only for adults, they advise the inclusion of fruits, vegetables, and grains in the diet also for everyone older than age two. (Healthy People 2000, 1990)
Objectives' 1.7 and 2.7 recommend physical activity and balanced dietary intake as sound practices to achieve appropriate body weight without impairing growth and development among overweight youth. Additional risk reduction objectives call for increasing adequate calcium intakes among young adults ages twelve through twenty-four, Objective 2.8, and decreasing salt and sodium intakes among all age groups, Objective 2.9. (Healthy People 2000, 1990)

One health status objective that concerns nutrition, calls for reducing the prevalence of obesity, Objective 2.3. Adolescents’ ages twelve through nineteen are singled out as a special target population for this objective. (Healthy People 2000, 1990)

One health status objective that concerns physical activity calls for reducing overweight among adolescents ages twelve through nineteen. Among the risk reduction objectives that concern physical activity, Objectives 1.3, 15.11, and 17.13 call for increasing the proportion of people ages six and older who engage in light to moderate physical activity for at least thirty minutes per day. (Healthy People 2000, 1990)

Objective 1.4 calls for increasing the proportion of people ages 6-17 who engage in vigorous physical activity three or more days per week for twenty or more minutes per
Objective 1.5 calls for decreasing the proportion of people ages six and older who engage in no leisure time physical activity. (Healthy People 2000, 1990)

Additional risk reduction objectives call for increasing the proportion of people ages six and older who regularly perform physical activities that enhance and maintain muscular strength, muscular endurance, and flexibility, Objective 1.6, and increasing the proportion of overweight people ages twelve and older who adopt sound dietary practices combined with regular physical activity to attain appropriate body weight, Objective 1.7. (Healthy People 2000, 1990)

Two service and protection objectives in Healthy People 2000, (U.S. Public Health Service, 1990), call for increasing the proportion of students in first through twelfth grade who participate in daily school physical education, Objective 1.8, and increasing the proportion of physical education class time that students spend being physically active, Objective 1.9. (Healthy People 2000, 1990)

According to Healthy People 2000, dietary practices and physical activity of adolescence are important. This research explores these practices to find out if ethnicity
and gender influence these practices.

The National Adolescent Student Health Survey (NASHS), (1989) provided the first national examination for youth cancer risk, focusing on cigarettes, smokeless tobacco use, and dietary practices. They designed this study to sample eighth and tenth grade high school students. Although this study looked at eighth grade, which was not in the sample population of this study, the researcher was able to use some results of the study.

The NASHS (1989) found that “a large percentage of youth eat fried foods too often. They also eat high fat foods often, such as potato chips, nuts, cookies, cakes, and ice cream. Few students remove all the skin from chicken before eating and 47% eat the high fat chicken skin.”

The NASHS (1989) found that snack consumption is an integral part of adolescents’ eating practices. When asked if they had a snack yesterday, 91% of the students answered yes. No differences existed between males and females and eighth and tenth graders. Almost 39% of students reported eating nutritious snacks such as fruits, vegetables, nuts, juice, milk, yogurt, and cheese. Unfortunately, some snacks, such as cheese, nuts, and milk, also can be high sources of fat. They could substitute the cheese and milk sources with lower fat sources, but the survey did not specify between
low-fat and high-fat choices.

They administered the Minnesota Adolescent Health Survey to 34,196 youths aged twelve to eighteen years during the 1987-1988 school year. The questionnaire covered a broad range of subject areas related to adolescent health. One section of the questionnaire dealt with body image, weight satisfaction, and eating and weight-loss behaviors.

The prevalence of chronic dieting was much higher in girls than in boys (12.1 percent versus 2.1 percent). Among girls, the percentage of chronic dieters was significantly higher in students in grades nine and ten (13.5 percent) and in grades eleven and twelve (14.3 percent) than in grades seven and eight (7.8 percent). Black girls were less likely to diet than white girls, possible reflecting different cultural attitudes toward weight. (Kelder, Perry, Klepp, 1993)

Dissatisfaction with weight and poor body image were more common among adolescents who were chronic dieters than among other adolescents. Chronic dieters were more likely to engage in maladaptive weight-loss techniques, such as self-induced vomiting, use of laxatives, ipecac and diuretics. The study findings showed that chronic dieting is a serious problem associated with considerable risks. (Kelder, Perry, Klepp, 1993)
Miller, Thomson, and Holcomb (1988) administered a survey titled "Health Behavior and Beliefs of Students in Traditional and Health-Oriented High Schools" to ninth and twelfth grade students. The ninth and twelfth graders were selected to represent the initial and final years of high school.

"The Health Behavior and Beliefs of Students in Traditional and Health-Oriented High School's study were undertaken to gain a clearer understanding of high school students' health behavior and beliefs as a function of grade level and type of school attended. The data focused on three research questions: 1) What specific health practices have been incorporated into the health behavior of high school students? 2) What are the beliefs about health promotion and disease prevention held by high school students? 3) What health beliefs and behaviors distinguish students attending a health-oriented high school from students attending a traditional high school?"

The above survey revealed that ninth grade students in each high school were more physically active than twelfth graders. The study also showed that more than 50% of both ninth and twelfth grade students reported that they ate between meals once in a while. The questions relating to dietary practices asked about avoiding high cholesterol
foods, taking vitamin supplements on a daily basis, minimizing sugar intake, eating a balanced diet, controlling weight, avoiding high fat foods, and decreasing salt consumption.

According to Hoerr and Louden (1993), adolescents are the heaviest snackers, "obtaining 25% to 40% of energy from snack foods." This survey studied snack selections from unrefrigerated vending machines. The focus of this research in relation to snacking was not consistent with Hoerr and Louden's study. Therefore, the data was not used in comparison with this study.

Allen, Thombs, Mahoney and Daniel (1993), investigated the factor structure of dieting expectancies in an adolescent population, age ten to eighteen and tested the ability of factors to distinguish among types of dieter, diet pill user, and vomiter groups. They administered their questionnaire to nine-hundred adolescents in health education and home and career skills classes.

The results of Allen, Thombs, Mahoney & Daniels' survey was important to this study to learn the similarities and differences of both groups. Although the Allen, Thombs, Mahoney & Daniels' study included youth from sixth grade to twelfth grade, the mean age of the participants was 14.1 years, or equal to ninth grade.
Most, 70.5%, of the students reported that they exercised regularly, whereas the remainder indicated that they had no regular exercise pattern. The dieter group criteria classified 30.5% of adolescents as non dieters, 59.4% as occasional dieters, and 10.0% as frequent dieters. Regarding other dieting behaviors, 14.7% reported they used a diet pill on at least one occasion in their lifetime, and 13.7% indicated they intentionally vomited to control weight on at least one occasion. The non dieters were predominantly male (62.2%), whereas occasional dieters and frequent dieters were more likely to be female (70.3% and 67.1%, respectively). (Allen, Thombs, Mahoney and Daniel 1993)

Kelder, Perry and Klepp (1993), conducted a Class of 1989 study to test the efficacy of a school-based health promotion program embedded in a larger effort to reduce heart disease in whole communities. The Class of 1989 is an ancillary study of the Minnesota Heart Health Program (MHHP). A particular result that was interesting in this study was that this study found that the hours of exercise per week, declined over time, most noticeably from ninth to twelfth grade.
PROCEDURE/METHODOLOGY

The researcher conducted a quasi-experimental study of a convenience sample among high school, health science students. The purpose of the study was to examine a relationship between four variables; ethnicity, gender, exercise practices, and dietary habits. The researcher describes each of the variables below:

- **Ethnicity** - the race, color, or cultural origin of the student.
- **Gender** - the identification of being male or female.
- **Exercise Practices** - the frequency of physical activity performed at school and out of school.
- **Dietary Habits** - the consumption of food and the types of food typically ate.

For approval, a copy of the survey and a proposal of the purpose of the survey were submitted to Dr. Michael Cartman at the San Bernardino City Unified School District (Appendix C). The survey and proposal were submitted six months before it was approved. The reason for the delay was due to mandatory testing and end of the year procedures at the high schools.

Due to the nature of the survey, Dr. Cartman recommended that the survey be submitted only to the health science teachers within the district. At the time, the only
high schools with health science courses were San Bernardino High and Pacific High School. When the approval was granted from Dr. Cartman, he informed the researcher that at the time, only one health science teacher agreed to take the survey in their classroom. The researcher contacted the teacher immediately and arranged to drop off the surveys (Appendix D).

The researcher dropped off the surveys to the teacher with detailed instructions explaining the procedure. The teacher explained to the students why they were completing the survey, and that the survey was voluntary. There were 125 students in the health science classes. Of the 125 students, sixty-seven students (53.6%) completed the survey. They gave the students fifteen minutes to complete the survey and the teacher then collected all surveys. The teacher put all surveys in a manila envelope and returned the surveys to the researcher. This was the procedure for the completion of sixty-seven surveys.

The researcher took the survey instrument from the National YRBS of 1990, which they gave to the health science students at San Bernardino High School, San Bernardino, California. The instrument had three components: 1) eight questions regarding their physical activity participation; 2) eleven questions regarding their eating habits,
weight-loss strategies and body image; and 3) four questions regarding their personal background. A copy of the survey instrument is enclosed (Appendix A).

Once the surveys were completed, the data was summarized using the computer software program titled "Statistical Programs for the Social Sciences." The researcher then formulated conclusions from the data. The conclusions and comparisons to the National YRBS, 1990 data follow in the next section titled "Survey Results."
SURVEY RESULTS

DEMOGRAPHIC STATISTICS

The ethnic breakdown of students participating in this study were 9.0% White, 26.9% Black, 59.7% Hispanic and 4.5% "other." The ethnic breakdown for all students in San Bernardino City Unified School District is 27.9% White, 18.3% Black and 47.3% Hispanic. The percentage of students who were female were 49.3% while the males were 50.7%. In the San Bernardino City Unified School District, there are 48.9% females and 51.1% males (San Bernardino County, "CBEDS Enrollment: 1994").

The breakdown on the grade of the students in this study were no ninth grade students, 9.0% tenth graders (n=6), 73.1% eleventh graders (n=49), and 17.9% twelfth graders (n=12).

PARTICIPATION IN SCHOOL PHYSICAL EDUCATION (Table 1 and 2)

The YRBS survey of 1990, found that in all students in grades 9-12, 43.5% of males and 52.0% of females reported that they were not enrolled in PE classes. In this survey, the researcher found that 35.2% of males and 48.4% of females were not enrolled in PE classes. There were more students in the YRBS, 1990 survey who were not enrolled in PE classes than the students in this survey.
The YRBS survey of 1990 found that 24.1% of males and 19.0% of females reported that they attended PE classes daily. In this survey, 58.8% of males and 45.4% of females reported that they attended PE classes daily. There is a large difference in the students in this survey versus the students in the YRBS survey. One can only assume that the requirements at San Bernardino High School, the site of this survey, are more stringent than the requirements at the schools used for the YRBS, 1990.

One area that was prominent in the YRBS 1990 survey, was that the daily attendance in PE classes decreased substantially from 9th grade through 12th grade. Due to the fact that this study did not have as wide a range of students as the YRBS, it was not apparent in this survey if the participation decreased as the students got older.
### TABLE 1. Percentage of high school students attending physical education classes by gender and grade of student. United States, Youth Risk Behavior Survey, 1990*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male Not enrolled</th>
<th>Male Attend daily</th>
<th>Female Not enrolled</th>
<th>Female Attend daily</th>
<th>Total Not Enrolled</th>
<th>Total Attend Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td>24.1</td>
<td>38.9</td>
<td>33.1</td>
<td>30.8</td>
<td>28.9</td>
<td>34.4</td>
</tr>
<tr>
<td>10th</td>
<td>36.6</td>
<td>26.7</td>
<td>46.2</td>
<td>24.8</td>
<td>41.4</td>
<td>25.7</td>
</tr>
<tr>
<td>11th</td>
<td>52.4</td>
<td>19.6</td>
<td>62.9</td>
<td>11.1</td>
<td>58.0</td>
<td>15.1</td>
</tr>
<tr>
<td>12th</td>
<td>58.1</td>
<td>13.5</td>
<td>68.2</td>
<td>7.8</td>
<td>62.7</td>
<td>10.9</td>
</tr>
<tr>
<td>Total</td>
<td>43.5</td>
<td>24.1</td>
<td>52.0</td>
<td>19.0</td>
<td>47.8</td>
<td>21.5</td>
</tr>
</tbody>
</table>

Categories do not total 100% because students who reported taking PE less than daily are not included in this table. Unweighted sample size = 11,631. *U.S. Dept. of Health and Human Services, "Chronic Disease and Health Promotion", Reprints from the MMWR, 1990-91 Youth Risk Behavior Surveillance System.

### TABLE 2. Percentage of high school students attending physical education classes by gender and grade of student. San Bernardino, 1994.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male Not enrolled</th>
<th>Male Attend daily</th>
<th>Female Not enrolled</th>
<th>Female Attend daily</th>
<th>Total Not Enrolled</th>
<th>Total Attend Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>10th</td>
<td>0.0</td>
<td>1.5</td>
<td>0.0</td>
<td>5.9</td>
<td>0.0</td>
<td>7.5</td>
</tr>
<tr>
<td>11th</td>
<td>13.4</td>
<td>23.9</td>
<td>16.4</td>
<td>14.9</td>
<td>29.9</td>
<td>38.8</td>
</tr>
<tr>
<td>12th</td>
<td>5.9</td>
<td>4.5</td>
<td>5.9</td>
<td>1.5</td>
<td>11.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Total</td>
<td>35.3</td>
<td>58.8</td>
<td>48.5</td>
<td>45.5</td>
<td>41.8</td>
<td>52.2</td>
</tr>
</tbody>
</table>

The total number of students =67. Those students who reported taking PE between and including 1 day and 4 days are not reported.
When the students were asked, "In an average week when you are in school, on how many days do you go to physical education(PE) classes?", 66.7% of White students said they do not attend P.E., 22.2% of Blacks do not attend, 47.5% of Hispanics do not attend and 33.3% of "other" do not attend. Of those that attend daily, 33.3% are White, 61.1% are Black, 50.0% are Hispanic, and 66.7% are "other. (Figure 1)
According to the C. Everett Koop Foundation (1995), which has recently launched a high profile national campaign, "Shape Up America", "almost half of all high school students (48 percent) are not enrolled in physical education classes; and only one in five attends these classes on a daily basis." This issue relates to point number three "to generate public support for the increased funding and availability of school and community-based physical fitness and nutrition programs" of the C. Everett Koop Foundation's national five point plan.

Of those students who reported attending PE class during the past two weeks on the YRBS survey, about one third (33.2%) reported exercising 20 minutes or more in PE class three to five times per week. (Table 3) Almost one fourth (23.4%) reported that they did not exercise 20 minutes or more during PE class. Females (28.5%) were significantly more likely than males (18.6%) to report not exercising 20 minutes or more during PE class during the past two weeks.
TABLE 3. Percentage of high school students who exercised > 20 minutes during physical education classes,* by gender and grade of student—United States, Youth Risk Behavior Survey, 1990.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 days/week</td>
<td>3-5 days/week</td>
<td>0 days/week</td>
<td>3-5 days/week</td>
<td></td>
<td>0 days/week</td>
</tr>
<tr>
<td>9th</td>
<td>23.7</td>
<td>36.4</td>
<td>28.8</td>
<td>31.2</td>
<td>26.5</td>
<td>33.6</td>
</tr>
<tr>
<td>10th</td>
<td>17.1</td>
<td>38.4</td>
<td>27.1</td>
<td>30.1</td>
<td>21.9</td>
<td>34.4</td>
</tr>
<tr>
<td>11th</td>
<td>14.0</td>
<td>40.0</td>
<td>25.2</td>
<td>29.2</td>
<td>19.2</td>
<td>35.0</td>
</tr>
<tr>
<td>12th</td>
<td>17.9</td>
<td>34.4</td>
<td>34.5</td>
<td>18.8</td>
<td>24.5</td>
<td>28.1</td>
</tr>
<tr>
<td>Total</td>
<td>18.6</td>
<td>37.4</td>
<td>28.5</td>
<td>28.6</td>
<td>23.4</td>
<td>33.2</td>
</tr>
</tbody>
</table>

* Students reported that they attended PE classes during the previous 2 weeks.

1. Unweighted sample size = 5642 students. Categories do not total 100% because students who reported taking PE 1-2 days per week are not included in this table.

*U.S. Dept. of Health and Human Services, "Chronic Disease and Health Promotion", Reprints from the MMWR, 1990-91 Youth Risk Behavior Surveillance System.

FIGURE 2. Percentage of high school students who exercised more than 20 minutes during physical education classes, by gender and ethnicity. San Bernardino, 1994.

Percentage of Students Who Exercise
>20 minutes, San Bernardino, 1994
In this survey, the students were asked, "During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?". Although the highest percentage for both males and females were Hispanic students, 17.9% and 13.4% respectively, the largest number of students who participated in the survey were Hispanic (Figure 2). Besides the Black males (10.4%), all other categories had the same percentage.

**BODY WEIGHT PERCEPTIONS (Tables 4 and 5)**

In the YRBS 1990, male students were significantly more likely to consider themselves either the right weight (68.8%) or underweight (16.5%) than were female students (58.5% and 7.2%) (Table 4).

This survey found that males were 55.9% more likely to consider themselves the right weight and 17.6% underweight. Females were 45.5% and 18.2% respectively. On both the YRBS 1990, and this survey, females were more likely to consider themselves overweight than males.

Overall, female students were significantly more likely to report currently trying to lose weight (43.6% on YRBS 1990, and 48.5% on this survey) than were male students (15.3% on YRBS 1990, and 17.6% on this survey).

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Female underweight</th>
<th>Female right weight</th>
<th>Female overweight</th>
<th>Male underweight</th>
<th>Male right weight</th>
<th>Male overweight</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>5.4</td>
<td>58.0</td>
<td>36.7</td>
<td>15.6</td>
<td>68.6</td>
<td>15.8</td>
</tr>
<tr>
<td>Black</td>
<td>12.7</td>
<td>62.0</td>
<td>25.3</td>
<td>19.8</td>
<td>72.5</td>
<td>7.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>10.5</td>
<td>53.0</td>
<td>36.5</td>
<td>18.5</td>
<td>66.6</td>
<td>14.8</td>
</tr>
<tr>
<td>Total</td>
<td>7.2</td>
<td>58.5</td>
<td>34.3</td>
<td>16.5</td>
<td>68.8</td>
<td>14.7</td>
</tr>
</tbody>
</table>

*U.S. Dept. of Health and Human Services, "Chronic Disease and Health Promotion", Reprints from the MMWR, 1990-91 Youth Risk Behavior Surveillance System.

### TABLE 5. Body-weight perceptions of high school students, by race/ethnicity and gender, San Bernardino, 1994.*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Female underweight</th>
<th>Female right weight</th>
<th>Female overweight</th>
<th>Male underweight</th>
<th>Male right weight</th>
<th>Male overweight</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>50.0</td>
<td>00.0</td>
<td>50.0</td>
<td>25.0</td>
<td>75.0</td>
<td>00.0</td>
</tr>
<tr>
<td>Black</td>
<td>00.0</td>
<td>100.0</td>
<td>00.0</td>
<td>16.6</td>
<td>66.6</td>
<td>16.6</td>
</tr>
<tr>
<td>Hispanic</td>
<td>21.7</td>
<td>39.1</td>
<td>39.1</td>
<td>17.6</td>
<td>47.1</td>
<td>35.3</td>
</tr>
<tr>
<td>Total</td>
<td>18.2</td>
<td>45.5</td>
<td>30.3</td>
<td>17.6</td>
<td>55.9</td>
<td>23.5</td>
</tr>
</tbody>
</table>

* Totals do not equal 100 percent because all "other" ethnicities were excluded.

In the review of the research in the earlier pages, Trowbridge and Collins (1993) stated that adolescents may practice potentially dangerous weight-control strategies; including low-calorie and unbalanced diets, diet pills, diuretics, laxatives, and self-induced vomiting. In this study, it was found that 32.8% of the students reported
trying to lose weight. Of those students, 72.7% were females and 27.3% were males. It is also of interest to note that 22.4% of the students reported trying to stay the same weight; of these students, 53.3% were females and 46.6% were males.

When asked the question "During the past seven days, which one of the following did you do to lose weight or to keep from gaining weight?", 55.4% of the students reported not trying to lose weight or keep from gaining weight (Figure 3). Of those students who did report trying to do something about their weight, 24.6% exercised, only 6.2% dieted, 4.6% dieted and exercised, and 4.6% made themselves vomit and took diet pills.

Of those students who reported not trying to lose or gain weight, 11.1% were White, 27.7% were Black, and 58.3% were Hispanic. Those students who exercised were 50% Black and 50% Hispanic. Those students who dieted were 75% Hispanic and 25% "other." Of those who both dieted and exercised, 33.3% were White, while 66.6% were Hispanic. The students who reported making themselves vomit and took diet pills were 33.3% Black and 66.6% Hispanic.
FIGURE 3. Percentage of high school students who did something during the last 7 days to lose weight or keep from gaining weight. San Bernardino, 1994.

WHAT DID YOU DO TO LOSE WEIGHT?

Legend

- Nothing
- Diet Only
- Vomit & Pills
- Exercise
- Diet & Exer.
CONSUMPTION OF FRUITS AND VEGETABLES (Tables 6 and 7)

In the YRBS 1990, White students were more likely to consume fruits and vegetables than were Hispanic and Black students. In this survey, Hispanic students were slightly more likely to consume fruits and vegetables while Black and White students consumed the same.

Of all the students who reported consuming fruits and vegetables the previous day, male students (15.2%) were significantly more likely than were female students (10.5%) to consume fruits and vegetables according to the YRBS 1990.

According to this study, males (44.8%) were also significantly more likely to consume more fruits and vegetables the previous day than were females (41.5%).

When the students were asked if they ate fruit only once yesterday, 39.4% females and 29.4% males said yes. Of those students who ate fruit only once yesterday, 16.7% were White, 22.2% were Black, 45.0% were Hispanic and there were 0.0% "other". Those students who ate fruit twice are more were 15.2% females and 21.0% males. The ethnic breakdown on these students was 16.7% White, 16.7% Black, 15.0% Hispanic, and 66.7% "other".

Those students who responded to drinking fruit juice only once the previous day were 30.3% females and 26.5% males. Of the students who drank fruit juice once the
previous day, 33.3% were White, 38.9% were Black, 25.0% were Hispanic, and 0.0% were "other". Those students who drank at least 2 or more servings of fruit juice were 33.3% females and 26.5% males. Those students who drank fruit juice twice or more were 16.7% White, 33.3% Black, 27.5% Hispanic, and 66.7% "other".

When the students were asked if they ate green salad only once the previous day, those students that responded yes were 9.1% females and 32.4% males. The breakdown of the students who ate green salad only once yesterday were 33.3% White, 16.7% Black, 20.0% Hispanic, and 33.3% "other". Those students who ate green salad at least twice or more were 3.0% females and 2.9% males. The students who ate green salad at least twice or more the previous day were 0.0% White, 5.6% Black, 2.5% Hispanic, and 0.0% "other".

Those students who ate cooked vegetables only once the previous day were 36.4% females and 23.5% males. These students were 50.0% White, 11.1% Black, 30.0% Hispanic, and 100.0% "other". Those who ate cooked vegetables at least twice or more were 0.0% females and 17.6% males. Of those students who responded to eating cooked vegetables twice or more 0.0% were White, 22.2% were Black, 5.0% were Hispanic and 0.0% were "other".
CONSUMPTION OF FOODS TYPICALLY HIGH IN FAT (Tables 6 and 7)

In the YRBS 1990, Hispanics were more likely to consume foods typically high in fat content than were White and Black students. In these findings, White and Black students consumed the most foods high in fat content with Hispanic students consuming a lot less fatty foods.

In the YRBS 1990, female students (72.9%) were significantly more likely than male students (57.2%) to eat no more than two servings of foods typically high in fat. In these findings, female students (48.5%) were also more likely than male students (59.8%) to eat no more than two servings of foods typically high in fat.

When the students were asked if they ate hamburgers, hot dogs or sausage the previous day, those who responded only once were 50.0% male and 33.3% female. Of those students, 66.7% were White, 38.9% were Black, 40.0% were Hispanic and 33.3% "other". The students who responded that they ate hamburger, hot dogs or sausage twice or more the previous day were 5.9% male and 3.0% female. Their ethnic breakdown was 0.0% White, 11.1% Black, 2.5% Hispanic, and 0.0% "other".

Those students who ate french fries or potato chips once only the previous day were 50.0% male and 51.5% female. These students were 50.0% White, 50.0% Black, 52.5%
Hispanic, and 33.3% "other". When asked if they ate french fries or potato chips twice or more the previous day, 5.9% were males and 3.0% were females. The students who ate french fries or potato chips twice or more the previous day were 0.0% White, 22.2% Black, 7.5% Hispanic and 33.3% "other".

The students were asked if they ate cookies, doughnuts, pie or cake the previous day. Those students who responded yes, once only were 47.1% male and 45.5% female. The ethnic breakdown of these students who responded yes, once only, was 66.7% White, 44.4% Black, 42.5% Hispanic, and 66.7% "other". Those students who responded that they ate cookies, doughnuts, pie or cake twice or more the previous day were 8.8% male and 6.1% female. The breakdown of those students who ate cookies, doughnuts, pie or cake twice or more the previous day were 0.0% White, 16.7% Black, 2.5% Hispanic, and 33.3% "other".
TABLE 6. Percentage of high school students who consumed five or more servings of fruits and vegetables and no more than two servings of foods typically high in fat content the day preceding the survey, by sex and race/ethnicity—United States, Youth Risk Behavior Survey, 1990.

<table>
<thead>
<tr>
<th>Category</th>
<th>Fruits and vegetables</th>
<th>Foods typically high in fat content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>10.5</td>
<td>72.9</td>
</tr>
<tr>
<td>Male</td>
<td>15.2</td>
<td>57.2</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>13.9</td>
<td>64.4</td>
</tr>
<tr>
<td>Black</td>
<td>6.8</td>
<td>61.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9.7</td>
<td>72.0</td>
</tr>
</tbody>
</table>

TABLE 7. Percentage of high school students who consumed five or more servings of fruits and vegetables and no more than two servings of foods typically high in fat content the day preceding the survey, by sex and race/ethnicity, 1994 (Local).

<table>
<thead>
<tr>
<th>Category</th>
<th>Fruits and vegetables</th>
<th>Foods typically high in fat content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>41.5</td>
<td>48.5</td>
</tr>
<tr>
<td>Male</td>
<td>44.8</td>
<td>59.8</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>41.6</td>
<td>61.1</td>
</tr>
<tr>
<td>Black</td>
<td>41.6</td>
<td>61.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>42.5</td>
<td>49.1</td>
</tr>
</tbody>
</table>
In both surveys, fruits and vegetables were described as fruit, fruit juice, green salad and cooked vegetables. Foods typically high in fat were described as hamburger, hot dogs, or sausage; french fries or potato chips; and cookies, doughnuts, pie or cake.

**VIGOROUS PHYSICAL ACTIVITY**

Students were asked how many of the 7 days preceding the survey they had had "at least 20 minutes of hard exercise that made you sweat or breathe heavily." Students who reported having engaged in this kind of exercise 3 or more days per week were classified as vigorously active.

According to the YRBS 1990, vigorous activity was significantly less common among female students (24.8%) than among male students (49.6%). According to these findings, females (54.5%) were also less common to report being vigorously active three or more times per week than males (67.6%).

According to the YRBS 1990, Blacks (29.2%) were less likely to participate in vigorous activity than were Whites (39.3%) and Hispanics (34.5%). In these findings, Blacks were more likely (72.2%) to participate in vigorous physical activity than were Whites (66.7%) and Hispanics (57.5%).
According to the "Status of the 1990 physical fitness and exercise objectives—evidence from NHIS 1985," race/ethnicity and sex-specific differences reported in the YRBS 1990 are consistent with patterns of physical activity observed among adults.

Because the findings in these areas were different than the 1990 report, it is the researcher's assumption that professional black athletes are becoming more popular; which might account for the high number of Black athletes in today's high schools.

<table>
<thead>
<tr>
<th></th>
<th>1990 NATIONAL YRBS SURVEY</th>
<th>1994 SAN BERNARDINO SURVEY</th>
<th>DIFFERENCE (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLE SIZE</td>
<td>11,631</td>
<td>67</td>
<td>11,564</td>
</tr>
<tr>
<td>DEMOGRAPHICS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9TH GRADE</td>
<td>25%</td>
<td>0</td>
<td>25 (-)</td>
</tr>
<tr>
<td>10TH GRADE</td>
<td>25%</td>
<td>9%</td>
<td>16 (-)</td>
</tr>
<tr>
<td>11TH GRADE</td>
<td>23%</td>
<td>73%</td>
<td>50 (+)</td>
</tr>
<tr>
<td>12TH GRADE</td>
<td>26%</td>
<td>18%</td>
<td>8 (-)</td>
</tr>
<tr>
<td>SEX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>51%</td>
<td>51%</td>
<td>0</td>
</tr>
<tr>
<td>FEMALE</td>
<td>49%</td>
<td>49%</td>
<td>0</td>
</tr>
<tr>
<td>RACE/ETHNICITY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHITE</td>
<td>70%</td>
<td>9%</td>
<td>61 (-)</td>
</tr>
<tr>
<td>BLACK</td>
<td>14%</td>
<td>27%</td>
<td>13 (+)</td>
</tr>
<tr>
<td>HISPANIC</td>
<td>9%</td>
<td>60%</td>
<td>51 (+)</td>
</tr>
<tr>
<td>&quot;OTHER&quot;</td>
<td>7%</td>
<td>5%</td>
<td>2 (-)</td>
</tr>
<tr>
<td>PHYSICAL ACTIVITY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOT ENROLLED IN PE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>43%</td>
<td>35%</td>
<td>8 (-)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>52%</td>
<td>49%</td>
<td>3 (-)</td>
</tr>
<tr>
<td>ATTENDED PE DAILY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>24%</td>
<td>59%</td>
<td>35 (+)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>19%</td>
<td>45%</td>
<td>26 (+)</td>
</tr>
<tr>
<td>EXERCISED &gt;20MIN. PER CLASS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>37%</td>
<td>62%</td>
<td>25 (+)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>29%</td>
<td>36%</td>
<td>7 (+)</td>
</tr>
<tr>
<td>DIETARY HABITS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSUMED 5 OR MORE SERVINGS OF FRUITS AND VEGETABLES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>15%</td>
<td>45%</td>
<td>30 (+)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>10%</td>
<td>42%</td>
<td>32 (+)</td>
</tr>
<tr>
<td>CONSUMED NO MORE THAN 2 SERVINGS OF HIGH FAT FOODS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>57%</td>
<td>60%</td>
<td>3 (+)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>73%</td>
<td>49%</td>
<td>24 (-)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SELECTED WEIGHT-MANAGEMENT GOALS &amp; PRACTICES</th>
<th>1990 NATIONAL YRBS SURVEY</th>
<th>1994 SAN BERNARDINO SURVEY</th>
<th>DIFFERENCE (+) -</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GOALS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NOT DOING ANYTHING ABOUT WEIGHT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>44%</td>
<td>15%</td>
<td>29(-)</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td>23%</td>
<td>18%</td>
<td>5(-)</td>
</tr>
<tr>
<td><strong>TRYING TO LOSE WEIGHT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>15%</td>
<td>18%</td>
<td>3(+)*</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td>44%</td>
<td>49%</td>
<td>5(+)</td>
</tr>
<tr>
<td><strong>STAY THE SAME WEIGHT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>15%</td>
<td>21%</td>
<td>6(+)</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td>26%</td>
<td>24%</td>
<td>2(-)</td>
</tr>
<tr>
<td><strong>TRYING TO GAIN WEIGHT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>26%</td>
<td>47%</td>
<td>21(+)</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td>7%</td>
<td>9%</td>
<td>2(+)</td>
</tr>
<tr>
<td><strong>PRACTICES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EXERCISED IN PAST 7 DAYS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>30%</td>
<td>33%</td>
<td>3(+)*</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td>51%</td>
<td>16%</td>
<td>35(-)</td>
</tr>
<tr>
<td><strong>USED DIET PILLS IN PAST 7 DAYS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>2%</td>
<td>3%</td>
<td>1(+)</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td>4%</td>
<td>6%</td>
<td>2(+)</td>
</tr>
<tr>
<td><strong>MADE YOURSELF VOMIT IN PAST 7 DAYS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>1%</td>
<td>3%</td>
<td>2(+)</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td>3%</td>
<td>6%</td>
<td>3(+)</td>
</tr>
<tr>
<td><strong>BODY-WEIGHT PERCEPTIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNDERWEIGHT</strong></td>
<td>17%</td>
<td>18%</td>
<td>1(+)</td>
</tr>
<tr>
<td><strong>RIGHT WEIGHT</strong></td>
<td>69%</td>
<td>56%</td>
<td>13(-)</td>
</tr>
<tr>
<td><strong>OVERWEIGHT</strong></td>
<td>15%</td>
<td>24%</td>
<td>9(+)*</td>
</tr>
<tr>
<td><strong>FEMALE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNDERWEIGHT</strong></td>
<td>7%</td>
<td>18%</td>
<td>11(+)</td>
</tr>
<tr>
<td><strong>RIGHT WEIGHT</strong></td>
<td>59%</td>
<td>46%</td>
<td>13(-)</td>
</tr>
<tr>
<td><strong>OVERWEIGHT</strong></td>
<td>34%</td>
<td>30%</td>
<td>4(-)</td>
</tr>
</tbody>
</table>
DISCUSSION

As the results of these findings are compared to the Youth Risk Behavior Survey of 1990, there are many factors to consider. The one main difference was the sample size. The YRBS 1990 had over 11,000 respondents to their survey; this study had 67. While this is an extremely big difference, the researcher had originally set out to survey the entire high school population in the city of San Bernardino. This would have amounted to a population size of approximately 9,688 (including the alternative and continuation high schools).

In "participation in school physical education", the YRBS survey of 1990 found that in all students in grades 9-12, 43.5% of males and 52.0% of females reported that they were not enrolled in PE classes. In this survey, 35.2% of males and 48.4% of females were not enrolled in PE classes. The YRBS survey of 1990 found that 24.1% of males and 19.0% of females reported that they attended PE classes daily. In this survey, 58.8% of males and 45.4% of females reported that they attended PE classes daily.

One area that was prominent in the YRBS 1990 survey, was that the daily attendance in PE classes decreased substantially from 9th grade through 12th grade. Due to the fact that this study did not have as wide a range of
students as the YRBS, it was not apparent in this survey if the participation decreased as the students got older.

In an average week, those students who do not attend physical education classes are 66.7% White, 22.2% Black, 47.5% Hispanic and 33.3% "other". Of those who attend physical education classes daily, 33.3% are White, 61.1% are Black, 50.0% are Hispanic and 66.7% "other".

Of those students who reported attending PE class during the past two weeks on the YRBS survey about one third (33.2%) reported exercising 20 minutes or more in PE class three to five times per week. (Table 3) Almost one fourth (23.4%) reported that they did not exercise 20 minutes or more during PE class. Females (28.5%) were significantly more likely than males (18.6%) to report not exercising 20 minutes or more during PE class during the past two weeks.

In these findings, those students who exercised more than 20 minutes during an average physical education class were predominantly Hispanic. These statistics may be a bit biased since the majority of students who participated in this survey were Hispanic.

When looking at "body weight perceptions" on both surveys, male students were significantly more likely to consider themselves either the right weight or underweight.
Overall, on both surveys, female students were significantly more likely to report currently trying to lose weight than were male students. Of those students who did report trying to do something about their weight, 24.6% exercised, only 6.2% dieted, 4.6% dieted and exercised, and 4.6% made themselves vomit and took diet pills.

Looking at "consumption of fruits and vegetables", it was interesting to note that on the YRBS 1990, White students were more likely to consume fruits and vegetables than were Hispanic and Black students. In this survey, Hispanic students were slightly more likely to consume fruits and vegetables while Black and White students consumed the same.

Of all the students who reported consuming fruits and vegetables the previous day, male students (15.2%) were significantly more likely than were female students (10.5%) to consume fruits and vegetables according to the YRBS 1990.

According to this study, males (44.8%) were also significantly more likely to consume more fruits and vegetables the previous day than were females (41.5%).

When looking at "consumption of foods typically high in fat", in the YRBS 1990, Hispanics were more likely to consume foods typically high in fat content than were White and Black students. In these findings, White and Black
students consumed the most foods high in fat content with Hispanic students consuming a lot less fatty foods.

In the YRBS 1990, female students (72.9%) were significantly more likely than male students (57.2%) to eat no more than two servings of foods typically high in fat. In these findings, female students (48.5%) were also more likely than male students (59.8%) to eat no more than two servings of foods typically high in fat.

When asked if the students participated in at least 20 minutes of hard exercise that made them sweat or breathe heavily for 3 of the last 7 days, according to the YRBS 1990, vigorous activity was significantly less common among female students (24.8%) than among male students (49.6%). According to these findings, females (54.5%) were also less common to report being vigorously active three or more times per week than males (67.6%).

According to the YRBS 1990, Blacks (29.2%) were less likely to participate in vigorous activity than were whites (39.3%) and Hispanics (34.5%). In these findings, Blacks were more likely (72.2%) to participate in vigorous physical activity than were Whites (66.7%) and Hispanics (57.5%).
CONCLUSION

Due to the strong agriculture base in San Bernardino County, the researcher assumed the high school, health science students would consume more fruits and vegetables than the National average. This was confirmed in this study. In the 1990 National YRBS survey, 15% of males and 10% of females consumed five or more servings of fruits and vegetables. In this San Bernardino study, 45% of males and 42% of females consumed five or more servings of fruits and vegetables.

As San Bernardino County ranks among the highest for the prevalence of heart disease, one would assume that the students of San Bernardino County would consume more high fat foods than the National average, as well as exercise less often than the National average.

In relation to consumption of high fat foods, the San Bernardino students were mixed. The male students of San Bernardino consumed slightly more high fat foods than the National average (57% versus 60%). The female students of San Bernardino had a much lower intake of high fat foods than the National average (73% versus 49%).

Of those students who exercised more than twenty minutes per physical education class, San Bernardino students exercised for longer periods of time. The 1990
National YRBS study found that 37% of males exercised more than twenty minutes per class compared to 62% of those males in San Bernardino. There were 29% of the females on the 1990 National YRBS study who exercised more than twenty minutes compared to 36% of the females in San Bernardino.

The researcher concluded that the physical activity habits as well as the dietary habits are drastically changing once students are leaving high school. The school systems may be waiting too late to introduce exercise and dietary concepts to students. School officials may want to look at teaching these concepts in the early years of school so that they become ingrained habits in the students.

We need to be encouraging physical activity throughout the life-span, not just at certain grade levels. There appeared to be a correlation between gender and physical activity in adolescents. Males, in both studies, were significantly more active than females. The relationship between ethnicity and physical activity was mixed. In the YRBS 1990, Blacks were less likely to participate in vigorous activity than were Whites and Hispanics. While the results in this study showed the opposite. Blacks were more likely to participate in vigorous physical activity than Whites and Hispanics. The reasoning behind these differences may warrant additional research.
With the over emphasis on thinness in the media, the researcher assumed that a large percentage of high school students would have a tendency to lose weight. Overall, females are more likely to consider themselves overweight than males. Females are also more likely to report currently trying to lose weight than were male students. Of all the female students who considered themselves overweight, none were Black. The highest percentage of women who considered themselves overweight was White, with Hispanic following close behind. There were no White males who considered themselves overweight. There were more Hispanic males who considered themselves overweight, followed by Blacks.

The low consumption of fruits and vegetables by males and females is of concern. The recommended number of servings of fruits and vegetables is 5-9 servings a day. With only 10.5% of females and 15.2% of males consuming five or more servings of fruits and vegetables, it is apparent that our teenagers are not meeting this requirement. White students were more likely to eat five or more servings of fruit and vegetables than were Hispanic and Blacks.

Females were more likely than males to consume foods typically high in fat content. Of those students who consumed foods typically high in fat, the majority were Hispanic, followed by Whites and Blacks.
Based on these findings, it is believed that there is a correlation among gender, ethnicity, exercise and eating habits. Due to the small sample size, further research is recommended on a larger sample.

RECOMMENDATIONS

Both studies, the 1990 National YRBS and this study, showed that participation in physical education classes decreases from ninth grade to twelfth grade. As health educators and school personnel, one must target the early years of high school to encourage students to participate in physical fitness activities that they enjoy, and thus will continue beyond high school. One should also encourage community sports teams and local recreation centers to promote physical activity.

Current research has stressed the importance of quantity of physical activity time needed to raise one's heart rate and thus benefit from the physical exertion. School personnel, particularly the physical education teachers, must ensure that the physical education activities provided are at least twenty minutes in duration.

As many students express dissatisfaction with their current body weight, school counselors may want to establish self-esteem classes at the high school level. We must teach
young people that there are different body types and the dangers of food disorders.

The National YRBS data has been provided to the American Cancer Society. The results of this study could be shared with the local chapter of the American Cancer Society as well as other agencies, (i.e., American Heart Association, local high schools) to assist in school health education programs.
APPENDIX A

Dear Students,

My name is Lorri Aguilera and I am completing my Master's of Science degree in Health Services Administration at California State University, San Bernardino. In order to complete my research, I would appreciate it if you would fill out this survey and return it to your teacher.

This survey is about health behavior. It has been developed so you can tell us what you do that may affect your health. The information you give will be used to develop better health education programs for young people like yourself.

DO NOT write your name on this survey or the answer sheet. The answers you give will be kept private. No one will know what you write. Answer the questions based on what you really do.

Completing the survey is voluntary. Whether or not you answer the questions will not affect your grade in this class. The questions that ask about your background will only be used to describe the types of students completing this survey. The information will not be used to find out your name. No names will be reported. Place all your answers on the answer sheet. When you are finished, follow the instructions of the person giving you the survey.
INSTRUCTIONS: Read each question carefully. Place a mark on your answer sheet that matches the letter of your answer. CHOOSE THE ONE BEST ANSWER FOR EACH QUESTION.

1) 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 or breathe hard, such as basketball, jogging, fast dancing, swimming, tennis, fast bicycling, or similar aerobic activities?

- a 0 Days
- b 1 Day
- c 2 Days
- d 3 Days
- e 4 Days
- f 5 Days
- g 6 Days
- h 7 Days

2) On how many of the past 7 days did you do stretching exercises, such as toe touching, knee bending, or leg stretching?

- a 0 Days
- b 1 Day
- c 2 Days
- d 3 Days
- e 4 Days
- f 5 Days
- g 6 Days
- h 7 Days

3) On how many of the past 7 days did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weight-lifting?

- a 0 Days
- b 1 Day
- c 2 Days
- d 3 Days
- e 4 Days
- f 5 Days
- g 6 Days
- h 7 Days
4) On how many of the past 7 days did you walk or bicycle for at least 30 minutes at a time? (Include walking or bicycling to or from school.)

   a  0 Days
   b  1 Day
   c  2 Days
   d  3 Days
   e  4 Days
   f  5 Days
   g  6 Days
   h  7 Days

5) In a average week when you are in school, on how many days do you go to physical education (PE) classes?

   a  0 days
   b  1 day
   c  2 days
   d  3 days
   e  4 days
   f  5 days

6) During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?

   a I do not take PE
   b Less than 10 minutes
   c 10 to 20 minutes
   d 21 to 30 minutes
   e More than 30 minutes

7) During the past twelve months, on how many sports teams run by your school did you participate?

   a 0 Teams
   b 1 Team
   c 2 Teams
   d 3 or More Teams
8) During the past twelve months, on how many sports teams run by organizations outside of your school, did you play?
   _____a 0 Teams
   _____b 1 Team
   _____c 2 Teams
   _____d 3 or More Teams

9) Yesterday, did you eat fruit?
   _____a No
   _____b Yes, once only
   _____c Yes, twice or more

10) Yesterday, did you drink fruit juice?
    _____a No
    _____b Yes, once only
    _____c Yes, twice or more

11) Yesterday, did you eat green salad?
    _____a No
    _____b Yes, once only
    _____c Yes, twice or more

12) Yesterday, did you eat cooked vegetables?
    _____a No
    _____b Yes, once only
    _____c Yes, twice or more

13) Yesterday, did you eat hamburger, hot dogs or sausage?
    _____a No
    _____b Yes, once only
    _____c Yes, twice or more
14) Yesterday, did you eat french fries or potato chips?
   ____a No
   ____b Yes, once only
   ____c Yes, twice or more

15) Yesterday, did you eat cookies, doughnuts, pie or cake?
   ____a No
   ____b Yes, once only
   ____c Yes, twice or more

16) How do you think of yourself?
   ____a Very Underweight
   ____b Slightly Underweight
   ____c About the Right Weight
   ____d Slightly Overweight
   ____e Very Overweight

17) Which of the following are you trying to do?
   ____a Lose Weight
   ____b Gain Weight
   ____c Stay the Same Weight
   ____d I am not trying to do anything about my weight.

18) During the past 7 days, which one of the following did you do to lose weight or to keep from gaining weight?
   ____a I did not try to lose weight or keep from gaining weight
   ____b I dieted
   ____c I exercised
   ____d I exercised and dieted
   ____e I used some other method, but I did not exercise or diet
19) During the past 7 days, which one of the following did you do to lose weight or to keep from gaining weight?

   ____a  I did not try to lose weight or keep from gaining weight
   ____b  I made myself vomit
   ____c  I took diet pills
   ____d  I made myself vomit and took diet pills
   ____e  I used some other method, but I did not vomit or take diet pills

20) How do you describe yourself?

   ____a  White-not Hispanic
   ____b  Black-not Hispanic
   ____c  Hispanic
   ____d  Asian or Pacific Islander
   ____e  Native American or Alaskan Native
   ____f  Other__________________

21) How old are you?

   ____a  12 years old or younger
   ____b  13 years old
   ____c  14 years old
   ____d  15 years old
   ____e  16 years old
   ____f  17 years old
   ____g  18 years or older

22) In what grade are you in?

   ____a  9th grade
   ____b  10th grade
   ____c  11th grade
   ____d  12th grade
   ____e  Ungraded or other
23) What is your sex?

Female ______a  Male _____b
APPENDIX B
YOUTH RISK BEHAVIOR SURVEY

INSTRUCTIONS: Read each question carefully. Fill in the circle on your answer sheet that matches the letter of your answer. CHOOSE THE ONE BEST ANSWER FOR EACH QUESTION.

1. How old are you?
   a. 12 years old or younger
   b. 13 years old
   c. 14 years old
   d. 15 years old
   e. 16 years old
   f. 17 years old
   g. 18 years old or older

2. What is your sex?
   a. Female
   b. Male

3. In what grade are you in?
   a. 9th grade
   b. 10th grade
   c. 11th grade
   d. 12th grade
   e. Ungraded or other

4. How do you describe yourself?
   a. White-not Hispanic
   b. Black-not Hispanic
   c. Hispanic
   d. Asian or Pacific Islander
   e. Native American or Alaskan Native
   f. Other
5. Compared to other students in your class, what kind of student would you say you are?

a. One of the best  
b. Far above the middle  
c. A little above the middle  
d. In the middle  
e. A little below the middle  
f. Far below the middle  
g. Near the bottom

6. How often do you wear a seat belt when riding in a car driven by someone else?

a. Never  
b. Rarely  
c. Sometimes  
d. Most of the time  
e. Always

7. During the past 12 months how many times did you ride a motorcycle?

a. 0 times  
b. 1 to 10 times  
c. 11 to 20 times  
d. 21 to 39 times  
e. 40 or more times

8. When you rode a motorcycle during the past 12 months, how often did you wear a helmet?

a. I did not ride a motorcycle during the past 12 months.  
b. Never wore a helmet  
c. Rarely wore a helmet  
d. Sometimes wore a helmet  
e. Most of the time wore a helmet  
f. Always wore a helmet

9. During the past 12 months how many times did you ride a bicycle?

a. 0 times  
b. 1 to 10 times  
c. 11 to 20 times  
d. 21 to 39 times  
e. 40 or more times
10. When you rode a bicycle during the past 12 months, how often did you wear a helmet?
   a. I did not ride a bicycle during the past 12 months.
   b. Never wore a helmet
   c. Rarely wore a helmet
   d. Sometimes wore a helmet
   e. Most of the time wore a helmet
   f. Always wore a helmet

11. During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?
   a. 0 times
   b. 1 time
   c. 2 or 3 times
   d. 4 or 5 times
   e. 6 or more times

12. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?
   a. 0 times
   b. 1 time
   c. 2 or 3 times
   d. 4 to 5 times
   e. 6 or more times

13. During the past 12 months, when you went swimming in places such as a pool, lake or ocean, how often was an adult or a lifeguard watching you?
   a. I did not go swimming during the past 12 months
   b. Never
   c. Rarely
   d. Sometimes
   e. Most of the time
   f. 6 or more times
14. During the past 30 days, how many times were you in a car or other vehicle that exceeded the posted speed limit by 25 miles an hour or more?
   a. 0 times
   b. 1 time
   c. 2 to 3 times
   d. 4 to 5 times
   e. 6 or more times

15. During the past 30 days, on how many days did you carry a weapon such as a gun, knife or club?
   a. 0 days
   b. 1 day
   c. 2 or 3 days
   d. 4 or 5 days
   e. 6 or more days

16. During the past 30 days, what kind of weapon did you carry the most?
   a. I did not carry a weapon during the past 30 days.
   b. A handgun
   c. Other guns, such as a rifle or shotgun
   d. A knife or razor
   e. A club, stick, bat or pipe
   f. Some other weapon

17. During the past 12 months, how many times were you in a physical fight?
   a. 0 times
   b. 1 time
   c. 2 or 3 times
   d. 4 or 5 times
   e. 6 or 7 times
   f. 8 or 9 times
   g. 10 or 11 times
   h. 12 or more times
18. The last time you were in a physical fight, with whom did you fight?
   a. I have never been in a physical fight
   b. A total stranger
   c. A friend or someone I know
   d. A boyfriend, girlfriend, or date
   e. A parent, brother, sister or other family member
   f. Someone not listed
   g. More than one of the persons listed above

19. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?
   a. 0 times
   b. 1 time
   c. 2 or 3 times
   d. 4 or 5 times
   e. 6 or more times

20. Have you ever been a gang member?
   a. Never
   b. I used to be a gang member, but not anymore
   c. I am in a gang right now

21. During the past 12 months, have you been threatened or injured by a gang member?
   a. Never
   b. I have been threatened, but not injured
   c. I have been physically injured by a gang member, but not badly enough
   d. I have been physically injured by a gang member badly enough to be treated by a doctor

Sometimes people feel so depressed and hopeless about the future that they may consider attempting suicide that is, taking some action to end their own life.

22. During the past 12 months, did you ever **seriously** consider attempting suicide?
   a. Yes
   b. No
23. During the past 12 months, did you make a plan about how you would attempt suicide?
   a. Yes
   b. No

24. During the past 12 months, how many times did you actually attempt suicide?
   a. 0 times
   b. 1 time
   c. 2 or 3 times
   d. 4 or 5 times
   e. 6 or more times

25. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or a nurse?
   a. I did not attempt suicide during the past 12 months
   b. Yes
   c. No

The next seven questions ask about food you ate yesterday. Think about all meals and snacks you ate yesterday from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

26. Yesterday, did you eat fruit?
   a. No
   b. Yes, once daily
   c. Yes, twice or more

27. Yesterday, did you drink fruit juices?
   a. No
   b. Yes, once daily
   c. Yes, twice or more
28. Yesterday, did you eat green salad?
   a. No
   b. Yes, once daily
   c. Yes, twice daily

29. Yesterday, did you eat cooked vegetables?
   a. No
   b. Yes, once daily
   c. Yes, twice or more

30. Yesterday, did you eat hamburger, hot dogs, or sausage?
   a. No
   b. Yes, once daily
   c. Yes, twice or more

31. Yesterday, did you eat french fries or potato chips?
   a. No
   b. Yes, once daily
   c. Yes, twice or more

32. Yesterday, did you eat cookies, doughnuts, pie or cake?
   a. No
   b. Yes, once daily
   c. Yes, twice or more

33. How do you think of yourself?
   a. Very underweight
   b. Slightly underweight
   c. About the right weight
   d. Slightly overweight
   e. Very overweight

34. Which of the following are you trying to do?
   a. Lose weight
   b. Gain weight
   c. Stay the same weight
   d. I am not trying to do anything about my weight
35. During the past 7 days, which one of the following did you do to lose weight or to keep from gaining weight?

a. I did not try to lose weight or keep from gaining weight
b. I dieted
c. I exercised
d. I exercised and dieted
e. I used some other method, but I did not exercise or diet

36. During the past 7 days, which one of the following did you do to lose weight or to keep from gaining weight?

a. I did not try to lose weight or keep from gaining weight
b. I made myself vomit
c. I took diet pills
d. I made myself vomit and took diet pills
e. I used some other method, but did not vomit or take diet pills

37. On how many of the past 7 days did you exercise or participate in sports activities that made you sweat and breathe hard, such as basketball, jogging, fast dancing, swimming laps, tennis, fast bicycling or similar aerobic activities?

a. 0 days
b. 1 day
c. 2 days
d. 3 days
e. 4 days
f. 5 days
g. 6 days
h. 7 days
38. On how many of the past 7 days did you do stretching exercises, such as toe touching, knee bending, or leg stretching?
   a. 0 days
   b. 1 day
   c. 2 days
   d. 3 days
   e. 4 days
   f. 5 days
   g. 6 days
   h. 7 days

39. On how many of the past 7 days did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weight lifting?
   a. 0 days
   b. 1 day
   c. 2 days
   d. 3 days
   e. 4 days
   f. 5 days
   g. 6 days
   h. 7 days

40. Yesterday, did you walk or bicycle for at least 30 minutes at a time? (Include walking or bicycling to or from school.)
   a. Yes
   b. No

41. In an average week when you are in school, on how many days do you go to physical education (PE) classes?
   a. 0 days
   b. 1 day
   c. 2 days
   d. 3 days
   e. 4 days
   f. 5 days
42. During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?
   a. I do not take PE
   b. Less than 10 minutes
   c. 10 to 20 minutes
   d. 21 to 30 minutes
   e. More than 30 minutes

43. During the past 12 months, on how many sports teams run by your school, did you play? (Do not include PE classes.)
   a. None
   b. 1 team
   c. 2 teams
   d. 3 or more teams

44. During the past 12 months, on how many sports teams run by organizations outside of your school, did you play?
   a. None
   b. 1 team
   c. 2 teams
   d. 3 or more teams

The next eight questions ask about cigarette smoking.

45. Have you ever tried cigarette smoking, even one or two puffs?
   a. Yes
   b. No

46. Do you think you will try cigarette smoking during the next 12 months?
   a. I have already tried cigarette smoking
   b. Yes, I think I will try cigarette smoking during the next 12 months
   c. No, I think I will not try cigarette smoking during the next 12 months
47. How old were you when you smoked a whole cigarette for the first time?
   a. I have never smoked a full cigarette
   b. Less than 9 years old
   c. 9 or 10 years old
   d. 11 or 12 years old
   e. 13 or 14 years old
   f. 15 or 16 years old
   g. 17 or more years old

48. Have you ever smoked cigarettes regularly, that is, at least one cigarette every day for 30 days?
   a. Yes
   b. No

49. How old were you when you first started smoking cigarettes regularly? (at least one cigarette every day for 30 days)
   a. I have never smoked cigarettes regularly
   b. Less than 9 years old
   c. 9 or 10 years old
   d. 11 or 12 years old
   e. 13 or 14 years old
   f. 15 or 16 years old
   g. 17 or more years old

50. During the past 30 days, on how many days did you smoke cigarettes?
   a. 0 days
   b. 1 or 2 days
   c. 3 to 5 days
   d. 6 to 9 days
   e. 10 to 19 days
   f. 20 to 29 days
   g. All 30 days
51. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

a. I did not smoke cigarettes during the past 30 days
b. Less than 1 cigarette per day
c. 1 cigarette per day
d. 2 to 5 cigarettes per day
e. 6 to 10 cigarettes per day
f. 11 to 20 cigarettes per day
g. More than 20 cigarettes per day

52. During the past 6 months, did you try to quit smoking cigarettes?

a. Yes
b. No

53. During the past 30 days, did you use chewing tobacco, such as Redman, Levi Garrett, or Beechnut, or snuff, such as Skoal, Skoal Bandits, or Copenhagen?

a. No, I did not use chewing tobacco or snuff during the past 30 days
b. Yes, chewing tobacco only
c. Yes, snuff only
d. Yes, both chewing tobacco and snuff

The next four questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

54. How old were you when you had your first drink of alcohol other than a few sips?

a. I have never had a drink of alcohol other than a few sips
b. Less than 9 years old
c. 9 or 10 years old
d. 11 or 12 years old
e. 13 or 14 years old
f. 15 or 16 years old
g. 17 or more years old
55. During your life, on how many days have you had at least one drink of alcohol?
   a. 0 days  
   b. 1 or 2 days  
   c. 3 to 9 days  
   d. 10 to 19 days  
   e. 20 to 39 days  
   f. 40 to 99 days  
   g. 100 or more days

56. During the past 30 days, on how many days did you have at least one drink of alcohol?
   a. 0 days  
   b. 1 or 2 days  
   c. 3 to 5 days  
   d. 6 to 9 days  
   e. 10 to 19 days  
   f. 20 to 29 days  
   g. All 30 days

57. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?
   a. 0 days  
   b. 1 day  
   c. 2 days  
   d. 3 to 5 days  
   e. 6 to 9 days  
   f. 10 to 19 days  
   g. 20 or more days

The next three questions ask about the use of marijuana, which is also called grass or pot.

58. How old were you when you tried marijuana for the first time?
   a. I have never tried marijuana  
   b. Less than 9 years old  
   c. 9 or 10 years old  
   d. 11 or 12 years old  
   e. 13 or 14 years old  
   f. 15 or 16 years old  
   g. 17 or more years old
59. During your life, how many times have you used marijuana?

a. 0 times  
b. 1 or 2 times  
c. 3 to 9 times  
d. 10 to 19 times  
e. 20 to 39 times  
f. 40 to 99 times  
g. 100 or more times  

60. During the past 30 days, how many times did you use marijuana?

a. 0 times  
b. 1 or 2 times  
c. 3 to 9 times  
d. 10 to 19 times  
e. 20 to 39 times  
f. 40 or more times  

61. How old were you when you tried any form of cocaine, including powder, crack, or free base, for the first time?

a. I have never tried cocaine  
b. Less than 9 years old  
c. 9 or 10 years old  
d. 11 or 12 years old  
e. 13 or 14 years old  
f. 15 or 16 years old  
g. 17 or more years old  

62. During your life, how many times have you used any form of cocaine, including powder, crack, or free base?

a. 0 times  
b. 1 or 2 times  
c. 3 to 9 times  
d. 10 to 19 times  
e. 20 to 39 times  
f. 40 or more times
63. During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or free base?
   a. 0 times
   b. 1 or 2 times
   c. 3 to 9 times
   d. 10 to 19 times
   e. 20 to 39 times
   f. 40 or more times

64. During your life, how many times have you used the crack or free base forms of cocaine?
   a. 0 times
   b. 1 or 2 times
   c. 3 to 9 times
   d. 10 to 19 times
   e. 20 to 39 times
   f. 40 or more times

65. During your life, how many times have you used any other type of illegal drug, such as LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills without a doctor's prescription?
   a. 0 times
   b. 1 or 2 times
   c. 3 to 9 times
   d. 10 to 19 times
   e. 20 to 39 times
   f. 40 or more times

66. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?
   a. 0 times
   b. 1 or 2 times
   c. 3 to 9 times
   d. 10 to 19 times
   e. 20 to 39 times
   f. 40 or more times

67. Have you ever shared needles used to inject (shoot up) any drugs?
   a. Yes
   b. No
68. In the last year, have you shared needles used to inject (shoot up) any drugs?
   a. Yes
   b. No

69. Have you ever been taught about AIDS/HIV infection in school?
   a. Yes
   b. No
   c. Not sure

70. Have you ever talked about AIDS/HIV infection with your parents or other adults in your family?
   a. Yes
   b. No
   c. Not sure

You need to understand two related words used in the next section: AIDS and HIV. AIDS stands for acquired Immunodeficiency syndrome. AIDS is caused by the virus HIV. HIV stands for human Immunodeficiency virus.

71. Should students your age be taught about AIDS/HIV infection in school?
   a. Yes
   b. No
   c. Not sure

72. Would you be willing to be in the same class with a student with AIDS/HIV infection?
   a. Yes
   b. No
   c. Not sure

73. Do you know where to get good information about AIDS/HIV infection?
   a. Yes
   b. No
   c. Not sure
74. Can a person get AIDS/HIV infection from being bitten by mosquitos or other insects?
   a. Yes
   b. No
   c. Not sure

75. Can a person get AIDS/HIV infection from donating blood?
   a. Yes
   b. No
   c. Not sure

76. Can a person get AIDS/HIV infection from having a blood test?
   a. Yes
   b. No
   c. Not sure

77. Can a person get AIDS/HIV infection from using public toilets?
   a. Yes
   b. No
   c. Not sure

78. Can a person get AIDS/HIV infection from being in the same class with a student who has AIDS/HIV infection?
   a. Yes
   b. No
   c. Not sure

79. Can a pregnant woman who has the AIDS virus (HIV) infect her unborn baby with the virus?
   a. Yes
   b. No
   c. Not sure
80. Can people reduce their chances of becoming infected with the AIDS virus (HIV) by not having any kind of sexual intercourse (being abstinent)?
   a. Yes
   b. No
   c. Not sure

81. Can people reduce their chances of becoming infected with the AIDS virus (HIV) by using condoms (rubbers) during sexual intercourse?
   a. Yes
   b. No
   c. Not sure

82. Can people reduce their chances of becoming infected with the AIDS virus (HIV) by not having any kind of sexual intercourse with a person who has injected (shot up) drugs?
   a. Yes
   b. No
   c. Not sure

83. Can people reduce their chances of becoming infected with the AIDS virus (HIV) by taking birth control pills?
   a. Yes
   b. No
   c. Not sure

84. Have you ever had sexual intercourse?
   a. Yes
   b. No

85. How old were you when you had sexual intercourse for the first time?
   a. I have never had sexual intercourse
   b. Less than 12 years
   c. 12 years old
   d. 13 years old
   e. 14 years old
   f. 15 years old
   g. 16 years old
   h. 17 or more years old
86. During your life, with how many people have you had sexual intercourse?
   a. I have never had sexual intercourse
   b. 1 person
   c. 2 people
   d. 3 people
   e. 4 people
   f. 5 people
   g. 6 or more people

87. During the **past 3 months**, with how many people did you have sexual intercourse?
   a. I have never had sexual intercourse
   b. I have had sexual intercourse, but not during the past 3 months
   c. 1 person
   d. 2 people
   e. 3 people
   f. 4 people
   g. 5 people
   h. 6 or more people

88. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
   a. I have never had sexual intercourse
   b. Yes
   c. No

89. The **last time** you had sexual intercourse, did you or your partner use a condom?
   a. I have never had sexual intercourse
   b. Yes
   c. No
90. The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy? (Select only one response)
   a. I have never had sexual intercourse
   b. No method was used to prevent pregnancy
   c. Birth control pills
   d. Condoms
   e. Withdrawal
   f. Some other method
   g. Not sure

91. How many times have you been pregnant or gotten someone pregnant?
   a. 0 times
   b. 1 time
   c. 2 or more times
   d. Not sure

92. Have you ever been told by a doctor or nurse that you had a sexually transmitted disease such as genital herpes, genital warts, chlamydia, syphilis, gonorrhea, AIDS, or HIV infection?
   a. Yes
   b. NO
March 29, 1994

San Bernardino City Unified
777 North F Street
San Bernardino, Ca 92410
Attn: Dr. Michael Cartman

Dear Dr. Cartman,

My name is Lorri Aguilera and I am a Master's of Health Administration student at California State University, San Bernardino. I am currently completing the thesis portion of my degree.

As part of my thesis project, I will need to survey approximately 600 high school students. I would prefer to have these students randomly selected by classrooms, but will oblige with your district policy. Due to the nature of the survey, I will need to know if you have obtained previous consent from parents for the students to answer health behavior questions.

I have enclosed a copy of the survey, which is taken directly from the U.S. Department of Health and Human Services Youth Risk Behavior Survey (YRBS). The YRBS is a component of the Youth Risk Behavior Surveillance System, which periodically measures the prevalence of priority health-risk behaviors among youth through comparable national, state and local surveys.

The purpose of the survey is to examine any relationship among four variables; ethnicity, sex, exercise practices and eating habits.

I would appreciate a response by phone or mail regarding the feasibility of completing my project. You may reach me during the day at (909) 387-2173; or you mail information to me at Cooperative Extension, 777 E. Rialto Ave., San Bernardino, Ca 92415-0730.

I appreciate your time and consideration in this matter and look forward to hearing from you.

Sincerely,

Lorri C. Aguilera
October 25, 1994

San Bernardino High School
Attn: Jim Stockard

Dear Mr. Stockard,

I would like to thank you for allowing your students to participate in my health behavior survey. I am currently completing the thesis portion of my Master's of Health Administration degree, and this survey is my final project. This survey has been developed to create better health education programs for young people. It is modeled after the Youth Risk Behavior Survey (YRBS) of 1990-91. The original YRBS was developed by Centers for Disease Control (CDC). It was then modified and administered by the California Department of Education (CDE). My survey specifically looks at the students exercise and eating habits.

The survey should take approximately 10 minutes. If a student chooses not to participate, please return the blank survey. Please make sure the students read the cover letter on their survey. It is very important that they do not put their name on any of the pages.

When your students are finished with the survey, please put all surveys back in the envelopes provided and return them to the school office. I will pick up the surveys on Tuesday, November 1 at 3:00 p.m. If this date or time are not convenient with you, please call me at (909) 387-2173 to arrange another pick-up time.

Thank you again for your time and consideration in this matter.

Sincerely,

Lorri C. Aguilera
BIBLIOGRAPHY


