Abstract

BAILEY, MALISSA ANN. COLLEGE STUDENTS’ PERCEPTIONS OF AND INTENTIONS TO ENGAGE IN SEXUALLY ABSTINENT VERSUS NOT ABSTINENT BEHAVIORS. (Under the direction of Patricia F. Horan, Ph.D., Chairperson)

The purpose of the following study was to assess college students’ perceptions of sexual abstinence and to determine their likelihood of refraining from sexual behaviors in the future. Research conducted by Horan, Hagan, and Phillips (1998) indicates a need to clearly communicate to students what is meant by the term “abstinence,” since a significant proportion of young adults appear to consider risky sexual behaviors as “abstinent.”

In the present study, using an anonymous self-report survey, students enrolled in various psychology courses at North Carolina State University were asked to report their previous sexual behavior, identify those behaviors they believe constituted sexual abstinence, and predict the likelihood that they will abstain from sexual intercourse in a one year period. The results suggest that there is a discrepancy between the CDC’s definition of abstinence and college students’ interpretation of this practice. This is especially true for behaviors related to oral sex. Implications of the research are provided.
College Students’ Perceptions of and Intentions to Engage in Sexually Abstinent versus Not Abstinent Behaviors

by

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Biography

After volunteering at Albert Einstein Medical Center in Philadelphia, completing a year-long internship at a partial mental hospital, and also numerous baby-sitting experiences, Malissa Ann Bailey’s interest in working with children and adolescents was sparked. Malissa completed her undergraduate work at Beaver College in Glenside, PA, receiving a Bachelor of Arts degree in Psychology in May of 1995. In August of 1995, Malissa began pursuing her Masters/Ph.D. degrees in Psychology at North Carolina State University. Since then, Malissa has been a teaching assistant and course instructor for a section of Educational Psychology. Her involvement with this course was acknowledged when she received the 1998 Graduate School’s African-American Graduate Student Teaching Assistance/Tutorial Award. Other activities include volunteering and participating in several church-related organizations, participation in the African-American Graduate Student Association on campus, and coordinating the development of her family’s directory and newsletters. In the near future, Malissa plans to provide psycho-educational services to students enrolled in a public school system.
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College Students’ Perceptions of and Intentions to Engage in Sexually Abstinent versus Not Abstinent Behaviors

Human Immunodeficiency Virus (HIV), the virus which eventually develops into Acquired Immune Deficiency Syndrome (AIDS), is one of the deadliest viruses known to humankind. HIV can be transmitted through a number of ways, including the sharing of intravenous needles and receiving tainted blood through a blood transfusion. However, having sexual contact with a person who has contracted the HIV virus, is the one method that is putting young people at the greatest risk for exposure. As early as 1989, AIDS had become one of the leading causes of death among young people from the ages of 15-24 in the United States (National Center for Health Statistics, 1992 as cited in Hawkins, Gray, & Hawkins, 1995). An estimated 59% of females and 70% of males who have contracted HIV have contracted it through sexual contacts. Furthermore, about 20% of AIDS cases are in persons 20-29 and many of these individuals were probably infected as teenagers (CDC, 1994).

Along those same lines, published studies provide evidence that there is a rise in the spread of sexually transmitted diseases (STDs) of all types among young adults (Collins, 1997). Hernandez and Smith (1990) found that eight percent of the college students within their sample had previously been treated for an STD and ten percent were personally involved in a pregnancy. Such statistics are alarming. Gone are the days where young couples’ worst fears were the contraction of a curable STD or an unexpected pregnancy. Today, one night of passion could ultimately lead to an extended period of intense suffering and a painful death.
Fortunately, the transmission of HIV is preventable as long as the proper precautions are taken. A great body of current research assesses college students’ knowledge of HIV transmission through sexual contact and the means through which it can be prevented (e.g., Fisher & Misovich, 1990; Butcher, Manning, & O’Neal, 1991; Carroll, 1991). However, only two of these studies (Hawkins, et al., 1995; Horan, Hagan, and Phillips, 1998) focused on abstinence from sexual intercourse, the only behavior found to be 100% effective in preventing the spread of STDs. Only a small percentage (12%) of college students in the first study almost always viewed abstinence as a viable alternative to sexual activity (Hawkins et al., 1995). With the exception of the Horan et al. study (1998), I was unable to locate any articles which examined college students’ perceptions of what abstinence actually means. This latter element is key to understanding abstinence as it is commonly interpreted by young adults. From a clearly stated definition of abstinence, educators may gain an understanding as to how to present abstinence as a viable and achievable alternative to sexual intercourse.

The current definition of sexual abstinence as put forth by the Centers for Disease Control and Prevention (CDC) in Atlanta, GA states that abstinence is the avoidance of any sexual behavior that involves two people engaging in “oral, anal, or vaginal” contact (p. 7). At first glance, this definition appears to be fairly straightforward, yet Horan et al. (1998) found a large proportion of college students described sexual behaviors that extend beyond the limits of the CDC’s definition of abstinence as abstinent behaviors. It is indeed plausible that many “abstinent” youth may be practicing oral and/or anal sex, sexual behaviors which put them at risk of contracting an STD.
such as HIV. Such findings suggest that many students may believe that sexual behaviors that do not lead to pregnancy are not sexual intercourse. In other words, some young adults may view vaginal intercourse as the only “real sex” because only vaginal intercourse can lead to an unwanted pregnancy. That this view is common is supported by the fact that youth typically take more precautions to prevent unwanted pregnancies than STDs (Keller, 1993). The lack of extensive knowledge about specific sexual behaviors such as oral and anal sex may contribute to young adults unknowingly placing themselves in danger of contracting an STD by practicing sexual behaviors that they consider abstinent. The result is potentially fatal.

Very little is known about college students’ specific beliefs about abstinence other than findings which suggest that students are generally unwilling to practice this method of sexual restraint. The primary research questions of this exploratory study ask:

a) How specifically do college students define abstinence?

b) How consistent are college students’ definitions of abstinence with the CDC’s definition?

c) Are college students primarily motivated by a desire to prevent pregnancies?

and

d) How likely are college students to state intentions to practice abstinence in the immediate future?

The specific variables that will be assessed are students’ consistency with the CDC’s definition of abstinence and also their intentions to abstain from intercourse. The
current proposal will also explore gender, past and present sexual practices, and prior or current involvement in a relationship as related variables. It is also hypothesized that a desire to prevent pregnancy influences college students’ definition of abstinence. The following review of the literature will summarize these variables.
Review of the Literature

Abstinence Defined

As stated earlier, the most current formal definition of abstinence has been put forth by the Centers for Disease Control and Prevention (CDC). In summary, the CDC’s definition states that abstinence refers to avoiding “vaginal, anal, and oral intercourse” with another person (p. 7). The above definition is the only precise definition of abstinence that could be found in the literature on sexual behaviors of college students or sexuality education. Stebleton and Rothenberger (1993), Baldwin, Whiteley, and Baldwin (1992), and Cochran and Peplau (1991) provide a concise definition of sexual activity that closely resembles the CDC’s definition of abstinence. The former researchers stated that sexual activity included “oral, vaginal, and anal sexual behavior to the point of orgasm with another person.” Unfortunately, such detail is often found lacking in published studies. Operationalized definitions of abstinence are generally lacking even within published research which must meet rigorous criteria for publication.

Many researchers view abstinence and related terms such as sexual activity and sexual intercourse from an assumption of a clearly defined, or denotative, point of view that operationalizes each term. In other words, it is suggested that every reader will clearly understand how the authors define a term. However, according to Gill (1995), in both our written and spoken languages, definitions of words are interpreted not only with the use of a standard definition, but also via the receiver’s frame of reference which is shaped by both emotional context and personal experience. To demonstrate the degree of inconsistency among definitions, Oswalt and Matsen (1993) make a clear
distinction between the rates of sexual intercourse and anal intercourse in their
description of students’ sexual behaviors. By making this distinction, these researchers
present yet another variation among descriptions of sexually active behaviors. Given
these variations among definitions, it would not be unrealistic to believe that some
educators may not hold beliefs that are consistent with the CDC’s definition of
abstinence. Yet eighty-six percent of students in public middle and high schools report
previous sexual education from health educators that mention abstinence as the only
method that is totally guaranteed to reduce the risk of spreading STDs or creating
unwanted pregnancies (CDC, 1996b).

The above information then leads one to question “What do young people think
abstinence means?” Unfortunately, many young adults may be unfamiliar with the
CDC’s definition of abstinence (a definition that includes behaviors that have been
known to place people at risk for contracting STDs), and are left to develop their own
informal definitions of abstinence. There is evidence that suggests that young people’s
definitions of abstinence are not consistent with the CDC’s definition of abstinence
(Horan et al., 1998). Horan, Phillips, and Hagan assessed denotative definitions
associated with the term “abstinence” with a sample of 1,101 students from a southern
university. Students were asked to state whether 11 sexual behaviors were abstinent or
not abstinent. The results indicate that a significant percentage of students categorized
behaviors inconsistent with the CDC’s definition of abstinence. In the above-mentioned
study, approximately 24% of the sample categorized anal intercourse, 37% oral
intercourse, and 47% oral to anal contact as abstinent. This research suggests that
young people may believe the term abstinence applies to avoidance of only vaginal intercourse.

It is possible that some students believe that they are remaining sexually abstinent as long as they avoid vaginal intercourse. As was reported by Lewin (1997), one adolescent declared “oral sex doesn’t seem like sex.” Obviously there is a need to provide accurate information to young adults, especially those who are sexually active, to correct misleading information they may have acquired through peers, the media, and sexual experience. In an editorial criticizing the advent of “abstinence-only” curricula, Gochros (1988) argues the position that the term “abstinence” is unclear and that many young people are in fact engaging in behaviors which could put them at risk for contracting HIV. Since abstinence has been deemed as the most reliable safer sex practice, it seems as though researchers would try to determine how students view the boundaries of abstinence. Yet, with the exception of the Horan et al. (1998) study, no research has been published which has attempted to investigate what abstinence means to students.

In summary, there is a body of literature that suggests that abstinence may have different denotative meanings for students as well as researchers. Such information is crucial to furthering the understanding of how “abstinence only” messages are communicated and received during sexuality education. While there is little research into students' knowledge of abstinence, there has been a great deal into their knowledge of HIV. Since a host of information is available about students’ knowledge of the modes of transmission and prevention of HIV/AIDS, the next section will explore these areas and how knowledge may relate to behavior.
College Students’ Knowledge of HIV/AIDS Transmission and HIV Prevention

Attempts have been made to assess the knowledge base of college students regarding HIV and other STDs. Overall, the cumulative findings suggest there is a low relationship between knowledge and behavior, and that students are still lacking in important HIV prevention information.

How much do students know? Researchers have tried to determine whether it is a lack of knowledge of STD transmission or whether failure to apply this knowledge is preventing a substantial number of college students from protecting themselves from HIV (e.g., Gray & Saracino, 1989; Keller, 1993). The majority of this research has focused on the relationship between HIV knowledge and safer sex practices.

McGuire, Shega, Nicholls, and Deese (1992) examined the sexual knowledge and practices among 158 college freshmen to determine their knowledge and perceived risk of contracting the AIDS virus. These researchers developed a 150-item questionnaire that was designed to elicit information concerning demographics, knowledge and attitudes about AIDS, and sexual practices. The students’ average knowledge scores were high. Nearly 80% of the items were answered correctly. Although these students have a generally good understanding of basic HIV and other STD information, the results of the above study demonstrate the lack of total understanding of HIV/STD related knowledge. Areas of specific weakness include believing natural skinned condoms reduce the transmission of STDs, contracting AIDS through casual contact, prevalence rates of AIDS among homosexuals (Gray et al., 1989), uncertainty over contact with bodily fluids and the developmental course of HIV infection (Keller, 1993). Knowledge of these prevention-related areas is important
because without it, students will not be prepared to take those measures that are necessary to protect themselves from contracting these diseases.

With the exception of the Horan et al. study, no research has investigated students’ knowledge of specific abstinence information. The proposed research will attempt to address this need by operationalizing students’ definitions of abstinence. Such information is necessary to enhance college students' practice of safer sex. Yet, one of the most troubling findings in research is that, regardless of their knowledge base of HIV-related information, a significant percentage of college students are not likely to practice safer sexual practices (McGuire et al., 1992).

Is knowledge related to behavior? The number of college students who report having intercourse is very high (Bustamante, 1992; Hawkins et al., 1995; Hernandez et al., 1990; Keller, 1993; Stebleton et al., 1993). The number of college students who consistently use condoms, the only means to prevent STDs among students who have intercourse, is very low (Gray et al., 1989). Gray et al. (1989) found that there was no relationship between accurate HIV/AIDS knowledge and safer sexual behavior ($r=.01$).

Furthermore, 66% of those students who had engaged in vaginal intercourse reported not using a condom. McGuire et al. (1992) found that although students obtained 80% accuracy on HIV and other STD information, students reported very low rates of condom usage during intercourse. Only 41% of these students used condoms during intercourse with a new partner on a consistent basis.

Another finding by Keller (1993) suggests that even though a majority of students (96%) knew that looking at a person would not tell you whether a person was HIV positive, and 100% knew that having vaginal intercourse without using a condom with a
person who has HIV is risky, 85% reported having sex without a condom at least once. The above findings demonstrate that researchers have found that knowledge of safer sex practices does not guarantee that safer sex behaviors will be practiced while students are sexually intimate. In other words, while knowledge of safer sex practices is undoubtedly necessary for the practice of safer sex, it is by no means sufficient. The next section explores a possible reason.

Greater emphasis on pregnancy prevention over STD control as an influence on behavior. Besides complete abstinence from oral, anal, and vaginal intercourse (as defined by the CDC), the correct, consistent use of condoms is the only preventive measure that has high effectiveness for preventing STDs (98% when condoms are used correctly). Yet, there is evidence which suggests that students are more fearful of causing an unexpected pregnancy than contracting an STD. In fact, many college students do not appear to be worried about STD prevention. Cochran et al. (1991) reported that college participants within their sample believed their risk of contracting an STD was relatively low, rating their odds at a one in five chance. This finding is also mirrored in the results of studies by Gray et al. (1989) and Bustamante (1992) where more than 80% of the students surveyed stated that they did not need to be concerned about or feel susceptible to contracting HIV. Instead of preventing HIV/STDs, many young people may be using various forms of birth control (e.g., the pill) and placing themselves at risk for STDs by not using a condom during vaginal intercourse.

Baffi, Schroeder, Redican, and McCluskey (1989) assessed 305 male college students' use of STD and pregnancy preventive measures via a self-report method. Of the 72% of students who reported using a condom at least once during intercourse,
75% reported using condoms for pregnancy prevention, while a meager 12% reported using condoms primarily as a means of preventing the spread of sexually transmitted diseases. While the majority of condom-using students were protecting themselves from unintentional pregnancies, very few had taken the precaution to protect themselves from contracting an STD. This finding is mirrored in the results of Keller (1993) who reported that 30% of students sampled were more concerned with preventing a premarital pregnancy rather than transmitting an STD as a reason for condom usage. Oswalt et al. (1993) state that only 10% of students who self-reported having engaged in anal intercourse regularly used condoms, although condom use was much higher during vaginal intercourse. Believing that oral and anal sex are forms of abstinence may diminish the concern students feel to protect themselves from STDs.

The above literature suggests that there is a need to determine whether college students’ definitions of abstinence are tied to vaginal intercourse and pregnancy prevention. The current research will address this issue by questioning participants about the methods of protection they used and the specific sexual practices for which these methods are used. These data will help determine if some young people place more of an emphasis on pregnancy over STD prevention. In addition, these data will explicitly explore students’ participation in specific forms of sexual behavior (including oral and anal intercourse). Previous research has often failed to specify explicit behaviors (e.g., anal intercourse), and instead, has reported rates of the broad category of sexual activity. Specific sexual behavior information is important because although some behaviors do not have the possibility of causing an unintentional pregnancy,
these behaviors have been established as behaviors that will aid the transmission of STDs.

**College Students' Rates of Involvement with Specific Sexual Behaviors**

We now know that the majority of college students are able to identify basic STD information. Unfortunately, the research demonstrates that this knowledge has yet to transfer to sexual behavior. The following section seeks to investigate the sexual practices of college students and identify those behaviors that place them at risk for STDs.

**Rates of sexual activity.** A host of studies have used self-report measures and found that the prevalence rates of sexually active youth within college student samples to be within a range of 67-91% (e.g., Bustamante, 1992; Gray et al., 1989; Hawkins, et al., 1995; Hernandez et al., 1990; Keller, 1993; Stebleton et al., 1993). The majority of college students are engaging in a variety of sexual practices, including vaginal, oral, and anal sex (e.g., Fisher et al., 1990; Simkins, 1995; Stebleton et al., 1993). In many of the reviewed studies, researchers failed to differentiate the different types of sexual intercourse and participation in oral, anal, and vaginal intercourse. All of these fell under the broad category of sexual activity or sexual intercourse (Gray et al., 1989; Hawkins et al., 1995; Keller, 1993). Despite the fact that they had been fairly explicit in their definition of sexual activity, even Stebleton et al. (1993) failed to categorize their participants according to the type of sexual behaviors practiced.

Fisher et al. (1990) and Oswalt et al. (1993) were among the few researchers who clearly distinguished between vaginal, oral, and anal intercourse. The former researchers used a self-report measure to clearly differentiate between college
students' participation in oral, anal, and vaginal intercourse. These researchers found that over a one-year period, the percentages of students engaging in unprotected intercourse were 64%, 70%, and 6% for vaginal, oral, and anal sex, respectively. However, these researchers did not report the rates of participation with protection during vaginal, oral, and anal intercourse, and thus the prevalence rates of the three behaviors may be underestimated. Simkins (1995) also distinguished between vaginal, oral, and anal intercourse and found that reported rates of these behaviors were 91%, 82%, and 6%, respectively.

Unfortunately, during assignment to research categories, few of the reviewed works specified whether participants had been asked about participation in specific sexual behaviors (i.e., oral and/or anal intercourse) as a means for assignment to abstinent groups. It is possible that since researchers neglected to specify the types of sexual behaviors that students had engaged in, estimates of these sexual practices may be significantly higher than reported. Sexual activity in the proposed study will be defined as any behaviors that include vaginal, oral, and anal intercourse. The proposed research will look at specific sexual behaviors and add needed clarity to the field. The relationships among specific factors gathered in the proposed study will be explored because several researchers have found a strong relationship of past and current behavior predicting future behavior and gender differences in behavioral intentions (Cochran et al., 1991).

College Students' Intentions to Practice Sexual Abstinence

Relationship with past behavior. Previously it was established that college students are engaging in various types of sexual behaviors. Current research also
suggests that a majority of college students do not see abstinence as a viable alternative to intercourse, even though it is an effective strategy which can be used to prevent the sexual transmission of HIV (Keller, 1993). Keller used a questionnaire to assess 272 college students’ risk taking perceptions and precautions they used while in a sexual encounter with another person. Among other things, Keller found that students were the least comfortable with the idea of abstaining from sexual intercourse, possibly as a result of the stigma with which such a stance would be greeted.

Several researchers have reported a high correlation between past behavior and future intentions (Cochran et al., 1991; Hernandez et al., 1990; Leigh, Morrison, Trocki, & Temple, 1994). For example, Cochran et al. found that past sexual experiences, mediated by a level of worry about STDs, is related to future intentions to practice safer sex, but only for females. For males, there was no relationship between sexual experience and future intentions to practice safer sex. With respect to abstinence, Hernandez et al. (1990) found that those students who were currently abstaining from sexual intercourse were significantly more likely than sexually active students to believe they would abstain during the next month. In a one-shot national survey of 351 adolescents (ages 12-17), Leigh et al. (1994) asked participants to report whether they had been sexually active within the past year and to also rate their intentions to abstain in the future. Sexually active youth indicated less of an intention to abstain over the course of the upcoming year. These researchers reported that sexually abstinent youth were ten times more likely to state intentions to abstain than sexually active youth (71% versus 6%).
The research reported in this section describes the relationship between previous sexual behavior and intentions to abstain. The findings suggest that persons who have already engaged in sexual intercourse are less likely than virgins to accept messages which promote abstinence. Therefore, by the time abstinence only programs are introduced to students, they may be targeting students who have low intentions to abstain in the future. For a majority of students, “abstinence only” messages may not be well received since they have already begun to explore their sexualities (Hernandez et al., 1990; Leigh et al., 1994). Thus, it is hypothesized that sexually active students will be less likely to have the intent to abstain than nonsexually active students.

**Relationship with gender.** Just as the majority of research with sexual activity was consolidated across behaviors (i.e., vaginal, oral, and anal), a number of researchers tend to consolidate males and females when reporting rates of sexual activity (Gray et al., 1989; Hawkins et al., 1995; Keller, 1993; Oswalt et al., 1993; Stebleton et al., 1993). According to those authors who have reported separate gender frequencies, there has been a tendency for males to make up a majority of the sexually active group (DeGaston, Weed, & Jensen, 1996). For instance, Murstein et al. (1994) found that 91% of males and 76% of females in their sample had had prior sexual activity. Hernandez et al. (1990) reported that of the 260 sexually active students in their sample, 59% were male and 41% were female.

A gender difference is also found when researchers analyze the proportion of students advocating abstinence. Bustamante (1992) conveyed that 29% of male students in his study reported a likelihood of abstaining from sex, compared to 50% of females. Female college students also had more of a willingness to abstain from sexual
intercourse in the future. In summary, while a moderate number of students (60%) reported that they were not too likely or not at all likely to abstain, the results showed that females reported a higher tendency to abstain than males (50% versus 29%, respectively), although a gender/sexual activity interaction was not explored. One of the few studies to measure adolescents’ intentions to remain sexually abstinent, conducted by DeGaston et al. (1996), found that significantly more females than males were currently abstinent and intended to refrain from intercourse until marriage. In other words, females within their study tended to be less likely to engage in sexual intercourse and hold more sexually conservative views.
Statement of the Problem

Some legislators, educators, and researchers have taken the previous information as evidence that descriptive sexuality information does not affect behavior. Instead, these critics of comprehensive sexuality education support the notion that students should not be informed about safer sex, and instead promote a stance which advocates abstinence until marriage (e.g., Olsen et al., 1992). Yet such a response could lead to a false sense of security for abstinence supporters. Some researchers are finding that the majority of students see abstinence as undesirable (e.g., Gochros, 1988). Furthermore, as evidence from Horan et al. (1998) suggests, a substantial number of college students may not fully understand what abstinence does or does not entail. In other words, students may be misinterpreting what seems obvious to sex educators, i.e., abstinence entails restraint from all sexual intercourse, including intercourse which may not lead to an unwanted pregnancy (i.e., oral and anal intercourse).

No one has yet to determine how college students operationally define abstinence. It is believed that many of these students may not explicitly incorporate oral and anal sex into their definitions, and as a result, do not view these behaviors as “real sex.” In an attempt to measure students’ personal definitions of abstinence without interference from the researcher, students will be asked to define the term “abstinence” without receiving any cues. These definitions will be assessed in terms of consistency with the CDC’s definition of abstinence.
Are abstinence definitions related to pregnancy prevention? The proposed research will explore students’ emphasis of pregnancy prevention versus STD prevention in students’ context-free abstinence definitions. Student rates of engaging in various pregnancy/STD risk reduction behaviors will also be studied. Since a number of researchers have reported that college students place more of an emphasis on preventing unplanned pregnancies, it is predicted that students will select prevention of pregnancy as a primary reason to abstain more often than they will select a desire to avoid STDs.

It is common practice for researchers to attach labels of “abstinent” to participants who have described themselves as not having engaged in sexual activity. Yet few of the located studies have asked “abstinent” students to describe the sexual behaviors in which they may have engaged in order to verify the validity of such classification. Such an oversight on the part of researchers may fail to pick up inconsistencies students may have with the CDC’s definition of abstinence. None of the located studies investigated students’ perceptions of what it means to abstain or which specific behaviors one could engage in and still be considered abstinent. Thus, the proposed research will attempt to do just that. It is hypothesized that a significant number of students may describe behaviors that are inconsistent with the CDC’s definition of abstinence behaviors. It is also hypothesized that a significant number of students who consider themselves abstinent (according to their definitions of the term), may report having engaged in behaviors that are inconsistent with the CDC’s definition of abstinence.
There is an old proverb that says, “It is hard to teach an old dog new tricks.” Based on this proverb, the proposed research will also test the relationship between college students’ sexual histories and their future sexual intentions. It is hypothesized that students who have engaged in specific sexual behaviors in the past will be less willing to abstain from those behaviors in the future.

Lastly, gender differences are expected as a result of research findings mentioned in the reviewed literature. It is predicted that significantly more females than males will be classified (according to the CDC’s definition of abstinence) as currently abstaining from sexual intercourse. It is also hypothesized that females will be classified as having more of an intention to abstain in the future than males. Finally, since abstinent females have typically held the most conservative views toward sexual activity (Bustamante, 1992), it is hypothesized that females who describe themselves as abstinent will be more likely than not abstinent females and males (both abstinent and not abstinent) to state intentions to practice abstinence.
Research Questions and Hypotheses

The following research questions and hypotheses address the underlying attempt to answer the goals of this study:

a) How specifically do college students define abstinence?

Hypotheses: 1) When given a context-free item, definitions of abstinence will be vague and not operationally defined in terms of oral, anal, and vaginal intercourse.

2) When given a context-free item, a majority of responses that refer to specific behaviors will emphasize avoidance of only vaginal intercourse.

3) When given a context-free item, students will make more references to avoiding behaviors that can lead to pregnancy versus STDs.

b) How consistent are college students’ definitions of abstinence with the CDC’s definition?

Hypotheses: 4) Participants will identify behaviors inconsistent with the CDC’s definition of abstinence.

5) Students who consider themselves abstinent (according to their definitions of the term) will report having engaged in behaviors that are inconsistent with the CDC’s definition of abstinence.

c) Are college students primarily motivated by a desire to prevent
pregnancies?

Hypothesis: 6) Students will select prevention of pregnancy as a primary reason to abstain more often than they will select a desire to avoid STDs.

d) How likely are college students to state intentions to practice abstinence in the immediate future?

Hypotheses: 7) Students’ participation in specific sexual behaviors will be related to their intentions to engage in the same behaviors in the future.

8) Significantly more females than males will be classified as currently practicing abstinence.

9) Females will be classified as having more of an intention to abstain in the future than males.

10) Females who describe themselves as abstinent will be more likely than not abstinent females and males (both abstinent and not abstinent) to state intentions to practice abstinence.
Method

Participants

One-hundred and eighty-nine unmarried students were included in the study. All participants were over the age of 18. Participants included students enrolled in introductory, developmental, and motivation and learning psychology courses. Data were collected during the spring, summer, and fall sessions of 1998. Students enrolled in the introductory courses received credit for research participation as part of a requirement for the course. Introductory psychology courses at NCSU typically include students who have been classified in a variety of majors, including psychology, biology, education and engineering. Students in the other courses participated voluntarily as part of a scheduled class meeting. For a description of participant demographics, see Table 1.

Fifty-six percent of the sample was female. The majority of the population (42%) was over the age of 21. [The exact age of participants within this group was not determinable because, despite being instructed to do so, they did not write their exact ages on the scantron form. At least 4% of this group identified themselves as between 21 and 24 years of age.] The sample was predominantly white (75%).

According to the CDC’s definition of the term, eighty-six percent of the sample had been sexually active. To determine sexual activity, items that questioned whether the person had engaged in vaginal, oral and/or anal intercourse were used. If participants answered affirmatively to having had experience with one or more of these
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (Frequency missing = 3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>55.9</td>
</tr>
<tr>
<td>Male</td>
<td>82</td>
<td>44.1</td>
</tr>
<tr>
<td>Age (Frequency missing = 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>38</td>
<td>20.3</td>
</tr>
<tr>
<td>19</td>
<td>49</td>
<td>26.2</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>11.2</td>
</tr>
<tr>
<td>21 or over</td>
<td>79</td>
<td>42.2</td>
</tr>
<tr>
<td>Year in school (Frequency missing = 3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>38</td>
<td>20.4</td>
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<tr>
<td>Sophomore</td>
<td>53</td>
<td>28.5</td>
</tr>
<tr>
<td>Junior</td>
<td>30</td>
<td>16.1</td>
</tr>
<tr>
<td>Senior</td>
<td>51</td>
<td>27.4</td>
</tr>
<tr>
<td>Graduate/Other</td>
<td>14</td>
<td>7.5</td>
</tr>
<tr>
<td>Meet CDC’s criteria for sexual abstinence** (Frequency missing = 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27</td>
<td>14.4</td>
</tr>
<tr>
<td>No</td>
<td>160</td>
<td>85.6</td>
</tr>
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</table>
Table 1 (continued)

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>139</td>
<td>75.1</td>
</tr>
<tr>
<td>Black</td>
<td>29</td>
<td>15.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>6</td>
<td>3.2</td>
</tr>
<tr>
<td>Asian/Pacific</td>
<td>10</td>
<td>5.4</td>
</tr>
<tr>
<td>Native American/Alaskan</td>
<td>1</td>
<td>0.5</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Sexual orientation</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsure</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td>Homosexual</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Bisexual</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>181</td>
<td>97.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most recent sexuality education context</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never received</td>
<td>15</td>
<td>8.1</td>
</tr>
<tr>
<td>Middle school</td>
<td>55</td>
<td>29.6</td>
</tr>
<tr>
<td>High school</td>
<td>70</td>
<td>37.6</td>
</tr>
<tr>
<td>College</td>
<td>22</td>
<td>11.8</td>
</tr>
<tr>
<td>Health clinic/Other</td>
<td>24</td>
<td>12.9</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td></td>
</tr>
</tbody>
</table>

*All demographic information is missing for one participant

**To meet the CDC’s criteria for sexual abstinence, participants could not have engaged in any of the following behaviors: anal sex, vaginal sex, oral sex (either performed or received), or oral contact with another person’s anus
three behaviors, they were classified by the researcher as sexually active. Such a method is consistent with CDC’s definition of not abstinent behavior.

Development of the Instrument

Before data collection began, the survey was piloted using a convenience sample of 23 students enrolled in an adolescent development psychology course at North Carolina State University during the Spring of 1998. The survey was re-administered to these participants after a two-week delay in order to assess test-retest reliability. [See Appendix A for a copy of the survey.] Using a percent agreement analysis for each item, participants’ responses on the two survey administrations were analyzed for consistency across times. Percent agreement for each item on the survey ranged from 65%-100%. The mean percent agreement for categories of items were as follows: open-ended questions (74.0%), self-descriptions as abstinent or not abstinent (98.0%), previous involvement in various behaviors (98.1%), future intentions to engage in various behaviors (96.2%), beliefs about whether various behaviors constitute sexual abstinence (97.3%), and demographics (94.6%). A more detailed description of these results can be found in Table 2. Across the two administrations of the survey, the questions that received the least amount of agreement pertained to students’ open-ended definitions of abstinence (65%), most recent sexuality education context (70%), and their primary reason(s) to abstain (78%). The number of students’ whose responses were not consistent across times on these items ranges from five to eight.

Inter-rater reliability was conducted on the open-ended questions of the survey. The context-free items were evaluated in terms of the rate at which participants mentioned intercourse or sex, whether participants included oral, anal, and vaginal
Table 2
Results of Percent Agreement Analyses Across Surveys (N = 23)

<table>
<thead>
<tr>
<th>Description of Item</th>
<th>N</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open-Ended Questions (Mean % agreement = 74.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definition of abstinence</td>
<td>15</td>
<td>65</td>
</tr>
<tr>
<td>Reason(s) for abstinence</td>
<td>19</td>
<td>83</td>
</tr>
<tr>
<td>Self Description As Abstinent or Not Abstinent (Mean % agreement = 98.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First response</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Second response</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Primary Reason to Abstain</td>
<td>18</td>
<td>78</td>
</tr>
<tr>
<td>Previous Involvement in Various Behaviors (Mean % agreement = 98.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Held hands</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Masturbated</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Anal sex</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Kissed with closed mouth</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Kissed with open mouth</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Vaginal sex</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Sexual thoughts about another person</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Manually stimulated another person’s genitals</td>
<td>21</td>
<td>91</td>
</tr>
<tr>
<td>Performed oral sex on another person</td>
<td>22</td>
<td>96</td>
</tr>
</tbody>
</table>
Table 2 (continued)

<table>
<thead>
<tr>
<th>Description of Item</th>
<th>N</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received oral sex from another person</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Oral contact with another person’s anus*</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

**Future Intentions to Engage in Various Behaviors (Mean % agreement = 96.2)**

<table>
<thead>
<tr>
<th>Description of Item</th>
<th>N</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold hands</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Masturbate</td>
<td>21</td>
<td>91</td>
</tr>
<tr>
<td>Anal sex</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Kiss with closed mouth</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Kiss with open mouth</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Vaginal sex</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Sexual thoughts about another person</td>
<td>19</td>
<td>83</td>
</tr>
<tr>
<td>Manually stimulate another person’s genitals</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Perform oral sex on another person</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Receive oral sex from another person</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Oral contact with another person’s anus</td>
<td>23</td>
<td>100</td>
</tr>
</tbody>
</table>

**Beliefs of Whether Various Behaviors Constitute Sexual Abstinence (Mean % agreement = 97.3)**

<table>
<thead>
<tr>
<th>Description of Item</th>
<th>N</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding hands</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Masturbating</td>
<td>21</td>
<td>91</td>
</tr>
</tbody>
</table>
Table 2 (continued)

<table>
<thead>
<tr>
<th>Description of Item</th>
<th>N</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anal sex</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Kissing with closed mouth</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Kissing with open mouth</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Vaginal sex</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Sexual thoughts about another person</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Manually stimulating another person's genitals</td>
<td>20</td>
<td>87</td>
</tr>
<tr>
<td>Performing oral sex on another person</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Receiving oral sex from another person</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Oral contact with another person’s anus</td>
<td>22</td>
<td>96</td>
</tr>
</tbody>
</table>

Demographics (Mean % agreement = 94.6)

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>% Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Year in school</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Gender</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Race</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Relationship status</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>Sexual orientation</td>
<td>23</td>
<td>100</td>
</tr>
<tr>
<td>Most recent sexuality education context</td>
<td>16</td>
<td>70</td>
</tr>
</tbody>
</table>

* Frequency missing = 1
intercourse in their definitions, and any references to pregnancy or STD prevention. In addition to the principal researcher, a graduate student who was instrumental in the construction of the survey was given instructions as to how to code the open-ended questions. [See Appendix A for coding instructions.] Using coefficient Kappa analysis, inter-rater reliability for the open-ended questions were .95 and 1.00 for Items A and B, respectively. As a result of the piloting, it was necessary to reconfigure the categories for the age question because a ceiling had been reached. No other change was made to the survey following its piloting.

**Instrument**

The 45-item instrument assesses college students’ perceptions of abstinence, their previous involvement in specific behaviors, and their likelihood of abstaining in the future. [See Appendix B.] The survey was developed using several items selected from earlier surveys of young adults (e.g., Swinford, Haines, Fabiano, & Keeling, 1994, as cited in Horan et al., 1998).

The first two items of the survey are context-free items that ask participants to formulate their own definitions of abstinence and possible reason(s) for abstaining. On the first portion of the survey, students were also asked whether they would describe themselves as having practiced abstinence up to this point in time. The last section of the survey consists of items that assess previous sexual behaviors, future intentions, and classification of specific sexual behaviors as either abstinent or not abstinent according to participants’ personal definitions of abstinence. In keeping with current suggested surveying practices, demographic information was sought at the end of the
Survey (Roberson and Sundstrom, 1990). The majority of this information was sought for descriptive purposes only.

**Scoring.** Each open-ended response for the first open-ended question that asked, “What is your definition of abstinence?” was assessed for references to oral, anal, and/or vaginal intercourse. Responses were coded using the following nominal categories: 1 = avoid sex, 2 = avoid intercourse, 3 = avoid vaginal sex or intercourse, 4 = avoid combination of vaginal and oral intercourse or vaginal and anal intercourse or oral and anal intercourse, and 5 = avoid oral, anal, and vaginal intercourse. For each response, coders assigned the highest value possible for the most explicit definitions offered.

The second open-ended question asked, “In your opinion, what is/are the reason(s) why a person might choose to be sexually abstinent?” Responses to this question were assessed for a suggestion to prevent or reduce the risk of pregnancy versus STDs using the following nominal categories: 1 = neither pregnancy nor STD prevention mentioned, 2 = prevent pregnancy, 3 = prevent STDs, and 4 = prevent both pregnancy and STDs.

For each of the behaviors assessed to test hypothesis 4 (items 23 through 33), participants received a 1 for consistency with the CDC’s definition of abstinence and a 0 if their classification of a sexual behavior is inconsistent with the CDC’s definition of abstinence. These items were totaled to yield a CDC consistency score that ranged from a low of 0 to a high of 11. The five behaviors noted by the CDC as not abstinent include anal sex, vaginal sex, performed oral sex on another person, recipient of oral
sex, and oral contact with another person’s anus. The remaining behaviors in this section are sexually abstinent behaviors.

For hypothesis 8, participants were also classified as abstinent or not abstinent. First, students were classified as either abstinent or not abstinent based on their responses to items 4, 7, 10, 11, and 12 of the survey. These particular items reference behaviors that are considered to be not abstinent behaviors according to the CDC’s definition of abstinence. Abstinent behavior was classified by the avoidance of involvement in items 4, 7, 10, 11, and 12. If respondents answered “yes” to one or more of these behaviors, they were classified as not abstinent. Second, item 35 asked participants to categorize themselves as either abstinent or not abstinent according to their definitions of the term.

**Procedure**

Approval from the Institutional Review Board was sought since human participants were used for the study. Because the survey contains information of a sensitive nature, the Institutional Review Board along with the advisory committee expressed concerns that led to changes in how participants were recruited and the survey conducted. Such concerns included the wording of phrases that would be used to introduce the study to potential participants and ways to maximize the likelihood that participant anonymity would be maintained. Appendix D is a copy of the sign-up sheet that was used to recruit participants from the introductory psychology course. In an attempt to maintain consistency of the procedures that were followed at each testing session, a script was developed and adhered to by the primary researcher. A copy of these instructions can be found in Appendix E.
All data collection sessions were conducted in rooms located within the College of Education and Psychology. Seating was arranged so as to maximize the amount of distance between participants. Whenever possible, students sat at least one seat away from each other. As students came to the experimental room, they were given a packet of materials that included two copies of an informed consent form, a scantron form, and the first page of the survey. This latter page contained the open-ended items. All forms were color coded in order to help the researcher better identify and sort the various forms.

Even though all participants were encouraged to read the informed consent form, several major points were reiterated in order to guarantee that they were fully aware of their rights. First, participants were instructed that their participation in the study was completely voluntary and confidential. Second, because of the sensitive nature of the study, participants maintained the right to withdraw from the study at any time due to discomfort with the line of questioning, yet they would still receive credit for the study. [Only two participants discontinued their participation in the study after giving their consent due to a language barrier (i.e., English was not their native language) in understanding the term “abstinence.”] Finally, participants were told that no one would have the ability to link their individual responses with their names because they would later be given a code number that would increase anonymity. After this information was divulged, participants were given the opportunity to formalize their participation in the study by signing both copies of the informed consent form. One copy was then given to the researcher, the other was retained by participants for their own records.
Next, participants were instructed to locate a special code number that was printed on their scantron forms. This number was written on the two sections of the survey and did not appear in any place in conjunction with participants’ names. Because a ceiling effect occurred during the pilot study on the item that sought their ages, participants were also instructed to write their ages on the scantron sheet. Participants were then asked to complete the open-ended questions. When finished with this form, participants placed their responses face down in a box. This form was collected so as to avoid students changing their original responses upon seeing the content of the remainder of the survey. Participants were given the remainder of the survey after their responses to these two questions were collected. Once all surveys were collected, participants were thanked, informed of the nature of the study, and provided with relevant HIV/AIDS related information. Total time for each session was approximately 20 minutes.
Results

Analysis

Frequencies were calculated for all items on the survey. SAS statistical programs were developed by the primary researcher. A copy of the programs is included in Appendix C. In order to correct any program problems, the services of a campus-based SAS consultant were utilized on two occasions.

Since the present study was exploratory in nature, a number of analyses were computed. Therefore, it was necessary to address error that would be introduced due to an abundance of Chi-Square analyses. The current researcher realized the increased probability of making a Type I error, or finding a significant relationship among variables when none is warranted. However, it was also desirable to avoid making a Type II error (i.e., ruling out a significant relationship among variables when significance exists). In order to fully explore the hypotheses, while adjusting for the abundant use of Chi-Square analyses and for Type I error, a significance level of .01 was set.

The context-free items (Items A and B) were evaluated in terms of the rate at which participants mentioned intercourse or sex, or included oral, anal, and vaginal intercourse in their definitions, and made references to pregnancy or STD prevention.

Description of the Results

As was stated earlier, frequencies were calculated on all of the items contained within the survey. It is important to note that despite the sensitive nature of the survey, the response rate for the majority of items ranged between 97-99% (i.e., responses were missing for two to six respondents). Table 3 summarizes participants’ previous
involvement in various abstinent and not abstinent sexual behaviors. Frequencies for specific sexual behaviors are 24% for anal sex, 74% for vaginal sex, 74% for performing oral sex on another person, 79% for receiving oral sex from another person, and 12% for oral contact with another person’s anus. Students’ reported intentions to engage in these same behaviors are listed in Table 4.

Item A of Section I was evaluated to test hypothesis number 1 regarding students’ context-free definitions of sexual abstinence. This question asked “What is abstinence? Please write your personal definition of sexual abstinence in the following space BEFORE proceeding to the following pages.” Responses were coded into one of five increasingly explicit categories. Thirty-four percent of the sample indicated “avoid sex or sexual activity,” 32% indicated “avoid intercourse,” 6% indicated “avoid vaginal sex or intercourse,” 11% indicated avoid a combination of two out of three behaviors, and 8% indicated “avoid oral, anal, and vaginal sex or intercourse.” Thus, hypothesis number 2, which stated that of those participants who mentioned specific sexual behaviors in their definitions, more would cite references to avoiding vaginal intercourse, was not supported. As can be seen above, greater percentages (11% and 8%, respectively) mentioned two or three sexual behaviors. Approximately 8% of the respondents indicated answers that did not meet any of the above categories. [See Table 5 for a list of these responses.]

Next, in Item B of Section I, participants were asked to list the reasons why a person may choose to remain abstinent. Responses were categorized as mentioning a desire to reduce the chance of an unintended pregnancy and/or reduce STDs. Forty-
Table 3
Participants’ (N = 187) Involvement in Various Behaviors

<table>
<thead>
<tr>
<th>Behavior</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding hands</td>
<td>185</td>
<td>98.9</td>
</tr>
<tr>
<td>Masturbation</td>
<td>131</td>
<td>70.1</td>
</tr>
<tr>
<td>Anal sex*</td>
<td>44</td>
<td>23.5</td>
</tr>
<tr>
<td>Kissing with closed mouth</td>
<td>184</td>
<td>98.4</td>
</tr>
<tr>
<td>Kissing with open mouth</td>
<td>176</td>
<td>94.1</td>
</tr>
<tr>
<td>Vaginal sex*</td>
<td>139</td>
<td>74.3</td>
</tr>
<tr>
<td>Sexual thoughts about another person</td>
<td>181</td>
<td>96.8</td>
</tr>
<tr>
<td>Manually stimulated another person’s genitals</td>
<td>156</td>
<td>83.4</td>
</tr>
<tr>
<td>Performed oral sex on another person*</td>
<td>139</td>
<td>74.3</td>
</tr>
<tr>
<td>Received oral sex from another person*</td>
<td>147</td>
<td>78.6</td>
</tr>
<tr>
<td>Oral contact with another person’s anus*</td>
<td>23</td>
<td>12.4</td>
</tr>
</tbody>
</table>

*Behaviors that are inconsistent with the CDC’s definition of abstinence

Note: Frequency missing = 1 for oral contact with another person’s anus
Table 4
Participants’ (N = 187) Affirmative Intentions to Engage in Various Behaviors

<table>
<thead>
<tr>
<th>Behavior</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding hands</td>
<td>180</td>
<td>96.3</td>
</tr>
<tr>
<td>Masturbation</td>
<td>100</td>
<td>53.5</td>
</tr>
<tr>
<td>Anal sex*</td>
<td>20</td>
<td>10.8</td>
</tr>
<tr>
<td>Kiss with closed mouth</td>
<td>178</td>
<td>95.2</td>
</tr>
<tr>
<td>Kiss with open mouth</td>
<td>173</td>
<td>92.5</td>
</tr>
<tr>
<td>Vaginal sex*</td>
<td>124</td>
<td>66.3</td>
</tr>
<tr>
<td>Sexual thoughts about another person</td>
<td>68</td>
<td>89.8</td>
</tr>
<tr>
<td>Manually stimulate another person’s genitals</td>
<td>137</td>
<td>73.3</td>
</tr>
<tr>
<td>Perform oral sex on another person*</td>
<td>117</td>
<td>62.6</td>
</tr>
<tr>
<td>Receive oral sex from another person*</td>
<td>129</td>
<td>69.0</td>
</tr>
<tr>
<td>Oral contact with another person’s anus*</td>
<td>13</td>
<td>7.1</td>
</tr>
</tbody>
</table>

*Behaviors that are inconsistent with the CDC’s definition of abstinence

Note: Frequencies missing = 1 for anal sex and 3 for oral contact with another person’s anus
Table 5

List of Responses that Did Not Fall Into Any of the Assigned Categories for the Open-Ended Item, “What is Sexual Abstinence?”

1. “Not having sexually explicit contact with partner. Examples: sex, oral. Kissing in my opinion is considered abstinence. Even ‘heavy’ kissing, when it becomes too emotionally charged, then abstinence ceases [ceases] to exist.”
2. “Abstinence is not having any types of sex (oral or etc.).”
3. “Not having the desire for sex.”
4. “Refraining from all sexual relations (not like Bill [Clinton]), but all sexual acts.”
5. “Abstinence is not knowing about the opposite sex and being unaware of the diseases that are prevalent. Not caring.”
6. “Since I was younger, meaning beginning at the age of 13, I was taught that abstinence meant refraining from any sexual behaviors such as penetration by a male, “fooling around,” or any kind of sexual behavior.”
7. “Abstinence is making the choice to respect your body and beliefs in spite of all the sexual pressures one may face.”
8. “Abstinence is restraining from any sexual activity before marriage. Abstinence also means staying away from oral sex or any touching of the opposite sex.”
9. “In my opinion, abstinence is the practice of not having sexual intercourse including oral sex.”
Table 5 (continued)

10. “Refraining from sexual intercourse, or any exchange of semen or vaginal fluids.”

11. “I consider abstinence to be = no sexual contact whatsoever between two people. Kissing/hugging/holding hands is fine, but nothing further than that.”

12. “Abstinence is not participating in sexual intercourse (oral or otherwise), until marriage.”

13. “Abstinence is not having sex, (or abstaining from sex) it could be intercourse, and may include oral sex.”

14. “Sexual abstinence means no sexual interaction at all, including oral.”

15. “Free from any sexual activities, including oral.”
nine percent mentioned both pregnancy and STD reduction, 26% mentioned a desire to reduce the risk of STDs, and 2% of participants indicated a desire to reduce the risk of pregnancy. These results do not support hypothesis number 3 which stated that students would make more references to avoiding behaviors that can lead to pregnancy versus STDs. A moderate percentage (22%) listed responses that mentioned neither pregnancy nor STDs. The majority of these latter responses cited religious and/or moral reasons. [See Table 6 for a breakdown of responses to Item B.] It is also important to note that among those students who mentioned pregnancy and/or STD reduction, many of their responses also included elements that were unrelated to pregnancy and STDs.

In Section II participants were asked to decide whether a person could engage in a list of behaviors and still remain sexually abstinence. Frequencies for these responses are listed in Table 7. The following percentages of participants believed that a person could engage in specific sexual behaviors while still remaining abstinent: anal sex (8%), vaginal (3%), performing oral sex on another (43%), receiving oral sex (41%) and oral to anal contact (42%). Such beliefs are inconsistent with the CDC’s definition of abstinence and support hypothesis number 4.

This latter portion of the survey also constituted what is called the CDC consistency scale. [Please see the “scoring” section that describes how this scale was developed.] Possible scores ranged from a low of 0 to a high of 11. The mean score for this scale was 9.1. The highest majority of respondents (32%) received a score of 8, while 28% received a score of 10. See Table 8 for the exact percentages of scores for this scale.
Table 6

Responses to the Open-Ended Item, “In your opinion, what is/are the reason(s) why a person might choose to be sexually abstinent?” (N = 189)

<table>
<thead>
<tr>
<th>Response Description</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses indicating pregnancy reduction*</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Responses indicating STD reduction*</td>
<td>49</td>
<td>27</td>
</tr>
<tr>
<td>Responses indicating both pregnancy and STD reduction*</td>
<td>90</td>
<td>49</td>
</tr>
<tr>
<td>Responses that are not pregnancy or STD related*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td>125</td>
<td>66</td>
</tr>
<tr>
<td>Moral/Personal Values</td>
<td>80</td>
<td>42</td>
</tr>
<tr>
<td>Not emotionally able to handle the consequences</td>
<td>57</td>
<td>30</td>
</tr>
<tr>
<td>Waiting for the “right” relationship/marriage</td>
<td>52</td>
<td>28</td>
</tr>
<tr>
<td>Waiting for the “right” person</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>Familial/parental influences</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Physical</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Peer influences</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Lack of opportunity</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

*These categories are not mutually exclusive. Participants often provided multiple reasons, in addition to pregnancy and/or STD reduction.
Table 7

College Students' Beliefs of Whether Various Behaviors Constitute Sexual Abstinence

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Holding hands</td>
<td>186</td>
<td>99.5</td>
</tr>
<tr>
<td>Masturbation</td>
<td>166</td>
<td>88.8</td>
</tr>
<tr>
<td>Anal sex*</td>
<td>15</td>
<td>8.0</td>
</tr>
<tr>
<td>Kissing with closed mouth</td>
<td>185</td>
<td>98.9</td>
</tr>
<tr>
<td>Kissing with open mouth</td>
<td>180</td>
<td>96.3</td>
</tr>
<tr>
<td>Vaginal sex*</td>
<td>5</td>
<td>2.7</td>
</tr>
<tr>
<td>Sexual thoughts about another person</td>
<td>180</td>
<td>96.3</td>
</tr>
<tr>
<td>Manually stimulated another person's genitals</td>
<td>124</td>
<td>66.3</td>
</tr>
<tr>
<td>Performed oral sex on another person*</td>
<td>81</td>
<td>43.3</td>
</tr>
<tr>
<td>Received oral sex from another person*</td>
<td>77</td>
<td>41.2</td>
</tr>
<tr>
<td>Oral contact with another person’s anus*</td>
<td>79</td>
<td>42.2</td>
</tr>
</tbody>
</table>

Total 187

*Behaviors that are inconsistent with the CDC's definition of abstinence
Table 8
Results of the CDC Consistency Scale

<table>
<thead>
<tr>
<th># items consistent with the CDC’s definition of abstinence</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>33</td>
<td>17.6</td>
</tr>
<tr>
<td>10</td>
<td>52</td>
<td>27.8</td>
</tr>
<tr>
<td>9</td>
<td>22</td>
<td>11.8</td>
</tr>
<tr>
<td>8</td>
<td>59</td>
<td>31.6</td>
</tr>
<tr>
<td>7</td>
<td>19</td>
<td>10.2</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td>0-5</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
<td></td>
</tr>
</tbody>
</table>
In order to test hypothesis number 5, the CDC’s definition of abstinence was used to classify participants who had “truly” been sexually abstinent. Students had to indicate that they had not participated in oral, anal, and vaginal intercourse (i.e., items 4, 7, 10, 11, and 12) to meet this identification. As a result, 14% (N=27) of the sample met the criteria for being sexually abstinent (i.e., did not report previous engagement in any of the five sexual behaviors). Students’ responses to the question initially asked at the beginning of the survey, “According to your definition of the word, do you consider yourself to have been sexually abstinent up to the present time?” were compared to the CDC’s definition of abstinence and sexual activity. As a result, a discrepancy of 15% (or 28 participants) was found. Twenty-four students (or 86% of these 28 students) described themselves as abstinent; however, they did not meet the CDC’s criteria for such a description (see Table 9). Table 10 shows the break down of students’ initial responses that are discrepant with the CDC’s definition.

Students answered the question, “According to your definition of the word, do you consider yourself to have been sexually abstinent up to the present time?” twice during the survey. They were presented with this question for the first time as a part of Section I, and later towards the end of Section II (see items #1 and #35). As a piece of additional information, the consistency of students’ responses between these two items was assessed. Interestingly, 19 students (10%) changed their responses to this question near the completion of the survey. Twelve (63%) of these students identified themselves as abstinent at the onset of the survey, but later identified themselves as having been sexually active in the past. Seven students (37%) self-reported in the opposite direction.
Table 9
Description of Participants Who Contrary to the CDC’s Definition, Identified Themselves as Abstinent

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>14</td>
<td>58</td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>42</td>
</tr>
<tr>
<td><strong>Relationship status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not married or dating</td>
<td>9</td>
<td>38</td>
</tr>
<tr>
<td>Dating one person exclusively</td>
<td>14</td>
<td>58</td>
</tr>
<tr>
<td>Dating several people</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td><strong>Past sexual behavior</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previously engaged in one sexual behavior</td>
<td>9</td>
<td>38</td>
</tr>
<tr>
<td>Previously engaged in two sexual behaviors</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>Previously engaged in three sexual behaviors</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Previously engaged in four or more sexual behaviors</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>
Table 10

Description of Participants Whose Personal Identifications were Discrepant with the CDC’s Criteria for Classification as Sexually Active or Abstinent

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-identified themselves as abstinent,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yet reported previous sexual activity*</td>
<td>24</td>
<td>86</td>
</tr>
<tr>
<td>Previously engaged in anal sex</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Previously engaged in vaginal sex</td>
<td>8</td>
<td>33</td>
</tr>
<tr>
<td>Previously performed oral sex</td>
<td>17</td>
<td>71</td>
</tr>
<tr>
<td>Previously received oral sex</td>
<td>20</td>
<td>83</td>
</tr>
<tr>
<td>Previously engaged in oral/anal contact**</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>Self-identified themselves as sexually active,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yet did not report previous participation in a sexual behavior</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

* These categories are not mutually exclusive. Participants sometimes reported previous involvement in several of these sexual behaviors.

** Frequency missing = 1
Item 43 asked participants “If you were to choose to practice abstinence, what would be your primary reason for abstaining?” To test hypothesis number 6, which stated that students would select pregnancy prevention more than STD prevention as a primary reason to abstain, the frequencies of the three forced-choice options for this item were analyzed. Thirty-five percent noted “a desire to reduce the risk of sexually transmitted diseases (STDs)”, while 25% stated “a desire to reduce the risk of pregnancy.” Therefore, hypothesis number 6 was not supported. Furthermore, 40% of participants mentioned neither STDs nor pregnancy and selected the “other” option. Once again, participants cited a majority of moral and religious reasons in the blank line next to the “other” option. [See Table 11 for a description of responses to Item 43 that did not mention STD or pregnancy prevention in isolation.]

In order to test hypothesis number 7, by using eleven Chi-Square analyses, students’ participation in previous sexual behaviors were compared by to items that described their intentions to engage in these same behaviors within the next 365 days. As can be seen in Table 12, previous involvement in particular behaviors was significantly related to one’s intentions to engage in that behavior in the future, lending support to hypothesis number 7. This was true for both abstinent and sexually active behaviors.

Hypothesis number 8 predicted that a higher percentage of females would indicate no previous involvement in various sexual behaviors. In order to test this hypothesis, five Chi-Square analyses were conducted (see Table 13 for results of these analyses). As can be seen in this table, none of the analyses yielded statistically significant results; therefore, gender effects were not found. An additional
### Table 11

Description of “Other” Responses to the Item Assessing Participants’ Primary Reason for Hypothetically Choosing to Abstain

<table>
<thead>
<tr>
<th>Response</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td>32</td>
<td>46</td>
</tr>
<tr>
<td>Moral/Personal</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Both pregnancy and STD reduction</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Waiting for the right person</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Emotional</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Waiting for the right relationship/marriage</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Family/Parental influences</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lack of opportunity</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Physical</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>73</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: The above categories are not mutually exclusive. Eleven responses fell into more than one of the above categories; therefore, the number of responses exceeds the total N for this item.
Table 12
Results of Chi-Square Analyses of Previous Involvement and Future Intentions

<table>
<thead>
<tr>
<th>Activity</th>
<th>N</th>
<th>$X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding hands</td>
<td>187</td>
<td>.08</td>
</tr>
<tr>
<td>Masturbation</td>
<td>187</td>
<td>80.02***</td>
</tr>
<tr>
<td>Anal sex</td>
<td>186</td>
<td>33.94***</td>
</tr>
<tr>
<td>Kissing with closed mouth</td>
<td>187</td>
<td>5.41*</td>
</tr>
<tr>
<td>Kissing with open mouth</td>
<td>187</td>
<td>71.82***</td>
</tr>
<tr>
<td>Vaginal sex</td>
<td>187</td>
<td>90.31***</td>
</tr>
<tr>
<td>Sexual thoughts about another person</td>
<td>187</td>
<td>21.68***</td>
</tr>
<tr>
<td>Manually stimulated another person’s genitals</td>
<td>187</td>
<td>93.05***</td>
</tr>
<tr>
<td>Performed oral sex on another person</td>
<td>187</td>
<td>94.04***</td>
</tr>
<tr>
<td>Received oral sex from another person</td>
<td>187</td>
<td>89.03***</td>
</tr>
<tr>
<td>Oral contact with another person’s anus</td>
<td>184</td>
<td>53.13***</td>
</tr>
</tbody>
</table>

*** p<.001
** p<.01
* p<.05
Table 13
Results of Chi-Square Analyses of Previous Involvement with Various Sexual Behaviors by Gender

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
<th>X^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons indicating past experience with anal sex  (Frequency missing = 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>26</td>
<td>25.0</td>
<td>.47</td>
</tr>
<tr>
<td>Males</td>
<td>17</td>
<td>20.7</td>
<td></td>
</tr>
<tr>
<td>Persons indicating past experience with vaginal sex  (Frequency missing = 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>80</td>
<td>76.9</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>58</td>
<td>70.7</td>
<td>.92</td>
</tr>
<tr>
<td>Persons indicating past experience with performing oral sex  (Frequency missing = 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>79</td>
<td>76.0</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>59</td>
<td>72.0</td>
<td>.39</td>
</tr>
<tr>
<td>Persons indicating past experience with receiving oral sex  (Frequency missing = 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>83</td>
<td>79.8</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>63</td>
<td>76.8</td>
<td>.24</td>
</tr>
</tbody>
</table>
Table 13 (continued)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
<th>$X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons indicating past experience with oral-anal contact (Frequency missing = 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>12</td>
<td>11.5</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>10</td>
<td>12.4</td>
<td>.03</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**$p<.01$**

* $p<.05$
Chi-Square analysis was conducted comparing gender and age to see if females in this sample were generally older (and by virtue more experienced) than males. Results of this analysis also found no statistical significance \( \chi^2(4, N = 186) = 7.03, p > .10 \).

Hypothesis number 9 predicted that females would state more intentions than males to abstain in the future. To assess whether a gender effect was present for participants’ intentions to engage in these behaviors in the future, five additional Chi-Square analyses were conducted. The results can be found in Table 14. The results failed to find a gender effect.

Although gender was not found to be statistically associated with either previous involvement in or future intentions to participate in the sexual behaviors using the Chi-Square analyses, five logistic regression analyses were calculated to test hypothesis number 10. This hypothesis predicted that students’ previous involvement in the five sexual behaviors, when added to the variable of gender, would help to predict students’ future intentions to engage in these same behaviors. The results of these analyses suggest that gender, even in combination with students’ previous behavior, does not significantly predict students’ future intentions to abstain. A more detailed description of the results of the five logistic regression analyses can be found in Table 15.
Table 14

Results of Chi-Square Analyses of Future Intentions to Engage in Various Sexual Behaviors by Gender

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
<th>X²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons indicating future intentions to engage in anal sex (Frequency missing = 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>9</td>
<td>8.7</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>10</td>
<td>12.4</td>
<td>.67</td>
</tr>
<tr>
<td>Persons indicating future intentions to engage in vaginal sex (Frequency missing = 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>68</td>
<td>65.4</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>55</td>
<td>67.1</td>
<td>.06</td>
</tr>
<tr>
<td>Persons indicating future intentions to perform oral sex (Frequency missing = 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>62</td>
<td>59.6</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>54</td>
<td>65.9</td>
<td>.76</td>
</tr>
<tr>
<td>Persons indicating future intentions to receive oral sex (Frequency missing = 3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>70</td>
<td>67.3</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>58</td>
<td>70.7</td>
<td>.25</td>
</tr>
</tbody>
</table>
Table 14 (continued)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>%</th>
<th>$X^2$</th>
</tr>
</thead>
</table>

Persons indicating future intentions to have oral-anal contact
(Frequency missing = 6)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>6</td>
<td>5.83</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>7</td>
<td>8.75</td>
<td>.58</td>
</tr>
</tbody>
</table>

Total 189

**p<.01
*p<.05
### Table 15

Results of the Logistic Regression Analyses Used to Predict Students’ Future Behavioral Intentions

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>$X^2$</th>
<th>Standardized estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anal sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.65</td>
<td>.19</td>
</tr>
<tr>
<td>Previous involvement</td>
<td>22.46***</td>
<td>-.63</td>
</tr>
<tr>
<td><strong>Vaginal sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.57</td>
<td>16</td>
</tr>
<tr>
<td>Previous involvement</td>
<td>53.96****</td>
<td>-.98</td>
</tr>
<tr>
<td><strong>Receive oral sex from another person</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.34</td>
<td>.15</td>
</tr>
<tr>
<td>Previous involvement</td>
<td>44.36****</td>
<td>-.99</td>
</tr>
<tr>
<td><strong>Perform oral sex on another person</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>3.33</td>
<td>.24</td>
</tr>
<tr>
<td>Previous involvement</td>
<td>39.12****</td>
<td>-1.18</td>
</tr>
<tr>
<td><strong>Oral contact with another person’s anus</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.64</td>
<td>.15</td>
</tr>
<tr>
<td>Previous involvement</td>
<td>27.10****</td>
<td>-.68</td>
</tr>
</tbody>
</table>
Table 15 (continued)

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>****p&lt;.0001</td>
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<tr>
<td>***p&lt;.001</td>
</tr>
<tr>
<td>**p&lt;.01</td>
</tr>
<tr>
<td>* p&lt;.05</td>
</tr>
</tbody>
</table>
Discussion

The present study sought to clarify the definition of sexual abstinence. As stated earlier, there are discrepancies among college students and also professionals as to what abstinence really means. Results of the Horan et al. (1998) study suggest that a troubling percentage of students believed behaviors that could increase one’s risk for an STD or pregnancy were within the realm of abstinent behavior. Not only do college students have these beliefs, but studies are suggesting that a majority of students are indeed sexually active (e.g., Baldwin et al., 1992). Likewise, a growing number of college students are becoming infected with HIV and other STDs. In fact, college-aged individuals represent one of the fastest growing groups of people who are infected with HIV (CDC, 1994). Given all this information, this exploratory study tried to assess college students’ explicit understanding of the term abstinence and their previous involvement in and future risk for engaging in behaviors that could put them at risk for STDs or unintended pregnancies.

The majority of participants in this study consisted of students who were between the ages of 21 and 24. Fifty-six percent of the sample was female and 25% consisted of ethnic/racial minorities. An overwhelming majority, 86% of the sample met the CDC’s criteria for being sexually active. However, 28 students differed with the CDC’s definition of abstinence when asked to describe themselves as sexually active or abstinent. The majority of this group (n = 24) identified themselves as abstinent even though the CDC’s definition of abstinence did not support such identification. This is troubling because it is possible that these individuals are practicing sexual behaviors
that can transmit semen and STDs and may not be taking the proper cautions to protect themselves from pregnancy or STDs. Oral sex is a prime example of a behavior for which this may be happening.

As can be seen from the data, all of the sexual behaviors have been experienced by many of the participants in this study. The participation rate for the more common oral sex-related behaviors ranged from 74% to 79%. Yet when asked, over 40% of the sample believed that oral sex was abstinent behavior. Once again, this brings up the question of whether students are protecting themselves from STDs while engaging in this presumably “safe” behavior. Published research findings (e.g., Baldwin et al., 1992) suggest they are not.

Results of the context-free item that solicited students’ definitions of abstinence suggest that the majority of students in this sample (66%) have rather vague definitions of abstinence when their responses are solicited in an unstructured format. Of those students who mentioned specific sexual behaviors, only 6% mentioned vaginal intercourse in isolation. More students (11%) indicated two of the three sexual behaviors, and 8% gave definitions that were operationally defined and included all three of the sexual behaviors that are identified by the CDC. Of note here were four respondents (2%) that explicitly stated that oral sex was not considered a form of sexual activity.

It is still troubling that the majority of students’ working definitions of abstinence are very vague. Again, more than half provided definitions that were not operationally defined. Some may argue that providing vague definitions is not of great concern because students were able to correctly identify vaginal sex as not abstinent behavior.
given the more detailed context of a multiple-choice question. Yet many students believed that anal sex (8%) and various forms of oral sex (more than 40%) were abstinent behaviors. Based on this information, it becomes apparent that working definitions of abstinence are important to consider after all.

Contrary to previous research (e.g., Baffi et al., 1989), college students in this study express greater concern about reducing the risk of contacting an STD than preventing an unintended pregnancy. In this study, when provided with a context-free item, only 2% mentioned that a desire to reduce an unintended pregnancy was a reason to abstain. However, because this survey does not address the methods of protection used during sexual intercourse, it may be misleading to believe that such thinking (i.e., the desire to prevent contracting an STD) translates into sexually responsible practices. In fact, previous research (Gray et al., 1989) suggests that students’ knowledge base has very little to do with safer sex practices.

When students’ results on the CDC consistency scale were analyzed, it appears that, overall, students are relatively in accordance with the CDC’s definition of abstinence. They were able to categorize nine out of 11 abstinent or not abstinent behaviors consistent with the CDC’s definition. Although these results may look impressive to some people, college students’ knowledge of abstinence is incomplete. In fact, 82% received less than a perfect score on this scale. It also appears that those behaviors that were most in disagreement with the CDC’s definition (i.e., oral sex-related behaviors) can indeed be problematic since they may lead to the contraction of an STD. This suggests that more focus be placed on informing students of the dangers of oral sex, a behavior that is now regarded by some students as relatively “safe.” This
may especially hold true for non-college-aged students. Thus contrary to current programs that emphasize “abstinence only” messages, this study provides evidence that supports the practice of providing students with explicit safer sex information.

Thirteen percent of this college sample labeled themselves as abstinent despite previous involvement in sexual behaviors. The fact that there were 24 college students who believed they were abstinent despite having engaged in at least one form of intercourse that transmits STDs points to the need to clearly define abstinence. It is very possible that while some participants engaged in these behaviors, believing they were remaining abstinent, they did not take precautions to avoid an unintended pregnancy or STD. Furthermore, since this study consists of college-educated individuals, it is very likely that the aforementioned percentage would be higher for younger students who are sexually active. The HIV/AIDS-related knowledge of sexually active adolescents has been reported as significantly lower than that of their abstinent peers’ (Brown et al., 1992).

One assumption that cannot be made from the results of this study is that students never received explicit safer sex information via formal instruction or less overt messages. Although a number of students stated beliefs that various forms of oral sex are abstinent behaviors, it is possible that their inconsistency with the CDC is not the result of a lack of information, but rather a denial that these behaviors constitute “real” sex. Such a response has been discussed within the theory of cognitive dissonance as discussed by Leon Festinger (see Sprinthall, Sprinthall, and Oja, 1998). This theory states that people, when faced with information that does not fit within their current schema, will try to adjust their thinking to lessen their experience of disequilibrium.
Some students within this sample (many of whom admittedly had engaged in at least one these behaviors), may have identified various forms of oral sex as abstinence because to do otherwise would imply that they had been sexually active. Such a phenomenon may also help to explain why a number of students identified themselves as abstinent, yet according to the CDC, had participated in at least one form of sexual activity.

When asked to identify a primary reason why they personally might choose to abstain, 35% and 26% selected STD and pregnancy reduction, respectively. This finding is not consistent with previous research by Keller (1993) which reported that students were more concerned with reducing the risk of an unintended pregnancy over an STD. Additional research may be needed to see if college students’ concern over contracting an STD is indeed increasing.

In response to Item B, “In your opinion, what is/are the reason(s) why a person might choose to be sexually abstinent?,” 68% of the sample indicated that sexual abstinence is something that one would choose in keeping with religious or moral teachings. Forty-five students (25% of the sample) identified these factors as the primary reasons to practice abstinence. It is possible that some students may not feel that abstinence is a realistic practice because they see abstinence as relevant only to those who desire to conform to religious teachings. For those that do not consider themselves as having strong religious beliefs, abstaining from sexual activity may seem next to impossible because they do not have the social support of a religious community that would commend a decision to abstain. Without such encouragement,
perceived peer and media pressure may be too overwhelming for young people, leaving them to become sexually active.

The results of this study, consistent with earlier research by Leigh et al. (1994), suggest that students’ previous sexual behaviors are highly correlated with their future intentions to participate in the same behaviors. Therefore, one may argue that safer sex information needs to be shared with students before they become sexually active due to the increased difficulty of altering behavior patterns once they become established.

In this study, gender was not related to students’ previous sexual histories or future intentions. This finding is inconsistent with other research which suggests that males are more sexually active than females (e.g., DeGaston et al., 1996). Future research assessing explicit sexual behaviors of male and female college students should be conducted to determine if a gender difference no longer is true.

**Limitations of the study**

As with most research, there are factors that may limit the interpretation of the results of this study. First, this researcher realizes the lack of randomization that could lower the generalizability of the study. A relatively small sample size (when compared to the Horan et al. study) could also explain why several of the results were not in the hypothesized direction. This study also contained volunteers and it is not known whether the beliefs of those who decided not to participate are different than those who completed the survey.

Another limitation of the study that limits the conclusions that one can draw is its focus on university students. Perhaps the study needs to be replicated with other universities in different parts of the country in order to gain a more representative
sample of college students. Additionally, college students represent only a portion of sexually-active youth. It is possible that younger adolescents may have definitions of abstinence that are even more discrepant with the CDC’s definition. If so, they may be at even greater risk of contracting an STD such as HIV due to inconsistent condom usage (Collins, 1997). Such a population was not sampled, but exploring their perceptions of abstinence would be an excellent “next step” with this research.

This study’s failure to find gender differences may be partially explained by the use of an explicit sign-up form (see Appendix D). This form was publicly posted on a bulletin board within the College of Education and Psychology. Such a public display may have deterred potential participants, especially those who are less comfortable discussing sex, from expressing interest in the study and placing their names on the sign-up sheet. To help alleviate this problem, less overt means of recruiting participants should be considered in the future.

Because a self-report measure was used, it is also possible that participants may have provided socially acceptable answers. For example, a person may not have reported participation in a sexual behavior because he/she wanted to paint his/her behavior as more socially appropriate. Lastly, another factor that may have influenced the results of this study is the recent media controversy that surrounds the President of the United States. Within the last year, oral sex has gained a great deal of attention from the media due to the President’s alleged, and now admitted, extra-marital relations. It is unknown how (if at all) participants’ rationales for defining abstinence were influenced by these recent events. Unfortunately, because this study did not
involve a pre- and post-measure design, it is impossible to know in what direction the results would have changed.

**Future directions of research**

Because there is a national movement to educate middle and high school students of the benefits of abstinence, this researcher believes that it is imperative that a similar study be conducted to incorporate the ideas of younger students. If 13% of the present sample of college students believed they were abstinent (contrary to the CDC’s definition of abstinence), it is likely that this number would be even higher with non-college aged students.

Another area that the findings do not address are whether students actually practice safer sex behavior. In an effort to gain more information as to the behavioral practices of college students, it is believed that more research should explore students’ methods of prevention used during sexual activity. Even though students in the present study indicated that they were indeed concerned about the possibility of acquiring an STD, based on the finding of previous researchers (e.g., Baldwin et al., 1992), there may still be a dependency on pregnancy preventive measures during intercourse instead of measures that also prevent STDs.
References


Appendix A

Coding Instructions for the Open-Ended Items
Coding Instructions for the Open-Ended Questions

ITEM A: What is abstinence? Please write your personal definition of sexual abstinence in the following space BEFORE proceeding to any of the following pages.

CODING: Assess each response for a reference to oral, anal, and/or vaginal intercourse. Please code response options on the accompanying chart using the following categories:

- 0 = avoid sex/sexual contact/sexual activity
- 1 = avoid intercourse
- 2 = avoid vaginal intercourse
- 3 = avoid combination of vaginal and oral intercourse, or vaginal and anal intercourse, or oral and anal intercourse (i.e., mention two sexual behaviors)
- 4 = avoid oral, anal, and vaginal intercourse (i.e., mention all three sexual behaviors)
- 5 = other (If the response does not fit into one of the above categories, please place a short-hand version of the response in the space provided.)

EXAMPLES:

<table>
<thead>
<tr>
<th>Response</th>
<th>Score</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Abstinence is refraining from sexual intercourse. It does not include foreplay or oral sex.”</td>
<td>1</td>
<td>does not include foreplay or oral sex</td>
</tr>
<tr>
<td>“Avoidance of anal, vaginal, or oral sex.”</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>“Refraining from intercourse, oral, and anal sex.” [If the other two are mentioned, intercourse can be substituted for vaginal sex.]</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>“Not having any type of sex.”</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>“No sexual interaction, including oral sex.” [Although sexual interaction (a vague term) is mentioned, it is scored a 5 because oral sex is specifically mentioned.]</td>
<td>5</td>
<td>no sexual interaction, including oral sex</td>
</tr>
</tbody>
</table>
ITEM B: In your opinion, what is/are the reason(s) why a person might choose to be sexually abstinent?

CODING: Assess each response for the presence of a suggestion to prevent or reduce the risk of pregnancy versus STDs. On the accompanying chart, please record your rating using the following categories:

- 0 = neither pregnancy nor STD prevention mentioned
- 1 = reduce/prevent pregnancy
- 2 = reduce/prevent STDs
- 3 = reduce/prevent both pregnancy and STDs

A lot of the responses for this item appear to include moral/religious reasons, and/or a desire to wait for the “right” person or the “right” relationship. In these cases, I would code “0,” “1,” “2,” or “3” and write under the “other” category one of more of the following:

- “EMO” for not emotionally ready
- “FAM” for parental or family reasons
- “MOR” for moral reasons
- “OPP” for lack of opportunity
- “OWN” for personal beliefs and values
- “PEER” for peer influence or reputation
- “PER” for waiting for the right person
- “PHY” for physical limitations or disabilities
- “RLGN” for religious reasons
- “REL’N” for waiting for the right relationship or marriage

You can be inventive with the abbreviations, just please remember to let me know what each abbreviation means. EXAMPLE:

<table>
<thead>
<tr>
<th>Response</th>
<th>Score</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Desire to avoid pregnancy or STDs, religious reasons.”</td>
<td>3</td>
<td>RLGN</td>
</tr>
<tr>
<td>“Want to avoid becoming contracting an STD.”</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>“Because of shame or guilt.”</td>
<td>0</td>
<td>SHAME OR GUILT</td>
</tr>
<tr>
<td>“Want to avoid becoming pregnant, not emotionally ready.”</td>
<td>1</td>
<td>EMO</td>
</tr>
<tr>
<td>“Out of respect for the other person.”</td>
<td>0</td>
<td>RESPECT FOR THE OTHER</td>
</tr>
</tbody>
</table>

OTHER: I have separated the pilot 1 data from the data for pilot 2. The short-answer responses are ordered by subject number, but if they become scrambled, you can find the subject number by looking at the last two digits of the four-digit code number.
Appendix B

Survey
NORTH CAROLINA STATE UNIVERSITY
INFORMED CONSENT FORM

College Students’ Perceptions of and Intentions to Engage in Sexually Abstinent Behaviors

Principal Investigator: Malissa A. Bailey Faculty Sponsor: Dr. Patricia A. Horan

You are invited to participate in a research study. The following survey, which examines personally sensitive (i.e., sexuality related) information, is being conducted by a team of researchers led by Patricia F. Horan, Associate Professor of Psychology at North Carolina State University. The purpose of this study is to explore college students’ personal definitions of abstinence and abstinence-related behaviors. You will be asked questions that examine one’s sexual behavior.

Your participation in this study is completely voluntary. Completion of this survey is not a requirement of any course, nor will refusal to answer the questions affect your performance in any course work. At the conclusion of the survey, you will receive information regarding this line of research, and you will have the opportunity to ask any questions you may have. Total estimated time for this study will range between 15-20 minutes.

Do NOT write your name on the survey. We do NOT want to know how specific students answered. The questions that ask about your age, gender, grade, race, etc. will only be used to describe the students completing this survey. The information will NOT be used to find out your name. No reference will be made in oral or written reports which could link you to the study. The answers you give will be kept strictly confidential. Data will be stored securely and will be made available only to persons conducting the study.

You may decline to participate without penalty. This survey contains sexually-explicit information. If you begin to feel uncomfortable and do not want to continue, you may leave and still receive your research credit for Psychology 200. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

If you have questions later, or you would like to discuss this research, you may contact Dr. Patricia Horan at her office in Poe 625, or telephone her at 515-1707. If you feel you have not been treated according to the descriptions in this form, or your rights as a research participant have been violated during the course of this project, you may contact Dr. Gary A. Mirka, Chair of the NCSU IRB for the Use of Human Subjects in Research Committee, Box 7906, NCSU Campus.

CONSENT: After reading the following statement, if you chose to participate in this study, please sign below.

“By signing this form, I agree that I understand my rights as a participant in this study. I have received a copy of this form, and I give permission to Dr. Horan and the members of her research team to include my responses in their analysis of the results.”

Subject’s Signature _____________________________ Date ___________
Investigator’s Signature _____________________________ Date ___________

REMEMBER
The pages of this survey and accompanying scantron sheet are numerically coded to facilitate data analysis. DO NOT WRITE YOUR NAME ON THE SURVEY OR SCANTRON.
A. What is abstinence? Please write your personal definition of sexual abstinence in the following space BEFORE proceeding to any of the following pages.

B. In your opinion, what is/are the reason(s) why a person might choose to be sexually abstinent?

On both this form AND your scantron sheet, circle and/or fill in “A” for “YES” or “B” for “NO” to answer the following question:

1. According to your definition of the word, do you consider yourself to have been sexually abstinent up to the present time?
   a. Yes
   b. No
SECTION 2

The following questions ask about your **PREVIOUS INVOLVEMENT** in specific behaviors. **Please answer this section according to your experience with these specific behaviors with either your current or previous partner(s).**

**On your scantron sheet, fill in circle “A” for “YES” or “B” for “NO.”**

2. Have you willingly **HELD HANDS** with another person?
3. Have you willingly **MASTURBATED**?
4. Have you willingly engaged in **ANAL SEX** with another person?
5. Have you willingly **KISSED** another person **(with closed mouth)**?
6. Have you willingly **KISSED** another person **(with tongue contact)**?
7. Have you willingly engaged in **VAGINAL SEX** with another person?
8. Have you willingly had **SEXUAL THOUGHTS** about another person?
9. Have you willingly **MANUALLY STIMULATED ANOTHER PERSON’S GENITALS?**
10. Have you willingly **PERFORMED ORAL SEX** on another person?
11. Have you willingly **HAD ANOTHER PERSON PERFORM ORAL SEX** on you?
12. Have you willingly had **ORAL CONTACT WITH ANOTHER PERSON’S ANUS?**

The following section asks for your **INTENTIONS** to engage in the following specific behaviors. **Please answer the following questions according to your future intentions to engage in the following behaviors within the NEXT YEAR.**

**On your scantron sheet, fill in circle “A” for “YES” or “B” for “NO.”**

13. In the next 365 days, do you intend to **HOLD HANDS** with another person?
14. In the next 365 days, do you intend to **MASTURBATE**?
15. In the next 365 days, do you intend to engage in **ANAL SEX** with another person?
16. In the next 365 days, do you intend to **KISS** another person **(with closed mouth)?**
17. In the next 365 days, do you intend to **KISS** another person **(with tongue contact)?**
18. In the next 365 days, do you intend to engage in **VAGINAL SEX** with another person?
19. In the next 365 days, do you intend to have **SEXUAL THOUGHTS** about another person?
20. In the next 365 days, do you intend to **MANUALLY STIMULATE ANOTHER PERSON’S GENITALS?**
21. In the next 365 days, do you intend to **PERFORM ORAL SEX** on another person?

22. In the next 365 days, do you intend to **HAVE ANOTHER PERSON PERFORM ORAL SEX** on you?

23. In the next 365 days, do you intend to have **ORAL CONTACT WITH ANOTHER PERSON’S ANUS**?

Please answer this section according to your **PERSONAL DEFINITION** of “abstinence.”

**On your scantron sheet, fill in circle “A” for “YES” or “B” for “NO.”**

24. According to your personal definition of abstinence, could a person who has decided to be abstinent **HOLD HANDS** with another person while still remaining abstinent?

25. According to your personal definition of abstinence, could a person who has decided to be abstinent **MASTURBATE** while still remaining abstinent?

26. According to your personal definition of abstinence, could a person who has decided to be abstinent engage in **ANAL SEX** with another person while still remaining abstinent?

27. According to your personal definition of abstinence, could a person who has decided to be abstinent **KISS (WITH CLOSED MOUTH)** while still remaining abstinent?

28. According to your personal definition of abstinence, could a person who has decided to be abstinent **KISS (WITH TONGUE CONTACT)** while still remaining abstinent?

29. According to your personal definition of abstinence, could a person who has decided to be abstinent engage in **VAGINAL SEX** with another person while still remaining abstinent?

30. According to your personal definition of abstinence, could a person who has decided to be abstinent have **SEXUAL THOUGHTS** about another person while still remaining abstinent?

31. According to your personal definition of abstinence, could a person who has decided to be abstinent **MANUALLY STIMULATE ANOTHER PERSON’S GENITALS** while still remaining abstinent?

32. According to your personal definition of abstinence, could a person who has decided to be abstinent **PERFORM ORAL SEX** on another person while still remaining abstinent?

33. According to your personal definition of abstinence, could a person who has decided to be abstinent **HAVE ANOTHER PERSON PERFORM ORAL SEX** on him or her while still remaining abstinent?

34. According to your personal definition of abstinence, could a person who has decided to be abstinent have **ORAL CONTACT WITH ANOTHER PERSON’S ANUS** while still remaining abstinent?
Your honest response to each question is extremely important. We would appreciate your answers to each of the following items.

35. According to your definition of the word, do you consider yourself to have been sexually abstinent up to the present time?
   a. Yes
   b. No

36. How old are you?
   a. 17 years old or younger
   b. 18 years old
   c. 19 years old
   d. 20 years old
   e. 21 years old or older

37. How are you currently classified at North Carolina State University?
   a. Freshman
   b. Sophomore
   c. Junior
   d. Senior
   e. Graduate Student/Other

38. What gender are you?
   a. Female
   b. Male

39. What race are you? if you are multiracial, fill in all that apply.
   a. White - not Hispanic
   b. Black - not Hispanic
   c. Hispanic
   d. Asian or Pacific Islander
   e. Native American or Alaskan Native

40. Which category most applies to you at this time?
   a. Not married or dating
   b. Not married, but dating one person exclusively
   c. Not married, but dating several people
   d. Married

41. Which word describes your sexual orientation?
   a. Heterosexual - a sexual orientation for members of the opposite sex
   b. Homosexual - a sexual orientation for members of the same sex
   c. Bisexual - a sexual orientation for members of both sexes
   d. Unsure
42. What was the most recent context in which you received formal sexuality education?
   a. I have never received formalized sexual education.
   b. Middle school
   c. High school
   d. College
   e. Health clinic or other health-related setting

43. If you were to choose to practice abstinence, what would be your PRIMARY reason for abstaining?
   a. A desire to reduce the risk of sexually transmitted diseases (STDs)
   b. A desire to reduce the risk of pregnancy
   c. Other (please specify): ________________________________________________

    Thank you for your participation in this study!
Appendix C

SAS Statistical Programs
DATA PILOT1;
  INFILE 'A:\EXCEL\PILOT1.TXT' DLM='09'X DSD LRECL=400;
  INPUT SUBJECT OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTRPI_ANAL PI_CLDMH PI_OPNMH PI_VAG PI_SXTHG PI_STMGN PI_ORLPR PI_ORLRC PI_ORLAN IN_HNDS IN_MSTR IN_ANAL IN_CLDMH IN_OPNMH IN_VAG IN_SXTHG IN_STMGN IN_ORLPR IN_ORLRC IN_ORLAN DF_HNDS DF_MSTR DF_ANAL DF_CLDMH DF_OPNMH DF_VAG DF_SXTHG DF_STMGN DF_ORLPR DF_ORLRC DF_ORLAN OPN_ABS2 AGE YEAR GENDER RACE RLTN_STS SEX_ORNT SEX_ED PRIM_RSN ;

  PI=SUM(PI_HNDS, PI_MSTR, PI_ANAL, PI_CLDMH, PI_OPNMH, PI_VAG, PI_SXTHG, PI_STMGN, PI_ORLPR, PI_ORLRC, PI_ORLAN);

  IN=SUM(IN_HNDS, IN_MSTR, IN_ANAL, IN_CLDMH, IN_OPNMH, IN_VAG, IN_SXTHG, IN_STMGN, IN_ORLPR, IN_ORLRC, IN_ORLAN);

  DF=SUM(DF_HNDS, DF_MSTR, DF_ANAL, DF_CLDMH, DF_OPNMH, DF_VAG, DF_SXTHG, DF_STMGN, DF_ORLPR, DF_ORLRC, DF_ORLAN);

  SURVEY=SUM (OPEN_DEF, OPEN_RSN, OPN_ABS1, PI_HNDS, PI_MSTR, PI_ANAL, PI_CLDMH, PI_OPNMH, PI_VAG, PI_SXTHG, PI_STMGN, PI_ORLPR, PI_ORLRC, PI_ORLAN, IN_HNDS, IN_MSTR, IN_ANAL, IN_CLDMH, IN_OPNMH, IN_VAG, IN_SXTHG, IN_STMGN, IN_ORLPR, IN_ORLRC, IN_ORLAN, DF_HNDS, DF_MSTR, DF_ANAL, DF_CLDMH, DF_OPNMH, DF_VAG, DF_SXTHG, DF_STMGN, DF_ORLPR, DF_ORLRC, DF_ORLAN, OPN_ABS2, AGE, YEAR, GENDER, RACE, RLTN_STS, SEX_ORNT, SEX_ED, PRIM_RSN);

  DF=1;

  PROC SORT; BY SUBJECT;
  *PROC CORR NOSIMPLE ALPHA;
  RUN;

DATA PILOT2;
  INFILE 'A:\EXCEL\PILOT2.TXT' DLM='09'X DSD LRECL=400;
  INPUT SUBJECT OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTR
IF SUBJECT=. THEN DELETE;

PI=SUM(PI_HNDS, PI_MSTR, PI_ANAL, PI_CLDMH, PI_OPNMH, PI_VAG, PI_SXTHG, PI_STMGN, PI_ORLPR, PI_ORLRC, PI_ORLAN);

IN=SUM(IN_HNDS, IN_MSTR, IN_ANAL, IN_CLDMH, IN_OPNMH, IN_VAG, IN_SXTHG, IN_STMGN, IN_ORLPR, IN_ORLRC, IN_ORLAN);

DF=SUM(DF_HNDS, DF_MSTR, DF_ANAL, DF_CLDMH, DF_OPNMH, DF_VAG, DF_SXTHG, DF_STMGN, DF_ORLPR, DF_ORLRC, DF_ORLAN);

SURVEY=SUM(OPN_ABS1, PI_HNDS, PI_MSTR, PI_ANAL, PI_CLDMH, PI_OPNMH, PI_VAG, PI_SXTHG, PI_STMGN, PI_ORLPR, PI_ORLRC, PI_ORLAN, IN_HNDS, IN_MSTR, IN_ANAL, IN_CLDMH, IN_OPNMH, IN_VAG, IN_SXTHG, IN_STMGN, IN_ORLPR, IN_ORLRC, IN_ORLAN, DF_HNDS, DF_MSTR, DF_ANAL, DF_CLDMH, DF_OPNMH, DF_VAG, DF_SXTHG, DF_STMGN, DF_ORLPR, DF_ORLRC, DF_ORLAN, OPN_ABS2, AGE, YEAR, GENDER, RACE, RLTN_STS, SEX_ORNT, SEX_ED, PRIM_RSN);

PROC SORT; BY SUBJECT;
*PROC CORR NOSIMPLE ALPHA;
RUN;

DATA DIFF; MERGE PILOT1 PILOT2(RENAME=(OPEN_DEF=OP2_DEF OPEN_RSN=OP2_RSN OPN_ABS1=OP2_ABS1 PI=PI2 IN=IN2 DF=DF2 SURVEY=SURVEY2 PI_HNDS=P2_HNDS PI_MSTR=P2_MSTR PI_ANAL=P2_ANAL PI_CLDMH=P2_CLDMH PI_OPNMH=P2_OPNMH PI_VAG=P2_VAG PI_SXTHG=P2_SXTHG)
PI_STMGN=P2_STMGN
PI_ORLPR=P2_ORLPR
PI_ORLRC=P2_ORLRC
PI_ORLAN=P2_ORLAN
IN_HNDS=I2_HNDS
IN_MSTR=I2_MSTR
IN_ANAL=I2_ANAL
IN_CLDMH=I2_CLDMH
IN_OPNMH=I2_OPNMH
IN_VAG=I2_VAG
IN_SXTHG=I2_SXTHG
IN_STMGN=I2_STMGN
IN_ORLPR=I2_ORLPR
IN_ORLRC=I2_ORLRC
IN_ORLAN=I2_ORLAN
DF_HNDS=D2_HNDS
DF_MSTR=D2_MSTR
DF_ANAL=D2_ANAL
DF_CLDMH=D2_CLDMH
DF_OPNMH=D2_OPNMH
DF_VAG=D2_VAG
DF_SXTHG=D2_SXTHG
DF_STMGN=D2_STMGN
DF_ORLPR=D2_ORLPR
DF_ORLRC=D2_ORLRC
DF_ORLAN=D2_ORLAN
OPN_ABS2=OP2_ABS2
AGE=AGE2
YEAR=YEAR2
GENDER=GENDER2
RACE=RACE2
RLTN_STS=RLT2_STS
SEX_ORNT=SX2_ORNT
SEX_ED=SEX_ED2
PRIM_RSN=PRM2_RSN));

BY SUBJECT;
  OP_DEF = OPEN_DEF-OP2_DEF;
  OP_RSN = OPEN_RSN-OP2_RSN;
  OP_ABS1 = OPN_ABS1-OP2_ABS1;
  PI_DIFF = PI-P2;
  IN_DIFF = IN-IN2;
  DF_DIFF = DF-DF2;
  SRV_DIFF = SURVEY-SURVEY2;
  PHN_DIFF = PI_HNDS-P2_HNDS;
  PMS_DIFF = PI_MSTR-P2_MSTR;
  PAN_DIFF = PI_ANAL-P2_ANAL;
PCL_DIFF = PI_CLDMH-P2_CLDMH;
PON_DIFF = PI_OPNMH-P2_OPNMH;
PVG_DIFF = PI_VAG-P2_VAG;
PSX_DIFF = PI_SXTHG-P2_SXTHG;
PSM_DIFF = PI_STMGN-P2_STMGN;
POP_DIFF = PI_ORLPR-P2_ORLPR;
POR_DIFF = PI_ORLRC-P2_ORLRC;
POA_DIFF = PI_ORLAN-P2_ORLAN;
IHN_DIFF = IN_HNDS-I2_HNDS;
IMS_DIFF = IN_MSTR-I2_MSTR;
IAN_DIFF = IN_ANAL-I2_ANAL;
ICL_DIFF = IN_CLDMH-I2_CLDMH;
ION_DIFF = IN_OPNMH-I2_OPNMH;
IVG_DIFF = IN_VAG-I2_VAG;
ISX_DIFF = IN_SXTHG-I2_SXTHG;
ISM_DIFF = IN_STMGN-I2_STMGN;
IOP_DIFF = IN_ORLPR-I2_ORLPR;
IOR_DIFF = IN_ORLRC-I2_ORLRC;
IOA_DIFF = IN_ORLAN-I2_ORLAN;
DHN_DIFF = DF_HNDS-D2_HNDS;
DMS_DIFF = DF_MSTR-D2_MSTR;
DAN_DIFF = DF_ANAL-D2_ANAL;
DCL_DIFF = DF_CLDMH-D2_CLDMH;
DON_DIFF = DF_OPNMH-D2_OPNMH;
DVG_DIFF = DF_VAG-D2_VAG;
DSX_DIFF = DF_SXTHG-D2_SXTHG;
DSM_DIFF = DF_STMGN-D2_STMGN;
DOP_DIFF = DF_ORLPR-D2_ORLPR;
DOR_DIFF = DF_ORLRC-D2_ORLRC;
DOA_DIFF = DF_ORLAN-D2_ORLAN;
OP2_ABS = OPN_ABS2-OP2_ABS2;
AGE_DIFF = AGE-AGE2;
YEAR_DIFF = YEAR-YEAR2;
GEN_DIFF = GENDER-GENDER2;
RACE_DIFF = RACE-RACE2;
RLTN_DIFF = RLTN_STS-RLT2_STS;
ORNT_DIFF = SEX_ORNT-SX2_ORNT;
ED_DIFF = SEX_ED-SEX_ED2;
PRIM_DIFF = PRIM_RSN-PRM2_RSN;
RUN;

PROC FREQ DATA = DIFF;
TABLES OPEN_DEF * OP2_DEF;
RUN;
PROC FREQ DATA = DIFF;
TABLES OPEN_RSN * OP2_RSN;
RUN;

PROC FREQ DATA = DIFF;
TABLES OPN_ABS1 * OP2_ABS1;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI * PI2;
RUN;

PROC FREQ DATA = DIFF;
TABLES IN * IN2;
RUN;

PROC FREQ DATA = DIFF;
TABLES DF * DF2;
RUN;

PROC FREQ DATA = DIFF;
TABLES SURVEY * SURVEY2;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_HNDS * P2_HNDS;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_MSTR * P2_MSTR;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_ANAL * P2_ANAL;

PROC FREQ DATA = DIFF;
TABLES PI_CLDMH * P2_CLDMH;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_OPNMH * P2_OPNMH;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_VAG * P2_VAG;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_SXTHG * P2_SXTHG;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_STMGN * P2_STMGN;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_ORLPR * P2_ORLPR;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_ORLRC * P2_ORLRC;
RUN;

PROC FREQ DATA = DIFF;
TABLES PI_ORLAN * P2_ORLAN;
RUN;

PROC FREQ DATA = DIFF;
TABLES IN_HNDS * I2_HNDS;
RUN;

PROC FREQ DATA = DIFF;
TABLES IN_MSTR * I2_MSTR;
RUN;

PROC FREQ DATA = DIFF;
TABLES IN_ANAL * I2_ANAL;
RUN;

PROC FREQ DATA = DIFF;
TABLES IN_CLDMH * I2_CLDMH;
RUN;

PROC FREQ DATA = DIFF;
TABLES IN_OPNMH * I2_OPNMH;
RUN;

PROC FREQ DATA = DIFF;
TABLES IN_VAG * I2_VAG;
RUN;
PROC FREQ DATA = DIFF;
   TABLES IN_SXTHG * I2_SXTHG;
RUN;

PROC FREQ DATA = DIFF;
   TABLES IN_STMGN * I2_STMGN;
RUN;

PROC FREQ DATA = DIFF;
   TABLES IN_ORLPR * I2_ORLPR;
RUN;

PROC FREQ DATA = DIFF;
   TABLES IN_ORLRC * I2_ORLRC;
RUN;

PROC FREQ DATA = DIFF;
   TABLES IN_ORLAN * I2_ORLAN;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_HNDS * D2_HNDS;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_MSTR * D2_MSTR;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_ANAL * D2_ANAL;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_CLDMH * D2_CLDMH;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_OPNMH * D2_OPNMH;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_VAG * D2_VAG;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_SXTHG * D2_SXTHG;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_STMGN * D2_STMGN;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_ORLPR * D2_ORLPR;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_ORLRC * D2_ORLRC;
RUN;

PROC FREQ DATA = DIFF;
   TABLES DF_ORLAN * D2_ORLAN;
RUN;

PROC FREQ DATA = DIFF;
   TABLES OPN_ABS2 * OP2_ABS2;
RUN;

PROC FREQ DATA = DIFF;
   TABLES AGE * AGE2;
RUN;

PROC FREQ DATA = DIFF;
   TABLES YEAR * YEAR2;
RUN;

PROC FREQ DATA = DIFF;
   TABLES GENDER * GENDER2;
RUN;

PROC FREQ DATA = DIFF;
   TABLES RACE * RACE2;
RUN;

PROC FREQ DATA = DIFF;
   TABLES RLTN_STS * RLT2_STS;
RUN;

PROC FREQ DATA = DIFF;
   TABLES SEX_ORNT * SX2_ORNT;
RUN;
PROC FREQ DATA = DIFF;
TABLES SEX_ED * SEX_ED2;
RUN;

PROC FREQ DATA = DIFF;
TABLES PRIM_RSN * PRM2_RSN;
RUN;
DATA INTR_A (OR B);
   INPUT SUBJECT RATER_1 RATER_2;
DATALINES;
   [ENTER DATA HERE]
;
PROC FREQ DATA=INTR_A (OR B);
   TITLE 'COEFFICIENT KAPPA CALCULATION';
   TABLE RATER_1*RATER_2/NOCUM NOPERCENT KAPPA;
RUN;
PROC FORMAT;
  VALUE OPEN_DEF 0='AVOID ANAL' 1= 'AVOID INTERCOURSE'
                 2='AVOID VAGINAL' 3='COMBO OF TWO' 4='COMBO OF
                 THREE';
  VALUE OPEN_RSN 0='NEITHER' 1='PREGNANCY' 2="STD'S" 3='BOTH';
  VALUE AGE     0='17 OR BELOW' 1='18' 2='19' 3='20' 4='21 to 24' 5='25
                 AND OVER';
  VALUE GRADE   0='FRESHMAN' 1='SOPHOMORE' 2='JUNIOR' 3='SENIOR'
                 4='GRAD/O';
  VALUE GENDER  0=FEMALE 1='MALE';
  VALUE RACE    0='WHITE' 1='BLACK' 2='HISPANIC' 3='ASIAN/PACIFIC'
                 4='NTV. AMR/ALASKAN';
  VALUE RLTN_STS 0="NOT MAR'D OR DAT'G" 1='DATING ONE' 2='DATING
                 SEVERAL' 3='MARRIED';
  VALUE SEX_ORNT 0='HETEROSEXUAL' 1='HOMOSEXUAL' 2='BISEXUAL'
                 3='UNSURE';
  VALUE SEX_ED   0='NEVER HAD' 1='MIDDLE SCHOOL' 2='HIGH SCHOOL'
                 3='COLLEGE' 4='CLINIC/OTHER';
  VALUE PRIM_RSN 0="REDUCE STD'S" 1='REDUCE PREGNANCY'
                 2='OTHER';
  VALUE TRU_ABS  0='YES' 1='NO';
  VALUE ABS_CNS  0='YES' 1='NO';
  VALUE CDC_SCL  0='YES' 1='NO';
  VALUE LIKERT   0='YES' 1='NO';
RUN;

DATA THESIS;
  INFILE 'A:DATA830.TXT' DLM='09'X DSD LRECL=300 MISSOVER PAD
  FIRSTOBS=4;
  "*LENGTH
  OPEN_DEF OPEN_RSN AGE GRADE GENDER RACE RLTN_STS
  SEX_ORNT SEX_ED PRIM_RSN $ 3;

  INPUT SUBJECT OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTR PI_ANAL
  PI_CLDMH PI_OPNMH PI_VAG PI_SXTHG PI_STMGN PI_ORLPR PI_ORLRC
  PI_ORLAN IN_HNDS IN_MSTR IN_ANAL IN_CLDMH IN_OPNMH IN_VAG
  IN_SXTHG IN_STMGN IN_ORLPR IN_ORLRC IN_ORLAN DF_HNDS
  DF_MSTR DF_ANAL DF_CLDMH DF_OPNMH DF_VAG DF_SXTHG
  DF_STMGN DF_ORLPR DF_ORLRC DF_ORLAN OPN_ABS2 AGE GRADE
GENDER RACE RLTN_STS SEX_ORNT SEX_ED PRIM_RSN TRU_ABS ABS_CNS CDC_SCL;

/*
LABEL  OPEN_DEF= ëOPEN-ENDED DEFINITION OF ABSTINENCEí
OPEN_RSN= OPEN-ENDED REASON FOR ABSTAININGí
OPN_ABS1= FIRST TIME ASKED IF ABSTINENTí
PI_HNDS= PREVIOUSLY HELD HANDSí
PI_MSTR= PREVIOUSLY MASTURBATEDí
PI_ANAL= PREVIOUSLY HAD ANAL SEXí
PI_CLDMH= PREVIOUSLY KISSED WITH CLOSED MOUTHí
PI_OPNMH= PREVIOUSLY KISSED WITH OPEN MOUTHí
PI_VAG= PREVIOUSLY HAD VAGINAL SEXí
PI_SXTHG= PREVIOUSLY HAD SEXUAL THOUGHTSí
PI_STMGN= PREVIOUSLY STIMULATED ANOTHERÍS GENITALSí
PI_ORLPR= PREVIOUSLY PERFORMED ORAL SEXí
PI_ORLRC= PREVIOUSLY RECEIVED ORAL SEXí
PI_ORLAN= PREVIOUSLY HAD ORAL-ANAL CONTACTí
IN_HNDS= INTEND TO HOLD HANDSí
IN_MSTR= INTEND TO MASTURBATEí
IN_ANAL= INTEND TO HAVE ANAL SEXí
IN_CLDMH= INTEND TO KISS WITH CLOSED MOUTHí
IN_OPNMH= INTEND TO KISS WITH OPEN MOUTHí
IN_VAG= INTEND TO HAVE VAGINAL SEXí
IN_SXTHG= INTEND TO HAVE SEXUAL THOUGHTSí
IN_STMGN= INTEND TO STIMULATE ANOTHERÍS GENITALSí
IN_ORLPR= INTEND TO PERFORM ORAL SEXí
IN_ORLRC= INTEND TO RECEIVE ORAL SEXí
IN_ORLAN= INTEND TO HAVE ORAL-ANAL CONTACTí
DF_HNDS= ëHOLDING HANDS CONSISTENT W/DEFí
DF_MSTR= MASTURBATING CONSISTENT W/DEFí
DF_ANAL= ANAL CONSISTENT W/DEFí
DF_CLDMH= KISSING W/CLOSED MOUTH CONSISTENT W/DEFí
DF_OPNMH= KISSING W/OPEN MOUTH CONSISTENT W/DEFí
DF_VAG= VAGINAL SEX CONSISTENT W/DEFí
DF_SXTHG= SEXUAL THOUGHTS CONSISTENT W/DEFí
DF_STMGN= STIM. GENITALS CONSISTENT W/DEFí
DF_ORLPR= PERFORMING ORAL CONSISTENT W/DEFí
DF_ORLRC= RECEIVING ORAL CONSISTENT W/DEFí
DF_ORLAN= ORAL-ANAL CONSISTENT W/DEFí
OPN_ABS2= SECOND TIME ASKED IF ABSTINENTí
RLTN_STS= RELATIONSHIP STATUSí
SEX_ORNT= SEXUAL ORIENTATIONí
SEX_ED= LAST PREVIOUS SEXUALITY EDUCATIONí
PRIM_RSN= PRIMARY REASON FOR ABSTAININGí
TRU_ABS= 'MEETS CDC DEF OF ABSTINENCE’
ABS_CNS= 'CONSISTENT W/CDC DEF'
CDC_SCL= 'CDC CONSISTENCY SCALE';
*/

FORMAT OPEN_DEF OPEN_DEF. OPEN_DEF. OPEN_RSN OPEN_RSN. OPN_ABS1 PI_HNDS
PI_MSTR PI_ANAL PI_CLDMH PI_OPNMH PI_VAG PI_SXTHG PI_STMGN
PI_ORLPR PI_ORLRC PI_ORLAN IN_HNDS IN_MSTR IN_ANAL IN_CLDMH
IN_OPNMH IN_VAG IN_SXTHG IN_STMGN IN_ORLPR IN_ORLRC IN_ORLAN
DF_HNDS DF_MSTR DF_ANAL DF_CLDMH DF_OPNMH DF_VAG
DF_SXTHG DF_STMGN DF_ORLPR DF_ORLRC DF_ORLAN OPN_ABS2
TRU_ABS ABS_CNS LIKERT. AGE AGE. GRADE GRADE. GENDER
GENDER. RACE RACE. RLTN_STS RLTN_STS. SEX ORNT SEX ORNT.
SEX ED SEX ED. PRIM_RSN PRIM_RSN. TRUABS TRU_ABS.
ABS_CNS ABS_CNS. CDC_SCL CDC_SCL.;

PROC PRINT DATA=THESIS;
TITLE 'MASTERS THESIS DATA';
ID SUBJECT;

VAR OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTR PI_ANAL PI_CLDMH
PI_OPNMH PI_VAG PI_SXTHG PI_STMGN PI_ORLPR PI_ORLRC PI_ORLAN
IN_HNDS IN_MSTR IN_ANAL IN_CLDMH IN_OPNMH IN_VAG IN_SXTHG
IN_STMGN IN_ORLPR IN_ORLRC IN_ORLAN DF_HNDS DF_MSTR DF_ANAL
DF_CLDMH DF_OPNMH DF_VAG DF_SXTHG DF_STMGN DF_ORLPR
DF_ORLRC DF_ORLAN OPN_ABS2 AGE GRADE GENDER RACE RLTN_STS
SEX ORNT SEX ED PRIM_RSN TRU_ABS ABS_CNS CDC_SCL;
RUN;

PROC MEANS DATA=THESIS N MEAN STD STDERR MAXDEC=2;
TITLE "DESCRIPTIVE STATISTICS OF MASTERís THESIS DATA";

VAR OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTR PI_ANAL PI_CLDMH
PI_OPNMH PI_VAG PI_SXTHG PI_STMGN PI_ORLPR PI_ORLRC PI_ORLAN
IN_HNDS IN_MSTR IN_ANAL IN_CLDMH IN_OPNMH IN_VAG IN_SXTHG
IN_STMGN IN_ORLPR IN_ORLRC IN_ORLAN DF_HNDS DF_MSTR DF_ANAL
DF_CLDMH DF_OPNMH DF_VAG DF_SXTHG DF_STMGN DF_ORLPR
DF_ORLRC DF_ORLAN OPN_ABS2 AGE GRADE GENDER RACE RLTN_STS
SEX ORNT SEX ED PRIM_RSN TRU_ABS ABS_CNS CDC_SCL;
RUN;

PROC FREQ DATA=THESIS;
TABLES OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTR PI_ANAL
PI_CLDMH PI_OPNMH PI_VAG PI_SXTHG PI_STMGN PI_ORLPR PI_ORLRC
PI_ORLAN IN_HNDS IN_MSTR IN_ANAL IN_CLDMH IN_OPNMH IN_VAG
IN_SXTHG IN_STMGN IN_ORLPR IN_ORLRC IN_ORLAN DF_HNDS DF_MSTR
PROC SORT DATA=THESIS;
BY GENDER;
RUN;
RUN;
*RUN PROC MEANS FOR EACH VALUE OF GENDER;
PROC MEANS DATA=THESIS N MEAN STD MAXDEC=2;
BY GENDER; **THIS STATEMENT GIVES THE BREAKDOWN;
VAR OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTR PI_ANAL PI_CLDMH
   PI_OPNMH PI_VAG PI_SXTHG PI_STMGN PI_ORLPR PI_ORLRC PI_ORLAN
   IN_HNDS IN_MSTR IN_ANAL IN_CLDMH IN_OPNMH IN_VAG IN_SXTHG
   IN_STMGN IN_ORLPR IN_ORLRC IN_ORLAN DF_HNDS DF_MSTR DF_ANAL
   DF_CLDMH DF_OPNMH DF_VAG DF_SXTHG DF_STMGN DF_ORLPR
   DF_ORLRC DF_ORLAN OPN_ABS2 AGE GRADE GENDER RACE RLTN_STS
   SEX_ORNT SEX_ED PRIM_RSN TRU_ABS ABS_CNS CDC_SCL;
RUN;
DATA THESIS;
  INFILE 'A:\EXCEL\DATA830.TXT' DLM='09'X DSD LRECL=300 MISSOVER
PAD FIRSTOBS=4;
  *LENGTH
  OPEN_DEF OPEN_RSN AGE GRADE GENDER RACE RLTN_STS
SEX_ORNT SEX_ED PRIM_RSN $ 3;

INPUT SUBJECT OPEN_DEF OPEN_RSN OPN_ABS1 PI_HNDS PI_MSTR PI_ANAL
  PI_CLDMH PI_OPNMH PI_VAG PI_SXTHG PI_STMGN PI_ORLPR PI_ORLRC
  PI_ORLAN IN_HNDS IN_MSTR IN_ANAL IN_CLDMH IN_OPNMH IN_VAG
  IN_SXTHG IN_STMGN IN_ORLPR IN_ORLAN DF_HNDS
  DF_MSTR DF_ANAL DF_CLDMH DF_OPNMH DF_VAG DF_SXTHG
  DF_STMGN DF_ORLPR DF_ORLRC DF_ORLAN OPN_ABS2 AGE GRADE
  GENDER RACE RLTN_STS SEX_ORNT SEX_ED PRIM_RSN TRU_ABS
  ABS_CNS CDC_SCL;

DATA= THESIS;
PROC LOGISTIC;
MODEL IN_ANAL = GENDER PI_ANAL;
RUN;

DATA= THESIS;
PROC LOGISTIC;
MODEL IN_VAG = GENDER PI_VAG;
RUN;

DATA= THESIS;
PROC LOGISTIC;
MODEL IN_ORLPR = GENDER PI_ORLPR;
RUN;

DATA= THESIS;
PROC LOGISTIC;
MODEL IN_ORLRC = GENDER PI_ORLRC;
RUN;

DATA= THESIS;
PROC LOGISTIC;
MODEL IN_ORLAN = GENDER PI_ORLAN;
RUN;
Appendix D

Sign-Up Sheet for Introductory Psychology Students
EXPERIMENT SIGN-UP SHEET FOR PSY 200

TITLE OF EXPERIMENT: College Student’s Perceptions of and Intentions to Engage in Sexually Abstinent versus Not-Abstinent Behaviors

DESCRIPTION OF ACTIVITIES: complete an anonymous survey that contains sexually explicit material (report experiences, state future intentions to engage in a list of sexual and not sexual behaviors, and decide whether they believe these behaviors are abstinent or not abstinent)

REQUIREMENTS: seeking unmarried college students who are 18 years of age or older

RESEARCH CREDIT: 1 LENGTH: approximately 15-20 minutes

EXPERIMENTER: Malissa Bailey CONTACT NUMBER: (W) 515-2251

DAY AND DATE: ________________ LOCATION: ______

Please print name and section below. Make a note of the appointment TIME, PLACE, and EXPERIMENTER’S NAME and NUMBER.

IF YOU SIGN-UP FOR AN EXPERIMENT AND DO NOT SHOW UP NOR MARK YOUR NAME OFF THE LIST 24 HOURS PRIOR TO THE EXPERIMENT, ONE CREDIT WILL BE DEDUCTED FOR EACH EXPERIMENT YOU SIGN-UP FOR AND MISS.

<table>
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Appendix E

Study Protocol
College Students’ Perceptions of and Intentions to Engage in Sexually Abstinent versus Not Abstinent Behaviors

STUDY PROTOCOL

You will need:
- One box with lid
- Opscan forms
- Informed consent forms (2 per person):
  - Salmon (with ID #)
  - White for my records
- Color coded surveys:
  - Open-ended- tan
  - Survey- orchid
- PSY 200 credit slips- if necessary
- Extra pencils

Hand out two copies of the informed consent forms, opscan sheet, and tan form. Allow time to read. At 5 minutes after the start of the experiment, read the following:

I am requesting your help in conducting this study. The following survey, which examines personally sensitive (i.e., explicit sexuality related) information, is being conducted by a team of researchers led by Patricia F. Horan, Associate Professor of Psychology at NC State. The purpose of this study is to explore college students’ personal definitions of abstinence and abstinence-related behaviors. You will be asked questions that examine one’s sexual behavior.

For this study, you will only need a #2 pencil. Please do not use a pen on any portion of this survey. Your participation in this study is completely voluntary. Completion of this survey IS NOT a requirement of any course, nor will refusal to answer the questions affect your performance in any course work. At the conclusion of the study, you will receive information regarding this line of research, and you will have the opportunity to ask questions you may have.

Please so NOT write your name on the survey or opscan sheet. The questions that ask about your age, gender, grade, race, etc. will only be used to describe the students completing this survey. The information will NOT be used to find out your name. The answers you give will be kept STRICTLY CONFIDENTIAL.

Even if you decide to participate, you may withdraw from the study at any time without penalty. If at any time you begin to feel uncomfortable with the nature of the study, please feel free to end our participation in the study and turn in your survey to the experimenter.
If you have questions, or you would like to discuss this research, contact information is listed on the informed consent sheet.

If at this point you agree to participate in the study, please sign both copies of the informed consent form. The SALMON-colored sheet is yours to keep.

Accompanying the informed consent forms, you will find an opscan sheet that has been numerically coded to facilitate data analysis. NO ONE WILL HAVE ACCESS TO YOUR CODE NUMBER OR YOUR IDENTITY BESIDES YOU. Please locate this number on the front of the opscan sheet under the “special codes” section.

Now, please place your code number only on the TAN-colored sheet. DO NOT PLACE YOUR CODE NUMBER ON THE WHITE INFORMED CONSENT FORM. Please complete this page accordingly. For #1, please circle either “A” or “B” ON THE TAN FORM as well as fill in the corresponding number on your opscan form.

Now I will collect everything but your SALMON-colored informed consent form and the opscan sheet. If you have decided not to participate in the study, I will collect all of your forms. Collect white informed consent and tan forms (others if necessary).

Pass out purple surveys. Please place your code number on the front of this survey and complete accordingly. Remember, you are under no obligation to complete the survey. When finished, walk around and collect the purple surveys and opscan forms.

At the conclusion of the study: I thank you for your participation in this study or your patience during the administration of this survey.

DEBRIEF  DEBRIEF  DEBRIEF  DEBRIEF  DEBRIEF  DEBRIEF

At the conclusion of the study: Because of the sensitive nature of this study, I ask that you refrain from discussing the content of the survey with others for approximately one month. Thank you for your participation in this study.