

**CHOOSING THE BEST  
ABSTINENCE CURRICULUM**

**Evaluation Studies  
Abstinence Evaluation Report 1994-95**

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**Submitted by:**  
**Project Reality**  
A division of  
**Committee on the Status of Women**

**Contract No. 9947815036**  
**Illinois Department of Public Aid**  
**Division of Family Support Services**

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## INTRODUCTION

**Choosing the Best** is a school-based program intended to change attitudes of teenagers regarding their sexuality. Specifically, these programs attempt to teach the health benefits of delaying or abstaining from sexual activity during the teenage years. The goals of these programs are both to reduce teenage pregnancy and the health risks that accompany sexual activity.

Teenage sexual activity, and the pregnancies that sometimes result, are major health and economic concerns. It has been estimated that one in every 10 teenage girls will become pregnant, resulting in nearly 400,000 births each year. The United States spends billions of dollars on these children of teen mothers. The amount spent each year is so staggering that the current administration has proposed a \$400 million dollar initiative to prevent teen pregnancy as a part of welfare reform.

However, sex education programs that focus on pregnancy prevention and “Safer Sex” usually fail to address the fact that, for adolescents, it may not be possible to make sex safer. For instance, HPV, the virus that causes genital warts, is up to 40 times more prevalent than HIV. HPV is many times more contagious than HIV. HPV is responsible for more than four times more deaths among American women each year than HIV, and the condom offers no protection against HPV. And yet, most adults, let alone teens, have never heard of HPV. Of course, HPV and HIV do share something in common – they are both incurable.

Evaluations of school-based health programs, while seemingly simple, are actually quite complex. It is not sufficient to study averages of students before an intervention and compare these with averages following. Instead, it is necessary to match students’ pre-tests with post-test surveys. Further, it is not sufficient to demonstrate average changes in attitudes from before or after intervention. Instead, for teenage sexuality interventions, it is important to demonstrate that these programs are effective for those adolescents at risk for the health problems associated with sexual practices.

For this reason, the present evaluation focuses on the following three goals:

1. Identification of factors associated with greater sexual activity during adolescence.
2. Validation of these factors in their relationship to attitudes about sex.
3. Evaluation of the differential effectiveness of **Choosing the Best** with teenagers in each of these risk groups.

Abstinence programs have been criticized for simply reinforcing abstinence among teenagers who are virgins and not effectively convincing sexually active teenagers to delay further sexual activity. By using risk group analyses, the present evaluation studies

whether the **Choosing the Best** program effectively reaches those teenagers likely to benefit most from intervention; that is, those at greatest risk for sexual activity and its associated health problems.

## **SAMPLE**

Last year Project Reality, funded by Illinois Public Aid, offered the **Choosing the Best** program in 49 schools, reaching more than 6,000 adolescents. Each participant completed attitude surveys before and after the program. These surveys were then matched so as to study the change in attitudes for individual students. There were 3,840 students with matched pre-tests and post-tests. The sample was evenly divided with regard to gender, was 73 percent white, 12 percent black, 9 percent Hispanic, 2 percent Asian, 2 percent American Indian, and 2 percent other. Their average age was 14.3.

## **METHODS**

### Risk Factors

The first step in the analysis was to identify certain sub-groups that may be categorized as being more at risk than others. A logistic regression was performed to determine if there were certain variables from the pre-test that could predict whether an individual was a virgin, or not, prior to the program. Several variables turned up that appeared to be risk factors for being sexually active. For the present analysis, only variables that increase risk by at least a factor of 2 will be considered.

### Attitude Measurement

The next step was to decide how to measure the change in individuals resulting from the program. There were 27 questions about attitudes toward abstinence and consequences of sexual activity that were asked on both the pre-test and the post-test. The first step in the analysis was to determine whether these 27 items were measuring one or more underlying constructs or dimensions of attitude.

A principal components factor analysis was performed on the 27 items taken from the pre-test, and the results strongly indicated that the questions were all measuring a single underlying construct.

Next, the 27 items were submitted to a reliability analysis. Nine items that detracted from the overall reliability were removed, resulting in an 18-item scale with a reliability coefficient (alpha) above .9.

These same 18 items from the post-test also formed a very reliable scale with an alpha above .9. This highly reliable 18-item scale gives a much better indication of an individual's attitudes toward abstinence than any individual question. Thus, change in

the scale scores over time is a much more reliable measure of change in attitudes over time. Higher scores on this scale indicate attitudes in line with sexual abstinence or delaying intercourse, while lower scores indicate more permissive attitudes.

As a validity check on this scale, pre-test scores for virgins were compared to pre-test scores for non-virgins. If the scale is really measuring what it is supposed to be measuring, one would expect virgins on average to have higher scores than non-virgins (indicating attitudes more in line with abstinence). From Figure 1, it is seen that as predicted, the virgins did have a higher mean score on the pre-test than did the non-virgins. Thus, this scale seems to have the necessary properties of both high reliability and validity.

## **RESULTS**

### Risk Factors

There were four variables that seemed to identify students at higher (more than double) risk for being sexually active:

- Not having two parents in the home
- Perceived parental approval of teen sex
- Smoking
- Having been drunk

From Figure 2, it can be seen that 25 percent of the students not having two parents in the home have had sex, compared to only 12 percent of students with two parents present. Not having two parents in the home more than doubles the risk of the student having had sex.

When the student believes that their parents approve of teens having sex, they are more than 2.5 times more likely to have had sexual intercourse than students who think their parents would not approve of such activity (Figure 3).

In Figure 4, it is evident that smoking is an even greater risk factor for teen sex. In fact, smokers are more than 4 times more likely to have had sex than non-smokers (29 percent vs. 7 percent).

Yet, the biggest risk factor of all is whether the student has ever been drunk (Figure 5). Those students who have been drunk are more than 5.5 times more likely to have had sex than those students who have never been drunk (39 percent vs. 7 percent).

These four variables help to identify groups of students at significantly higher risk for being sexually active. Not surprisingly, students in these four risk groups enter the program with more permissive attitudes about sex (see Figures 6-9). In each instance, the higher-risk group scored significantly lower (i.e., more permissive) on the scale at pre-test than did the lower-risk group.

### Program Outcome

As was stated above, a common criticism of abstinence-based programs is that they only reach one segment of the population – those who already believe in abstinence. It is often assumed that

teenagers already sexually active will be unaffected by the message, because it does not pertain to them. With that in mind, it is important to see what kinds of changes occur in attitudes toward abstinence from pre-test to post-test. Conventional wisdom might expect that those already sexually active, or those who belong to high-risk groups are the ones least likely to change.

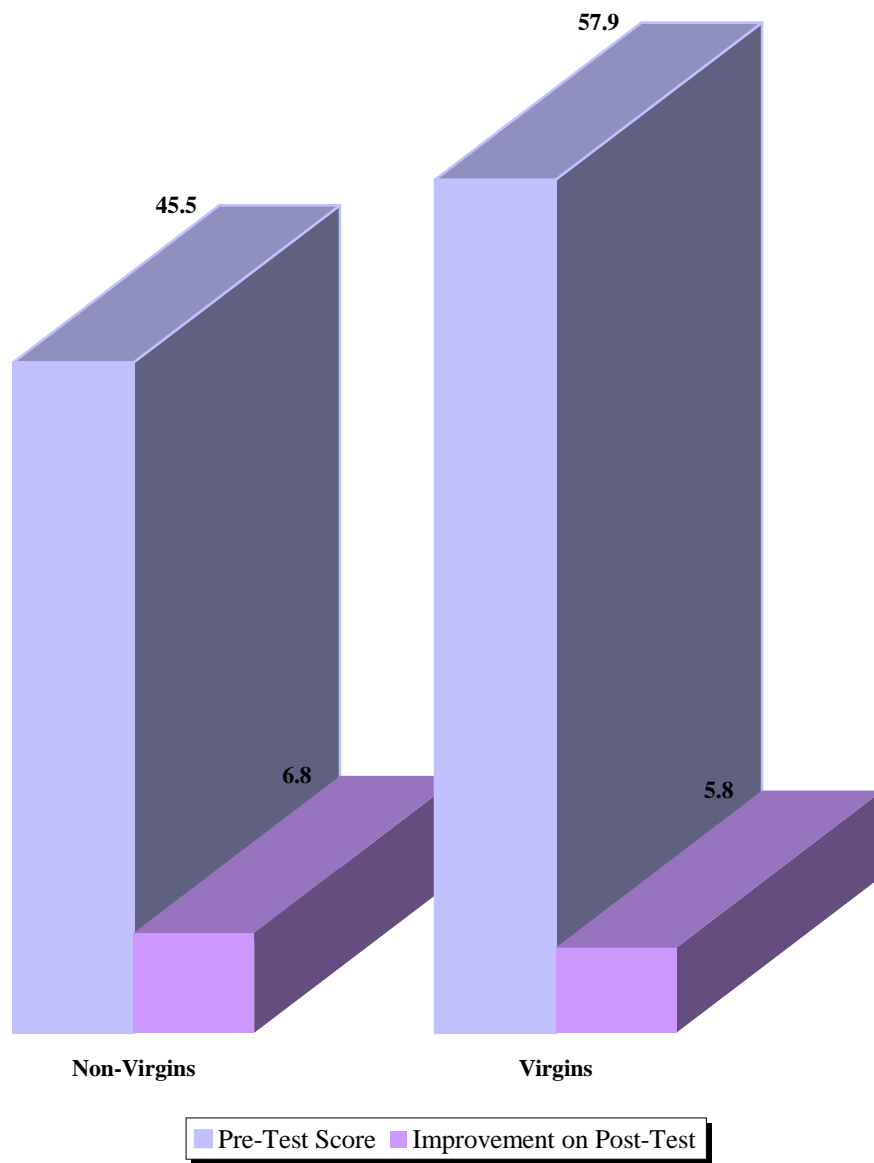
From Figure 10, it can be seen that, contrary to what one may expect, the non-virgins changed even more in their attitudes than did the virgins. This difference in the amount of change is highly statistically significant and reliable. Figures 11-14 show that, for each of the four identified risk factors, members of the high-risk group changed more from pre-test to post-test than members of the low-risk group. Once again, each of these differences was highly statistically significant and reliable.

Overall, more than 75 percent of all students who participated in the program had reliable positive changes toward more abstinent attitudes from pre-test to post-test. Only 15 percent experienced a negative change. This means that students participating in **Choosing the Best** have more than 5 to 1 odds of leaving the program with attitudes more toward sexual restraint than when they entered the program.

## **Attitudinal Assessment\* (Non-Virgins vs. Virgins)**

*Figures 1 and 10*

### Pre-Test and Post-Test Scores



\*Attitude Assessment towards sexual abstinence is based on an 18-item scale, reliability coefficient (alpha) above .9.

# Risk Factors (Non-Virgins vs. Virgins)

Figure 2

Number of Parents Present in the Home

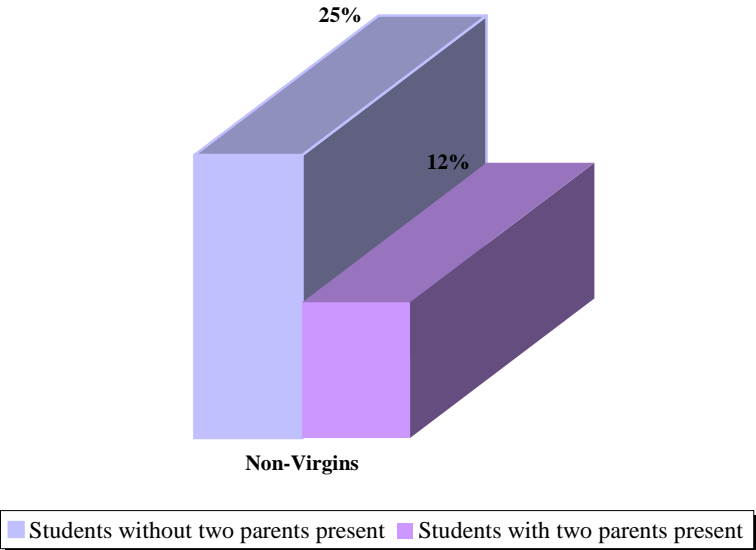
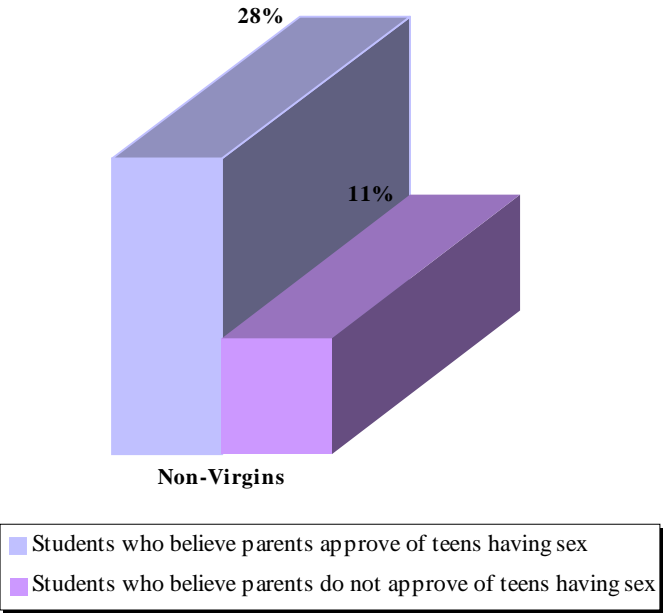


Figure 3

Perception of Parental Approval



# Risk Factors (Non-Virgins vs. Virgins)

Figure 4

Smoking

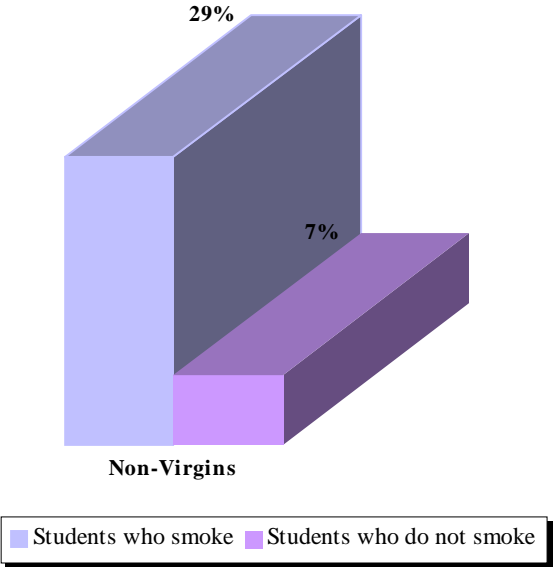
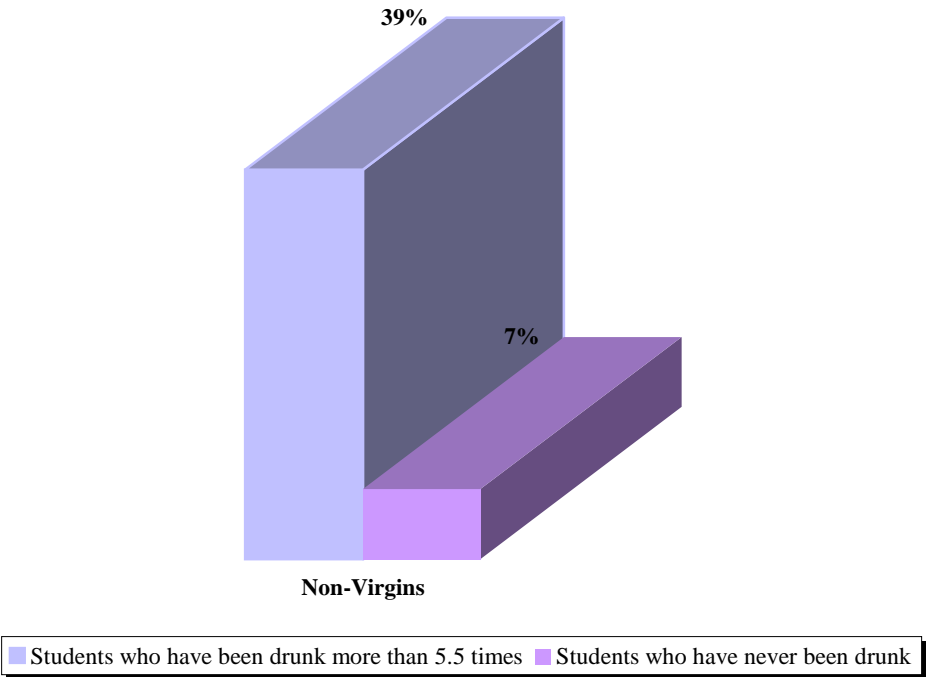


Figure 5

Drinking Experience



## Pre-Test Attitude Assessment\* (High-Risk vs. Low-Risk Students)

The identified “high-risk” groups all score lower in their attitudes toward sexual abstinence.

Figure 6

Number of Parents Present in the Home

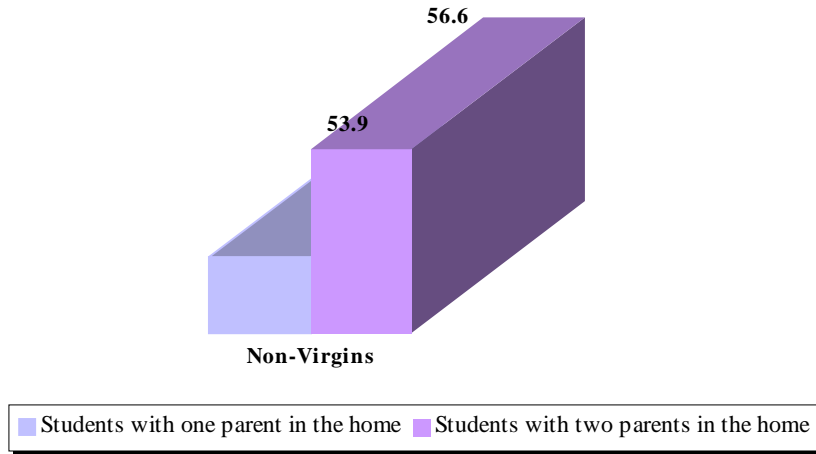
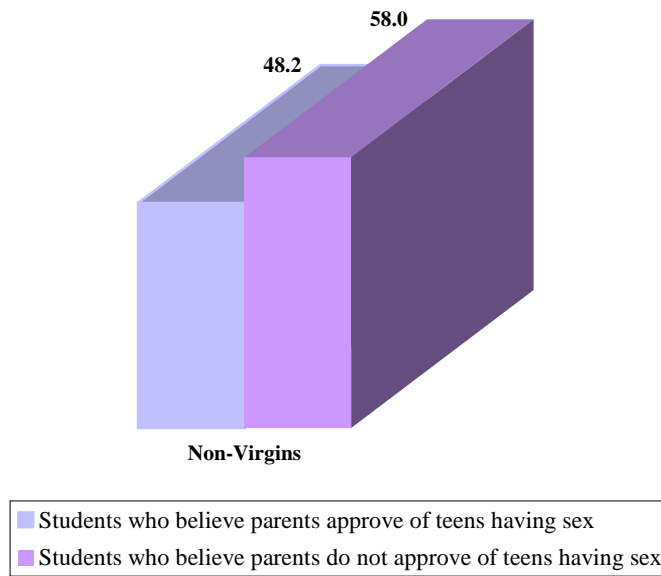


Figure 7

Perception of Parental Approval



\*Attitude Assessment towards sexual abstinence is based on an 18-item scale, reliability coefficient (alpha) above .9.

## Pre-Test Attitude Assessment\* (High-Risk vs. Low-Risk Students)

The identified “high-risk” groups all score lower in their attitudes toward sexual abstinence.

Figure 8

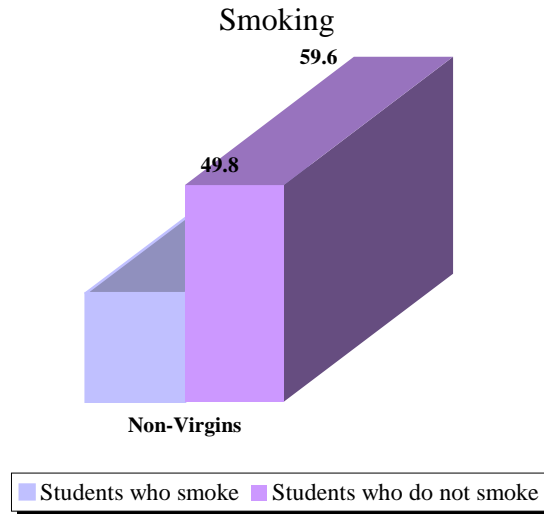


Figure 9



\*Attitude Assessment towards sexual abstinence is based on an 18-item scale, reliability coefficient (alpha) above .9.

## Attitude Assessment\* (Change from Pre-Test to Post-Test)

Among the four identified risk factors, scores for members of the high-risk group changed more from pre-test to post-test than members of the low-risk group.

Figure 11

Number of Parents Present in the Home

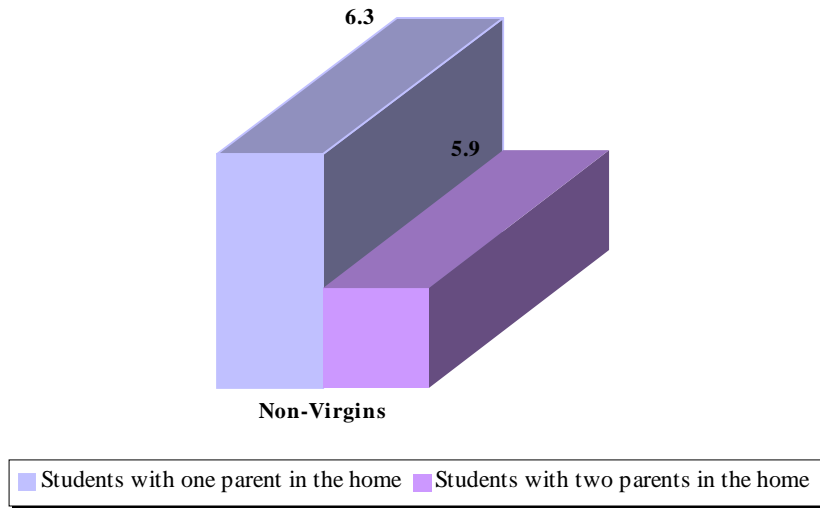
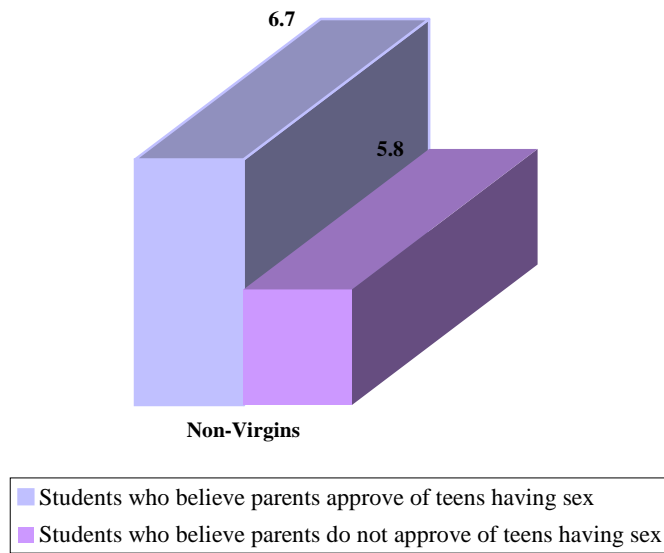


Figure 12

Perception of Parental Approval



\*Attitude Assessment towards sexual abstinence is based on an 18-item scale, reliability coefficient (alpha) above .9.

## Attitude Assessment\* (Change from Pre-Test to Post-Test)

Among the four identified risk factors, scores for members of the high-risk group changed more from pre-test to post-test than members of the low-risk group.

Figure 13

Smoking

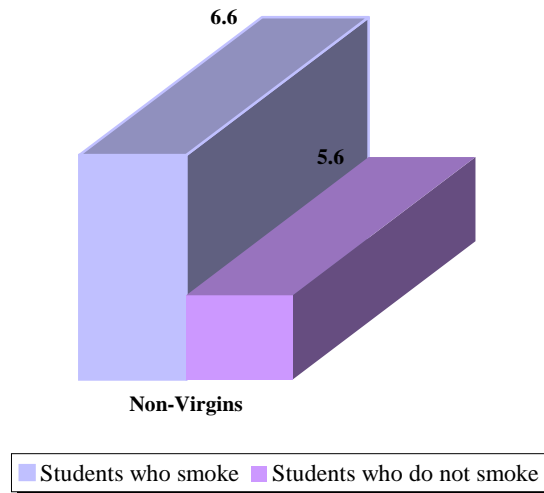
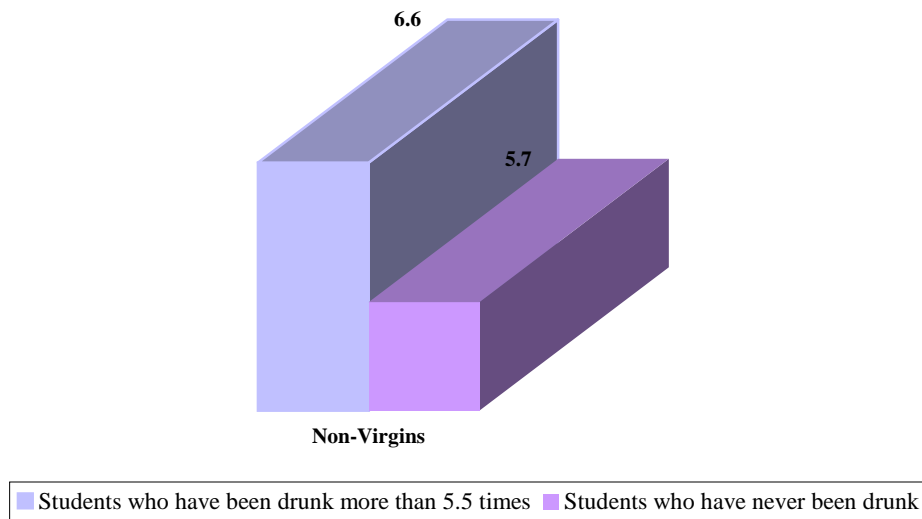


Figure 14

Drinking Experience



\*Attitude Assessment towards sexual abstinence is based on an 18-item scale, reliability coefficient (alpha) above .9.