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# ***VARA***

*Virginia Adolescent Resiliency Assessment*

**Risk and Resilience:  
Positive Youth Development  
In Orange County, Virginia**

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## I. INTRODUCTION

Recent articles on children and teenagers report the all-too-familiar list of problems facing young people today. More people are realizing that no one segment of the community—neither parents nor schools nor religion—can be held solely responsible for the successes or the failures of its youth. Children’s development is shaped by multiple factors working together (Bogenschneider, Small, & Riley, 1990), not just one factor in isolation. For this reason, it is the community’s responsibility to work as a whole to address the needs of young people and to create the kinds of

support, values, and competencies they need to grow up healthy in today’s world.

Researchers have identified factors at different levels within the community (individual, family, friends, school, work, and community) that have the potential to put young people at risk for developing problems (“risk factors”) and those which help to insulate or protect them from problems (“protective factors”).

**FIGURE I-1** depicts the risk and protective factors that occur within several different spheres of teens’ lives.





We were encouraged to find that, when asked “*How honest were you in answering the questions in this survey?*” 92% of students said they were honest on most questions.

1,517 of Orange County 7<sup>th</sup>-12<sup>th</sup> graders participated in the survey. A total of 1,183 surveys were included in the analyses.

### III. CHARACTERISTICS OF ORANGE COUNTY TEENS AND THEIR FAMILIES

The 7<sup>th</sup> through 12<sup>th</sup> graders in Orange County public schools participated in the V.A.R.A. survey. The results of the V.A.R.A. survey presented here are based on the 1,183 of students who completed usable surveys. Overall, 90% of Orange County students who were present the day of survey administration participated. The 22% of the students not participating in the survey were students who were absent the day of the survey, whose parents did not consent to their teens' participation, who for various reasons turned in invalid response sheets, or those who chose not to participate.

Forty-three percent (43%) of all the students responding to the survey were male, and 57% were female. Twelve percent (12%) reported their ethnicity as "*Black or African-American*," 72% as "*White or Anglo or Caucasian*," 6% as "*Mixed race/biracial*," 5% as "*Other*," nearly 2% as "*Hispanic or Latino*," 2% as "*Native American*," and 1% as "*Asian*."

The percentage of Orange County teens responding to the survey is not equally distributed by grade. Twenty percent (20%) are 7<sup>th</sup> graders, 20% are 8<sup>th</sup> graders, 19% are 9<sup>th</sup> graders, 15% are 10<sup>th</sup> graders, 15% are 11<sup>th</sup> graders, and 11% are 12<sup>th</sup> graders.

The youth reported a number of different living situations. Fifty percent (50%) live with their mother and father (biological or adoptive), 22% live with a blended or step-family, 17% live with a single parent, 4% live with a relative, 4% live with mother half of the time and father half of the time, 1% live with a parent and another adult who is a non-relative, 1% live in a group or foster home, and 1% live alone or with friends.

Fifty-five percent (55%) of Orange County teens reported that their parents are **not** divorced or separated. About 6% reported that their parents are going through a divorce or have been divorced or separated within the last two years. Twenty-seven percent (27%) reported that their parents have been divorced for more than two years, while about 12% reported that their parents had never been married.

Seventy-seven percent (77%) of Orange County teens have mothers who are employed outside of the home either full- or part-time. Eighty-one percent (81%) reported having fathers who are employed outside of the home either full-or part-time. Among the teens who reported information about their parents' level of education, 76% reported that their fathers have at least a high school education, and 82% reported that their mothers have at least a high school education; 18% indicated that they did not know their father's education, and 14% did not know their mother's education; 6% reported that their fathers have less than a high school education, and 4% reported that their mothers have less than a high school education.

Most of the Orange County youth taking the survey reported that they receive C's or better on their report cards (93%).

When surveyed about health care issues, 93% of Orange County teens reported that they had an appointment with a doctor within the past year.

## IV. HOW ORANGE COUNTY TEENS SPEND THEIR TIME

Each school day, America's 20 million adolescents decide how they will spend at least forty percent of their waking hours when they are not in school. Those without adult supervision during this time stand a significantly greater chance of becoming involved in substance abuse, sexual activity leading to unwanted pregnancy and sexually transmitted diseases, delinquency, and violence than their peers who are engaged in constructive activities (Carnegie Council on Adolescent Development, 1992). Forty-two percent (42%) of Orange County teens reported that they spend at least 1-2 hours per day at home with no adults present.

### School

- Participation in extracurricular activities during adolescence is linked to higher educational and occupational attainment in adulthood (Larson & Kleiber, 1993). Fifty-three percent (53%) of Orange County students said they "never" participated in school-based extra-curricular activities. About 22% of Orange County students reported participating in extracurricular activities on a daily basis; the remaining 25% participate on a weekly or monthly basis.
- Sixty-three percent (63%) of Orange County students said they study less than an hour a day or not at all. Thirty-seven percent (37%) of students reported studying 1-2 hours or more on a daily basis.

### Family

- Thirty-nine percent (39%) of Orange County students said they "*do things for fun with family members (other than watching television)*" on a daily basis. Twenty-eight percent (28%) said they did this once or twice a week.

### Friends

- Forty-six percent (46%) of Orange County students said they spent at least an hour or more with their friends on a daily basis. Another 29% said they spent time with their friends 1-2 times per week.

### Jobs

- Twenty-one percent (21%) of Orange County teens said they work at a job for pay on a daily basis. Seventeen percent (14%) of Orange County teens say they work at least three hours or more per day.

### Weekday Activities

- About 29% of Orange County students reported participating in "*non-school clubs*" once a month or more. Seventy-one percent (71%) reported that they *never* participate.
- About 38% of Orange County students said they participate in school or community based sports activities for at least an hour or more per day.

## V. PERSONAL SAFETY AND VIOLENCE

**P**ersonal safety and violence are areas of particular concern to many community members. These concerns are valid given that the leading causes of death among adolescents include motor vehicle accidents and violent incidences (Center for Disease Control, 1994; Tolmas, 1998; Dahlber, 1998). Recent reports indicate that the majority of youth violence peaks during the after school hours of 3:00 p.m. to 6:00 p.m. during weekdays and in the evenings on nonschool days (Juvenile Justice, 1999).

### Automotive Safety

A study sponsored by the National Highway Traffic & Safety Administration examined reasons teen passengers choose not to wear seat belts. Reasons given include discomfort and lack of habit. Teens report that parental influence was a better predictor of seat belt use than peer pressure (Davies, Trout & Womack, 1997).

About 75% of Orange County teens said they wear seatbelts "*most of the time*" or "*always*." The vast majority of Orange County students (77%) report never riding in a car driven by someone under the influence of alcohol or other drugs.

### Weapon Carrying

In a 1993 survey, 8% of school-age youth nationwide reported that they had carried a gun during the 30 days preceding the survey. The main reason given for carrying a gun was self-protection (Elliot, Hamburg, & Williams, 1998).

A large majority (88%) of Orange County students reported that they did **not** carry a weapon during the past 30 days. Twelve percent (12%) reported carrying a weapon

of some sort during the past 30 days.

### Violence

Violence has gained recognition as the most important public health and social problem facing the nation today (Tolmas, 1998). Violence refers to the threat or use of physical force with the intention of causing physical injury, damage, or intimidation to another person (Elliot, Hamburg & Williams, 1998). Kingery, McCoy-Simandle and Clayton (1997) report that students perceive violence within the schools as very common. The first annual White House report on school safety, released in 1998, said that although students are less likely to be victims of violence today than in years past, they are more likely to feel unsafe while in their schools. Nationally, the percentage of students reporting the presence of street gangs in their schools increased from 15% to 28% between 1989 and 1995.

Given these findings, we note that 15% of Orange County students report worrying about violence at school "*quite a bit*" or "*very much*" and another 13% reported worrying about gangs in school "*quite a bit*" or "*very much*." When asked specifically about physical fighting, 34% reported being in a physical fight one or more times during the past year.

Fifty-four percent (54%) of Orange County teens reported picking on other kids by calling names, insulting them, or saying mean things about them in the past year; 12% reported being physically abused by an adult caretaker.

Fifteen (15%) of boys report being slapped or hit by a girlfriend and 9% of girls report this behavior from a boyfriend.

## VI. MENTAL HEALTH ISSUES

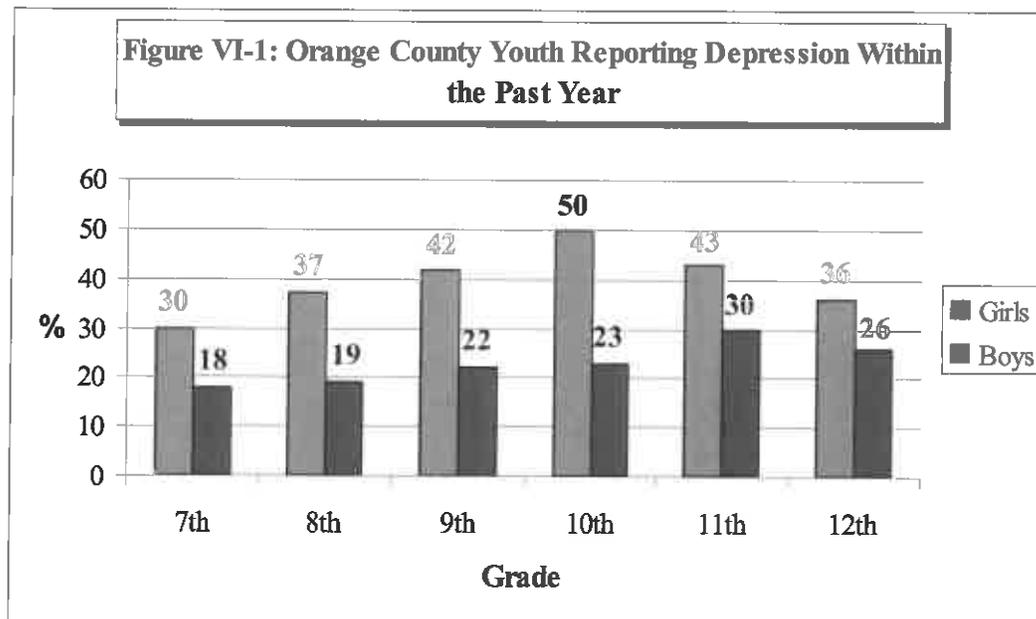
Some Orange County teens say they feel depressed or sad. Thirty-three percent (33%) of Orange County students answered “yes” when asked, “During the past 12 months did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?” Thirty-nine percent (39%) of the girls and 22% of the boys answered “yes” to the same question.

Figure VI-1 shows the difference between boys and girls who responded that they felt depressed. These percentages mean about one out of every three Orange County teens is depressed.

A Virginia Department of Health study (2000) found depression was the leading cause of hospitalization for 10-14 year-

olds and the second leading cause for 15-19 year-olds. Research suggests symptoms of depression are more prevalent for adolescent girls who are experiencing physical changes and school transitions at the same time (Koenig & Gladstone, 1998).

According to other national survey information, about one out of every four teens reports feeling depressed on a regular basis. It is estimated that 70-80% of depressed teens do not receive the treatment they need (Rohde, Lewinsohn, & Seeley, 1991). It is clear many Orange County teens are experiencing feelings associated with depression. For some teens these feelings are symptoms of more serious problems requiring professional help.



## Suicide

Not all youth who experience depressive symptoms are at risk for suicide; nevertheless, it is important to recognize that suicide rates among adolescents have more than tripled since the early 1950's. According to national data, although as many as 30% of teens report having thought about suicide, only 5-10% have actually attempted it (Gans, 1990; Resnick, Bearman, Blum, Bauman, Harris, Jones, Tabor, Beuhring, Sieving, Shew, Ireland, Bearinger & Udry, 1997).

**FIGURE VI-2** displays the percentage of Orange County teens by grade and gender that have made a suicide plan. Overall, 17% of Orange County teens said they had made a plan within the past year about how they would attempt suicide.

As this table illustrates, thinking about suicide is fairly common during the teen years. In fact, according to a recent study conducted by the Virginia Department of Health (2000), suicide was the third leading cause of death for young people. The same study also reported that the suicide rates for Virginia youth ages 10-19 have increased 32% since 1975.

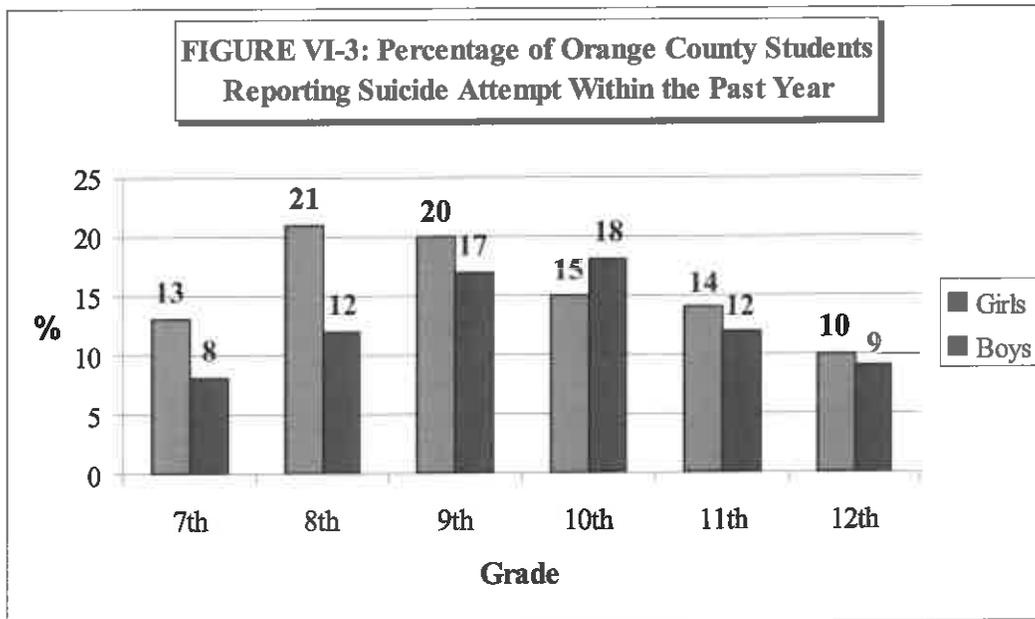
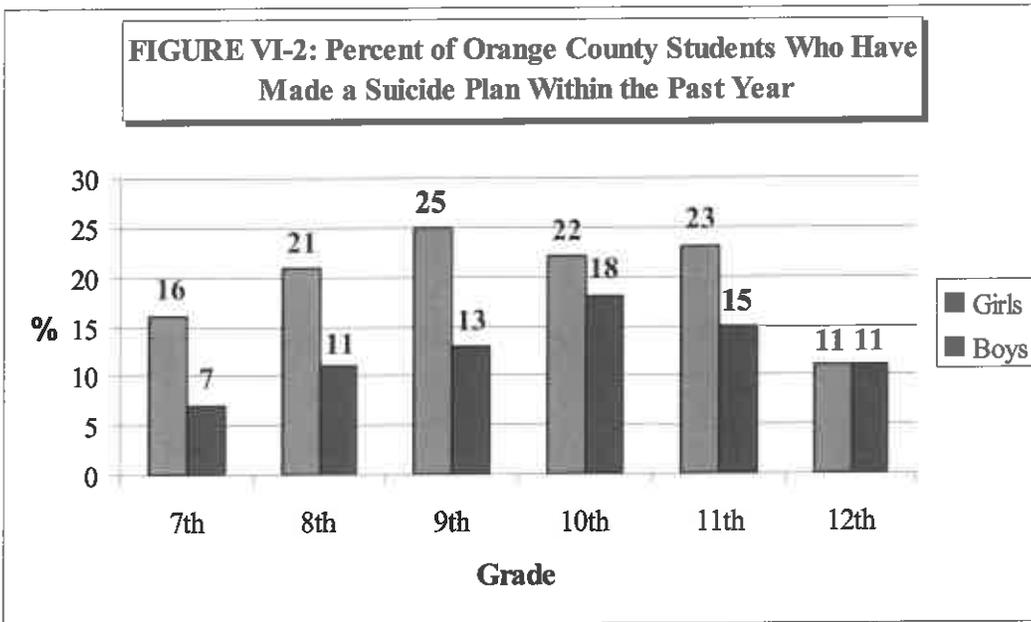
Experts speculate that in adult populations, there are about 6-10 suicide attempts for every suicide actually completed. For teens, there may be between 50-100 attempts for every

completion (Garland & Zigler, 1993). In general, girls are 4-8 times more likely to attempt suicide than boys, but boys who make attempts are more likely to complete suicide (Sliverman & Mans, 1995). This may be because boys tend to use more violent methods such as hanging or shooting while girls are more likely to use slower or less lethal methods such as poison or pills.

When Orange County students were asked how many times in the past year they had actually attempted suicide, 16% of girls and 13% of boys responded that they had attempted suicide in the past year. We don't know what these attempts consisted of or how life threatening they were. Overall, 86% of Orange County teens said they had never attempted to kill themselves.

**FIGURE VI-3** illustrates the percentage of Orange County teens by grade and gender that have attempted suicide within the past year. The frequency of attempts is highest for 8<sup>th</sup> and 9<sup>th</sup> grade boys and girls and 9<sup>th</sup> and 10<sup>th</sup> grade boys.

Taken together, the data show that feelings of depression and sadness as well as the potential for suicide are problems for both girls and boys of Orange County. Knowing and being able to recognize the signs of depression and potential suicide are critical skills for adults working and living with young people.



## Coping Methods

The way in which teens cope with stress is an important indicator of their overall resilience. Orange County teens were asked how often they used a variety of coping strategies when they were facing difficulties or feeling tense. The effectiveness of any one coping strategy depends on the type of stress. Some

distracting strategies are useful in situations where teens have no control over the outcome. Other, more active problem solving strategies may be useful when teens have some control over the situation. **FIGURE VI-5** illustrates the percentage of students who reported various types of coping strategies.

**FIGURE VI-5: Percentage of Orange County Teens Using Various Coping Strategies**

STRATEGY	All Students	Girls	Boys
Talk to one of my friends	24%	30%	15%
Listen to music, sleep, avoid people or watch television	26%	23%	29%
Talk to my parents	9%	10%	8%
Get angry and yell at people or swear	9%	7%	11%
Try to see the good in a difficult situation	6%	6%	7%
Try not thinking about it	6%	5%	7%
Eating, drinking, smoking, using drugs or medication	7%	8%	6%
Exercise	6%	5%	8%
Pray/meditate or talk to my religious leader	5%	5%	6%
Talk to teacher or trusted adult	2%	1%	3%

## Personal Values

The vast majority of Orange County teens (94%-97%) think it is “*somewhat important*” or “*very important*” to finish high school, get good grades and get a good job. Ninety percent (90%) hold the same opinion about continuing their education

past high school. About sixty-three percent (63%) think it is “*somewhat important*” or “*very important*” to be involved with sports, school events or community-based activities.

## VII: ALCOHOL, TOBACCO & DRUG USE AMONG ORANGE COUNTY TEENS

Today's teens are bombarded with mixed messages about using alcohol and other drugs. One minute they hear the simple message "Just say no!" or "Don't drink and drive." The next minute television commercials, magazine ads, or billboards send the message that drinking is "fun," "sexy," "romantic," or "cool." In addition to these messages, adults they know might be using alcohol or pills to relax, to rid themselves of stress, or to socialize.

According to their reports, alcohol is the drug of choice among Orange County teens. Although it is commonly believed that alcohol is less harmful than other drugs, we should remember that more Americans die each year from alcohol and alcohol-related illnesses and accidents than from the use of all illegal drugs combined. In fact, motor vehicle deaths involving alcohol are the leading cause of death for young people ages 15-19.

One Orange County survey item asked, "During the past 30 days, how many times did you drive a car or other vehicle when you were under the influence of alcohol or other drugs?" Ninety percent (90%) of teens reported

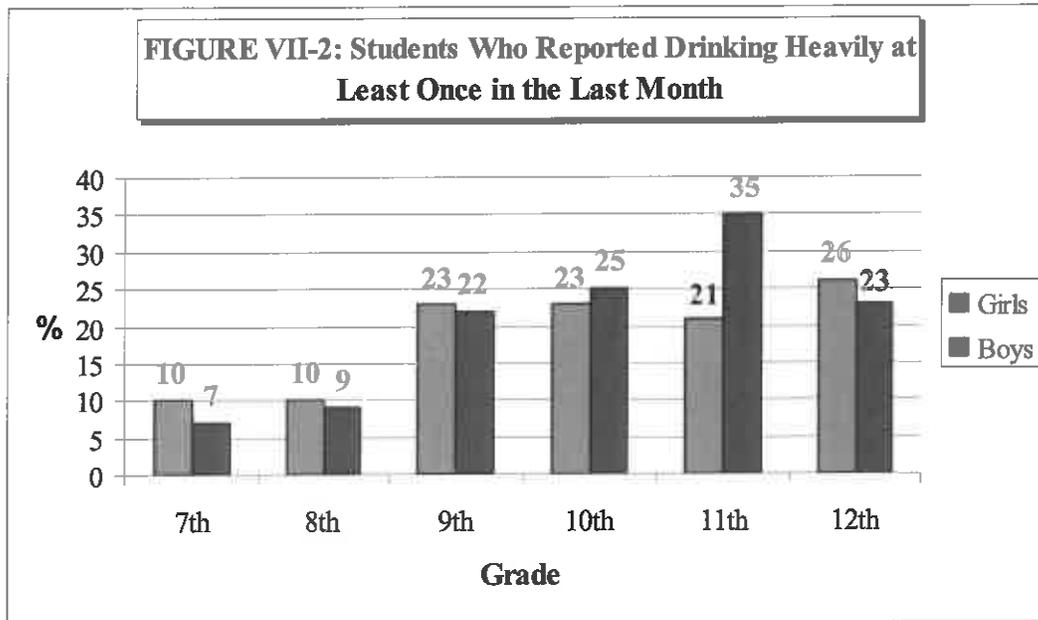
they had never done this activity; 10% said they had done so at least once.

Another question asked "During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who was under the influence of alcohol or other drugs?" Seventy-seven percent (77%) of Orange County students said they had not engaged in this behavior during the past month; 23% said they did this at least once during the past month. Girls and boys appeared to engage in this behavior equally (both 23%). This behavior was reported most frequently by 9<sup>th</sup> and 11<sup>th</sup> grade boys and girls (25% and 27%; 32% and 30% respectively), and 9<sup>th</sup> and 11<sup>th</sup> graders (26% and 30% respectively each). Note that this question does not reveal with whom the student is riding. Students may be riding with other students who are under the influence, or they may be riding with impaired adults.

Availability of alcohol, tobacco and other drugs is an important factor to consider. According to a national study, 9<sup>th</sup> graders, 12<sup>th</sup> graders, and 18-20 year-olds all think it is easy to get alcohol from a sibling, someone else of legal drinking age, or at a party (Waganaar, Toomey, Murray, Short, Wolfson, Jones-Webb, 1996).

FIGURE VII-3 shows the percentage of students by grade and gender that smoke cigarettes or use other tobacco products at least once a month or more. This is important information because individuals

who start smoking during adolescence are more likely to continue smoking into adulthood (Chen & Kandel, 1995). Boys report this behavior more frequently than girls.



**Other Drugs**

Johnston, Bachman & O'Malley (1997) looked at the percentage of 12<sup>th</sup> graders who reported *ever* having used various illegal drugs. They found that 80% reported alcohol use, 65% reported cigarette use, 45% reported marijuana use, 18% reported inhalant use, 16% reported stimulant use, 7% reported cocaine use, and 2% reported heroin use.

In the Orange County, 15% of all students said they had smoked marijuana at least once during the past 30 days, 6% said they had used cocaine during the past 30 days, and 14% said they had used inhalants during the past 30 days. Seven percent (7%) said they had used steroids at least once in their lifetime, and 5% said they had used a needle to inject substances.

## VIII. DIET & EXERCISE

According to one national study, between 50% and 70% of teenage girls diet (Gralen, Levine, Smolak, & Murnen, 1990). Data from the 1997 Youth Risk Behavior Survey show that, regardless of ethnic background, teenage girls were more likely to identify themselves as overweight than were males (34% and 22% respectively). In addition, the study found that most female adolescents (60%) were attempting to lose weight, with 46% reporting dieting. In Orange County, 54% of boys and 53% of girls report feeling that their weight is "about right." Girls reported feeling that they were "slightly overweight" slightly more frequently than boys (28% and 23% respectively).

Parents, educators, and others who care for teens need to be aware of body image issues and dieting behavior among teens. Although unhealthy eating and unnecessary dieting may be prevalent among teenagers, the incidence of the two most severe eating disorders, anorexia nervosa and bulimia nervosa, are rather small (Fisher, Golden, Katzman, Kriepe, Rees, Schebendach, Sigman, Ammerman, & Hoberman, 1995). Anorexia and bulimia are far more common in girls than in boys (Steinberg, 1999).

FIGURE VIII-1 shows the weight loss methods of choice for Orange County teens that report dieting.

WEIGHT LOSS BEHAVIOR	Girls	Boys
Exercising	62%	53%
Eating less	48%	27%
Fasting, Use diet pills, powders, or liquids, vomiting or laxative use	18%	11%

### Exercise

Research suggests children and adolescents who develop habits of exercising regularly may continue those habits into adulthood, reducing some health risks (e.g. osteoporosis, obesity, degenerative heart disease, etc.). Physical fitness is also connected with mental health and well being at all ages (The President's Council on Physical Fitness and Sports Report, 1997).

Fifty-seven percent (57%) of Orange County teens reported "exercising or participating in physical activity for at least 20 minutes" three or more days a week. We noted that 46% of those who exercised three times a week or more reported feeling satisfied with their weight or said that they are trying to stay at their current weight.

## **Team Sports**

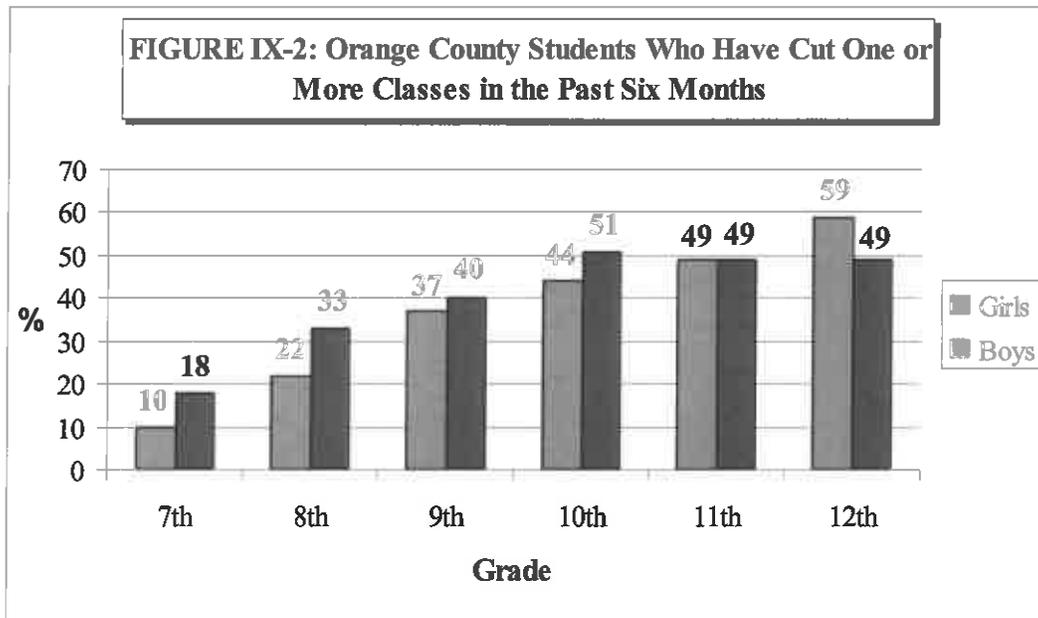
Fifty-six percent (56%) of Orange County teens reported involvement in at least one team sport during the past year. Fifty-four

percent (54%) of girls were involved in sports, and 59% of boys were involved.

**Educational Plans**

Figure IX-2 shows the percentage of students who have cut one or more classes in the past month. Reports of cutting class generally increased in the older teens. Figures IX-3 and IX-4 show Orange County girls' and boys' educational plans after high school graduation. The majority

of teens reported some plans for continued education after high school. Attending a four-year college was by far the most common choice for both girls and boys (63% and 53% respectively). Attending a two-year college was the next most common choice for girls (13%) and boys (10%).



**FIGURE IX-5: Orange County Teens' Perceptions of Friends' Values**

Among the friends that you spend time with, how important is it to:	Not at all important	Not really important	Somewhat important	Very important
Finish high school	4%	5%	21%	70%
Continue education past high school	6%	8%	38%	48%
Be involved with extracurricular activities	14%	18%	32%	36%
Get a good job	5%	8%	25%	62%

### Friends and Delinquency

We know conformity to peers increases from middle childhood to middle adolescence and peers can be especially influential in situations involving problem behavior (Clasen & Brown, 1985). Whether the teens' peers encourage or discourage misconduct varies according to what "crowd" the student belongs (Clasen & Brown, 1985).

With this research in mind, we asked Orange County teens several questions about peer pressure. We found 33% of Orange County teens said they were at

least "*sometimes*" afraid of doing things their friends wouldn't approve of, but 80% said they "*rarely*" or "*never*" let their friends talk them into doing things they really don't want to do.

**FIGURE IX-6** illustrates Orange County teens' reports of their own delinquent actions separately by gender. As you can see, boys usually reported greater participation in delinquent activities than did girls.

day. Most teens (71%) said they **never** participated in non-school related clubs, such as 4-H or Scouts. In addition, 45% of teens reported doing volunteer work more than once a month.

Only 10% of Orange County teens said they strongly agreed there were enough fun things in the community for kids their age, and another 21% said they agreed somewhat. This means the majority of

teens (69%) feel there are **not** enough fun activities for them in the community. Dissatisfaction with availability of activities seems to increase with age: 32% of 7<sup>th</sup> graders and 57% of 12<sup>th</sup> graders said they strongly disagreed. These findings have strong implications for increasing emphasis on or developing appealing and accessible after-school programs for Orange County teens, especially as they increase in grade level, as well as age.

Bates, Dodge, & Meece, 1999, Rodgers, 1999).

We included questions in the survey designed to assess teens' perceptions of how well they were monitored by their parents. Teens were asked to say how often they talked with parents about their plans, if they are required to call home if

they will be late, and how well parents get to know their friends and friends' parents.

**FIGURE X-1** shows the students' perceptions of how parents monitor their behavior in various important aspects of their lives.

My parent(s) know where I am after school.	88%
I am expected to call my parent(s) to let them know if I am going to be late.	86%
When I go out at night, my parent(s) know where I am.	84%
My parent(s) know who my friends are.	73%
My parent(s) monitor my television/computer/internet use.	58%
My parent(s) know the parents of my friends.	52%

Orange County teens generally seem to perceive a great deal of monitoring by their parents, and we know this can provide a powerful protective factor in the lives of these teens. With regard to knowing their friends' parents, television, and especially Internet use, Orange County teens seem to perceive less monitoring. Considering the availability of inappropriate information on the Internet, it may be important for Orange County parents to pay closer attention to teens' computer use. One option for parents may be choosing to keep computers in family rooms rather than in teens' bedrooms.

We must emphasize that, in this case, teens' perceptions may be more important than their parents' actual behavior. It is also significant to point out that effective parental monitoring of teenagers does not mean that parents must always be present, nor does it suggest that parents should be overly intrusive in the lives of their kids. Rather, parental monitoring implies that

parents show an active interest in the lives of their children, enforce family rules, and raise issues that concern them.

### Perception of Parental Values

When asked about their perception of parental values related to drinking alcohol underage, 80% of Orange County students "strongly agreed" or "agreed" that "My parents think it is wrong for teens to drink alcohol before they are 21 years old". When asked about their perception of parental values related to premarital sex, 75% of Orange County students "strongly agreed" or "agreed" that "my parents think it is wrong for teens my age to have sexual intercourse if they are not married". The vast majority of Orange County teens (92%-97%) believe their parents think it is "somewhat important" or "very important" to finish high school, get good grades, go to college and get a good job; 67% reported that parents think it is "somewhat important" or "very important" to be involved with sports, school events, or community or school-based activities.

### Contraception

In national studies of late adolescent boys, 40% reported using either no contraception or an ineffective method (e.g. withdrawing before ejaculating) the first time they had sex (Miller & Moore, 1990). Nearly one-sixth of all 15- to 19-year-old sexually active girls reported never having used any contraception at all (Chilman, 1990; Hayes, 1987).

One of every four sexually active teens in the U.S. contracts a sexually transmitted disease before high school graduation (Gans, 1990). Early, unplanned pregnancy or parenthood affects the future life prospects of the young parents, and it can also put the baby at higher risk for both short and long-term health and social problems.

Of those Orange County teens that are currently sexually active (defined as having had sex within the past 30 days), 43% said they did not use a condom during their last sexual encounter; 42% said they “never” or “rarely” use other forms of birth control.

### Communication

Research on parent-teen communication about sexuality has produced mixed results. Some studies have found that young people who talk with their parents about sexuality and their values regarding it are less likely to be sexually active, especially if the values parents convey discourage early sexual activity. Most people would agree that open parent-teen communication about sexuality is desirable. In fact, most parents and teens say that they would like to talk more openly and more frequently about sexuality. Do most Orange County teens talk to their parents about sexuality? About 40% of teens in this community

said they talked to their parents at least some about sex and/or birth control during the past year. Sixty percent (60%) said these conversations “rarely” or “never” occurred.

### Perceptions Of The Reasons Teens Do And Do Not Engage In Sexual Intercourse

What teens think about why their peers abstain from or participate in sexual intercourse can give us insight into understanding why some teens are sexually active while others are not. Moreover, if we wish to design programs that prevent or delay the occurrence of sexual intercourse or help teens make responsible decisions about sex, it is critical for us to understand the consequences and benefits teens associate with it.

FIGURES XI-2 and XI-3 list the perceptions Orange County teens have about why teens do and do not have sexual intercourse. Teens were asked to pick one statement from nine choices that best describes what they thought was the “one main reason why teens do not have sexual intercourse.” Teens were also asked to describe the “one main reason why teens do have sexual intercourse.” It is important to emphasize that teens were only allowed to pick one choice from the statements presented in the figure. These responses are separated by those teens who are sexually active and those who are not.

In Orange County, the responses from sexually active and sexually non-active teens were similar. Fear of pregnancy was the most commonly cited reason both sexually active and non-sexually active teens for not engaging in sex. A large percentage of both ranked curiosity and pleasure as the main reason why teens engage in sexual intercourse.

## XII. SURVEY DEVELOPMENT, RELIABILITY, AND VALIDITY

Many people wonder how accurate the V.A.R.A. survey is. There is no simple scale of accuracy, and no way to say for sure how “true” the information we gathered is. Instead, we will define *reliability* and *validity* (research measures of accuracy), describe what we did to make the data as accurate as possible, and explain the strengths and weaknesses the survey process we used in Orange County.

When people ask about a survey, “Does it measure what we intended to measure?” they are asking whether or not the survey is *valid*. In other words, if we ask “Are you happy?” does that accurately measure happiness? We consider whether the question is specific, easy to understand, and whether what is described is easily quantifiable. *Reliability* refers to the consistency of a survey. If a survey is reliable, the same students will give similar responses to the same questions if tested multiple times. A study must be reliable to be valid. Whenever possible, we used well-established questions that had previously demonstrated reliability and validity in the V.A.R.A. survey.

With any self-report survey, there is the possibility that a small percentage of those surveyed will not take the survey seriously. This usually accounts for less than one to two percent of the total. Fortunately, most teenagers who do not take the survey seriously are not subtle with their responses. They typically exaggerate their responses so much that their surveys are easy to identify and remove.

All self-report surveys are susceptible to some bias in reporting. For instance, there

might be a slight under reporting of socially undesirable behaviors (e.g. illegal drug use) and a slight over reporting of behaviors that participants perceive as socially desirable (e.g. sexual activity for early adolescent males) (Harrel, 1985). Studies indicate that such under reporting is small—ranging from two to ten percent—depending on how the survey is administered and how the questions are asked.

In addition, because our memories are imperfect, there is a tendency for people to be somewhat less accurate on more specific questions. For example, most students can accurately remember if they have ever smoked marijuana. However, they may answer less accurately to a more specific question, such as, “How many times have you smoked marijuana in the past year?” This is mostly a result of problems in remembering details, rather than a lack of honesty.

Many people think that the survey questions alone are what make the answers reliable and valid. However, the survey conditions—how it is administered—are critical to determining the accuracy of the data. We address the key components of survey conditions by making sure students know their answers are confidential and anonymous (this helps ensure honesty), and by making sure that those who administer the survey to the students are knowledgeable about it, believe it is important, and let the students know the survey’s importance and that the information will be used to benefit Orange County teens (this helps ensure it is taken seriously) (Nurco, 1985).

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