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Meagan Arrastia
University of Central Florida



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HAVE YOU HEARD?
PREDICTORS OF HPV AWARENESS AMONG A RANDOM SAMPLE OF COLLEGE
STUDENTS

by

MEAGAN C. ARRASTIA
B.A. University of Central Florida, 2007

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
in the Department of Sociology
in the College of Sciences
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ABSTRACT

College students have been identified as at high risk for contracting Human Papillomavirus (HPV) due to engaging in risky behaviors, such as binge drinking and unprotected sex. Before preventative measures like vaccination and condom usage can be promoted, awareness must be evaluated. A random sample of 438 college students was surveyed on their awareness of HPV using both paper and online surveying methods. Using binary logistic regression, HPV awareness was predicted using demographic measures. The majority of the sample reported having heard of HPV before. Sexually active respondents and females were significantly more likely to report awareness. Non-whites and first-generation college students were also more likely to report awareness. These demographic predictors will help identify groups needing educational and HPV intervention programs. Implications and further research is discussed.

To all the individuals that have lived and are living with HPV-related cancer.

ACKNOWLEDGMENTS

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CHAPTER ONE: INTRODUCTION

The controversial new vaccine, marketed under the name Gardasil or Cervarix, for Human Papillomavirus (HPV) has incited debate among legislators and lawmakers as to whether or not the vaccine should become a requirement before entering schools, similar to the chicken pox and the measles vaccinations (Poland, Jacobson, & Ovsyannikova, 2009). However, the HPV vaccine is not seen as a breakthrough development against a potentially deadly virus due to its stigma as a sexually-transmitted infection (STI). Being the most common STI in the United States means that “over half of all sexually active men and women become infected with HPV” and that over 6.2 million Americans contract the virus each year (Centers for Disease Control, 2006). According to the Cancer Institute (2002), ten out of the thirty strains of this virus can cause cervical cancer. This is a serious social problem considering that on average, there are 9,710 new cases of cervical cancer and 3,700 deaths attributed to it in the United States each year. Moreover, cervical cancer is the second leading cancer among women worldwide (US Food and Drug Administration, 2006). Although uncommonly known, an estimated one-half of penile cancer and two-thirds of anal cancer among men is attributed to HPV (Pagliusi, Aguado, & Parkin, 2007).

More students are enrolling in four-year colleges and universities each year, with 17.5 million students enrolled in degree-seeking institutions in 2005 (US Department of Education, 2008). Making up about six percent of the U.S. population, college students may be at risk for HPV. Females that can contract cervical cancer make up more than half of the college student body. The recently developed vaccine, which protects against three of the strains that cause

cervical cancer, is currently available to females only. The effectiveness of the vaccine for men is currently unknown (Centers for Disease Control, 2006).

Even though the HPV vaccine is available, one may still be reluctant to receive the vaccine for multiple reasons. Looking at this from a socio-psychological perspective, it is important to examine what people know about the virus and their perceptions about it in order to more effectively identify ways to increase awareness. According to the literature, among the general population and especially among college students, awareness and perceived susceptibility about contracting HPV is inadequate and faulty (Doherty & Low, 2008; Pitts, Dyson, Rosenthal, & Garland, 2007; Yacobi, Tennant, Ferrante, Pal, & Roetzheim, 1999).

However, studies that examine HPV among college students tend to be limited in the literature. In addition, there is a lack of male participants and gender comparisons, as well as an unsubstantial discourse on race or ethnic differences (Jenkins, 2006; Kahn et al., 2008; Yacobi et al., 1999). The purpose of this study is to measure awareness of the HPV among college students. While examining awareness, special attention will be given to demographic variables as possible predictors. This is particularly salient given the HPV vaccine has only been developed for women, but affects both men and women.

CHAPTER TWO: REVIEW OF LITERATURE

College Students and Sexual Behavior

Most college students are sexually-active (Thompson, Anderson, Freedman, & Swan, 2006) and casual sex is prevalent in the college environment (Fielder & Carey, 2009). Studies report rates as high as 81% of college students engaging in casual sex at least once during their college experience (Fielder & Carey, 2009). However, there is a misconception among college students about sexual behavior. Students believe that their peers are having more sex than they are, as well as more unprotected sex (Lewis, Lee, Patrick, & Fossos, 2007). One study suggests that sexual activity among young people has decreased, but that the media's influence on the perception of normative sexual behavior has become more powerful (Chia & Lee, 2008). Escobar-Chaves (2006) examines how the exposure, content, and effect of media on adolescent sexual attitudes and behaviors effects the age of first sexual experience and found that young adults are having sex at younger ages since the last two decades.

Studies also focus on other aspects of socialization, like education, and their impact on sexual behavior. George (2005) looks at the phenomenon of abstinence-only sexual education in the United States. The rate of adolescent pregnancy in the Unites States is much higher compared to the rate in the United Kingdom, where they teach comprehensive sexual education.

Condom Usage and Knowledge about STDs

The high level of sexual activity combined with the perception of sexual activity puts college students at a higher risk of contracting sexually transmitted diseases (STDs) and

infections. In order to test awareness of STDs, like HIV and HPV, a knowledge questionnaire has been developed and validated to identify deficits (B. C. Jaworski & Carey, 2007).

Knowledge about the Human Immunodeficiency Virus (HIV) has increased over the years, but college students still do not know that much about other STDs and STIs (B. C. Jaworski & Carey, 2001; Yacobi et al., 1999). In addition, women are more knowledgeable of STDs and contraception than males within the college population (R. B. Weinstein, Walsh, & Ward, 2008).

Even though college students know the risks of contracting HIV, they are still unlikely to use a condom to protect themselves (Thompson et al., 2006). One study reports that 81% of students do not use condoms every time they have sex (Synovitz, Wood, Gillian, McKay, & Totten, 2008). The resistance against condom use could be due to the fact that college students focus on the benefits of risk behaviors, like unprotected sex, instead of the costs associated with them (Parsons, Halkitis, Bimbi, & Borkowski, 2000).

Knowledge about HPV among College Students

The Human Papillomavirus is one of the STDs that college students are not as familiar with. Studies that focus on knowledge of HPV among college students typically use small samples from one institution. For example, among 16 Latina students in one sample 70% did not know what HPV was and more were not concerned about contracting the virus. This cannot be generalized, even to a small portion of college students in one region of the country (Buki & Schiffner, 2006). A similar weakness was found in one study surveying 240 undergraduate female nursing students about their awareness of the HPV-cancer connection. The study concluded that future nurses may have a lack of knowledge about the virus, but omitting males and other students that pursuing careers in the medical field (Denny-Smith, 2006.). As evident in

most studies, including ones with larger samples, college students know little about HPV (Yacobi et al., 1999). There is little literature comparing men and women's views or comparing ethnic groups on knowledge of HPV.

Gender and HPV

Since HPV's effects on women is more publicized, more research on women's knowledge and attitudes has been published (Allen et al., 2008; Duffett-Leger, Letourneau, & Croll, 2008; Kahn et al., 2008; Pitts et al., 2007). In addition to cervical cancer in women, HPV causes ano-genital cancers in men. Although HPV is not as prevalent among men compared to their female counterparts, it is still a significant concern to men globally (Parkin, Bray, Ferlay, & Pisani, 2001). Some researchers have even found a connection between penile cancer and cervical cancer in sexual partners (Castellsagué et al., 2002; Giuliano et al., 2008; Gross & Pfister, 2004). Unfortunately, subjective testing for HPV remains an exclusively female procedure consisting of a visual evaluation of abnormal cervical cells (Crum & Richart, 2007). Amidst the ambiguous nature of HPV testing and the lack of awareness about male cancer-causing HPV, the knowledge and attitudes of men and women towards HPV still needs to be addressed. It is important to investigate the knowledge of both sexes to better understand the perceptions and attitudes toward HPV and the HPV vaccine.

College Males at Risk

Many studies about HPV awareness do not include men in the sampled population (Buki & Schiffner, 2006; Cabral, 2004; Denny-Smith, 2006.; Hoover, 2000; Pitts et al., 2007). The few that include males reveal a low-level of awareness about HPV (Doherty & Low, 2008). In a 40-page survey, young adult men and women were asked what caused genital warts. From the listed answers, herpes virus, *Neisseria gonorrhoea*, HPV, syphilis, HIV, and hepatitis B virus, only 11.6% of the females and 4.2% of males correctly answered HPV (Baer, 2000). This study suggests a lack of awareness among male college students with regard to HPV and STDs in general (Yacobi et al., 1999) . This inequality should be further investigated.

The gender differences, in regards to knowledge of HPV, is unfortunate considering the risk of cancer for males. Since college males are reported to engage in intercourse with more partners and more frequently than women (Billy, Tanfer, Grady, & Klepinger, 1993), they are at a particularly high-risk of contracting some form of HPV and other STIs. Some risk factors such as younger age, being uncircumcised, and having many sexual partners increase odds of having penile cancer (Castellsagué et al., 2002; Dunne, Nielson, Stone, Markowitz, & Giuliano, 2006; Franceschi et al., 2002; Svare et al., 2002). A comprehensive meta-analysis of prevalence studies looking at male HPV found a prevalence rate ranging from 1.3%–72.9% internationally (Dunne et al., 2006). Considering the high prevalence rate of male HPV, college males should be further examined to assess their attitudes and perceptions toward HPV and the vaccine, in order to raise their awareness of the risks of contracting the virus.

Small Samples and Lack of Diversity

Most social research about HPV only addresses women's attitudes and knowledge. Studies often only take a subpopulation of women and ask them about certain reproductive health issues. For instance, women categorized as at-risk for HIV and STDS were asked about their contraceptive use and it was found that only about 40% used contraceptives regularly (Cabral, 2004). Without defining "at-risk", this study like others, assumes that women are the only ones that need to be concerned. Other studies examine women's reactions to an abnormal pap smear, which may indicate cervical cancer, and their relationship to knowledge of HPV (Daley, Naom, & Perrin, 2006; McCree, 2005). Although this reveals an important correlation, men's reactions to genital warts or penile cancer, for instance, were completely overlooked. Even when looking at vaccination, only small subpopulations are surveyed (Pitts et al., 2007). In one study, only sixty women were surveyed in 2000 about knowledge of HPV and willingness to take the vaccine (Hoover). Since the sample sizes are often very small, it is not desirable to run statistical analyses to generalize the results to a larger population. In addition, few studies examine minority attitudes and knowledge about HPV. Comparison studies of race and gender need to be conducted, as well as studies using large, diverse samples.

Theoretical Perspective

Many theories are used in the realm of medical sociology to predict health behaviors, like condom usage, using attitudes and knowledge. These theories serve as a theoretical framework for the implementation of intervention programs. Increasing awareness of HPV among college students can be observed from many different theoretical viewpoints. For example, the health

belief model, developed by Rosenstock (1974) examines beliefs about health behaviors. Bandura (1977) qualifies this notion by referring to “self efficacy,” or the self-confidence one has in performing a behavior, and describing it as a requirement for a behavior to be performed. Prochaska (1983) and later Weinstein (1988; 1998; 2002) has described how an individual adopts a preventative or precautionary measure by first acquiring a perception of risk and susceptibility before considering engaging in preventative health behaviors. Ultimately, these theories define attitudes as the first stepping-stones to engaging in health behaviors, like HPV vaccination or condom usage.

The Relationship between Attitudes and Behavior

The relationship between attitudes and behaviors is not clear. According to Delamater and Myers (2007), there are four parts to the relationship: “(1) the activation of the attitude, (2) the characteristics of the attitude, (3) the correspondence between attitude and behavior, and (4) situational constraints on behavior” (154). It is not until a person comes into contact with the concept of HPV that they activate an attitude. This could be in class, through a survey, or a casual conversation.

The characteristics of the attitude including the belief and the emotion that goes along with the belief must be consistent. Behavior is best predicted by attitude when the two are expressed in the same terms. For instance, someone may believe that they are not at risk for HPV if they use a condom during intercourse. This belief should result in condom use during intercourse to avoid contracting HPV. A situational constraint may be the negative reaction of a partner when using a condom. According to the Theory of Planned Behavior, the intent to perform a behavior is shaped by attitudes, subjective norms, and perceived behavioral control

(Ajzen & Fishbein, 1980). The theory of planned behavior is very similar to the theory of reasoned action also introduced by Fishbein (1967). The distinction between the two theoretical perspectives consists of the addition of perceived behavioral control.

Theory of Reasoned Action

The Theory of Reasoned Action is based on the assumption that behavior is primarily influenced by behavioral intention, “the perceived likelihood of performing the behavior” (Montaño & Kasprzyk, 2002, p. 69). Subsequently, behavioral intention is influenced by attitudes and subjective norms. It was not until the measurements of each variable were defined that the Theory of Reasoned Action was validated. First, the attitude component of the theory is concerned with the behavior, not the object or disease (Fishbein & Ajzen, 1975). In the case of predicting vaccination against HPV, the subject would be asked how they feel about the vaccine, not about HPV. The attitude towards the health behavior has been validated as a better predictor of behavioral intention. Subjective norms measure the perceived approval of the behavior by others. This concept has been studied for many years by sociologists, like Cooley (1902) and Mead (1934).

Additionally, the variables are related causally with attitudes and subjective norms consisting of direct and indirect measures. The indirect measures of attitudes consist of behavioral beliefs, the perceived connection between the behavior and a certain outcome, and the evaluation of the behavioral outcome. Behavioral belief measures whether or not someone believes that the behavior will have positive effects and evaluation measures how valuable those effects are to them. The indirect measures of subjective norms are normative beliefs and motivation to comply. Normative beliefs differ from the direct measure of subjective norms by

referring to a specific reference group, like friends or family, instead of addressing the belief that “most people” would approve the behavior (Montaño & Kasprzyk, 2002). This assumes that people understand normative behavior through reference groups, as first suggested by Robert K. Merton (1949). The motivation for a person to comply addresses the desire to do the things that others want them to do (Ajzen & Fishbein, 1980).

Theory of Planned Behavior

As stated previously, the Theory of Planned Behavior differs from the Theory of Reasoned Action by adding the perceived behavioral control component. This has an especially important influence on behavioral intention when the individual does not have complete control over a situation. The addition to the theory was driven by the assumption that not only does motivation to perform a behavior influence the intention, but the ability to perform does as well (Ajzen, 1991; Ajzen & Driver, 1991; Ajzen & Madden, 1986). The construct of perceived behavioral control is also made up of two parts: direct and indirect measures.

The indirect measures split the construct into control belief and perceived power. Belief of control measures whether or not the individual believes that a barrier will occur. For example, if condom usage is being predicted the control belief would measure the likelihood of being the partner with the condom. Perceived power, on the other hand, measures the enabling or disabling power of the controlling barrier. In other words, it measures how difficult the barrier makes it to perform the behavior of interest.

An Example Application of the Theory of Planned Action

The Theory of Planned Behavior has been used to predict condom usage many times in the past. Albarracín, Johnson, Fishbein, & Muellerleile (2001) conducted a meta-analysis of 42 studies amounting to 96 data sets that used the theory of reasoned action or the theory of planned behavior to predict condom usage. The sample varied from high school students to community members as part of HIV prevention efforts. The sample included 22,594 participants from around the world with an average age of 25.75 years old. The generalized finding confirmed that attitudes, subjective norms, and perceived behavioral control were correlated to behavioral intention, which correlated with the behavior of using condoms. The study provides evidence suggesting that the theory is a valid prediction tool for condom usage in different areas, even though some components may be more important than others in some populations.

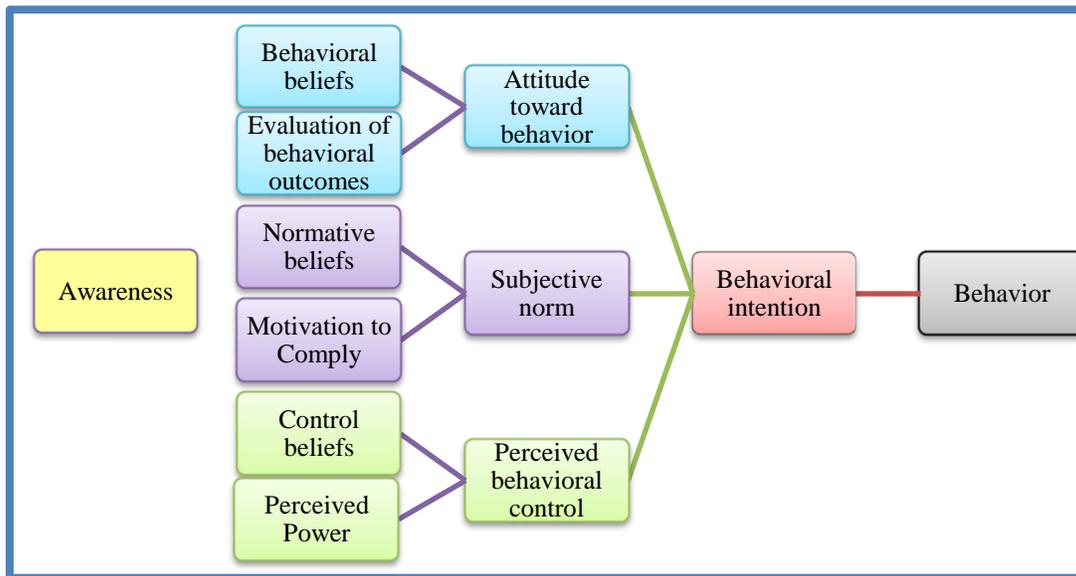
Intervention Applications

Misconceptions about others' sexual activity and condom usage suggests that interventions on social norms need to be developed (Lewis et al., 2007). This involves peer education and behavior-based education instead of merely reiterating facts about HPV. The results of studies using the Theory of Planned Behavior to predict condom usage have been used to develop social norm-based intervention programs. Concentrating on misconceptions of behaviors, like condom usage, has also proven to be effective (Blanton, Köblitz, & McCaul, 2008). Changing someone's attitudes and perceived normative beliefs in conjunction with enabling them to have control over a situation effectively change health behaviors.

Awareness

Both the Theory of Reasoned Action and the Theory of Planned Behavior use attitudes to predict health behaviors, but they overlook the predicting power of awareness as it leads to attitude formation. Awareness is different from mindfulness in the way that one must be aware of the health problem or risk specifically, not just in the outside world in general (Chatzisarantis & Hagger, 2007). It is argued that self-efficacy or an attitude towards a behavior cannot be developed without an awareness of the problem that the behavior addresses (Priluck & Till, 2004). Additionally, awareness can assist in an individual to transcend barriers to engage in the health behaviors by increasing motivation to engage (Sun, Guo, Wang, & Sun, 2006). Some argue that awareness is only useful when predicting the absence of behavioral intention (Orbell, Hagger, Brown, & Tidy, 2006; Schwarzer, 2007). Others agree that awareness leads to greater knowledge and more positive attitudes in regards to health behaviors. (Katz, Meyers, & Walls, 1995; Lantz, Fullerton, Harshburger, & Sadler, 2002). Awareness must be investigated instead of only looking at the existing components of the theory of planned behavior. Figure 1 represents the theoretical relationship between awareness and the variables in the Theory of Planned Behavior in which awareness affects attitudes which in turns predicts behavior.

Figure 1: Theoretical Model of Planned Behavior with Awareness



Research Questions

This study is centered on the concept of awareness. Awareness, being the precursor to attitudes that predict behavior, is an important construct to investigate. In this study the predictors of HPV awareness are examined. In particular, age, race, sex, as well as other demographic variables will be examined. Frequency of awareness among demographic groups will be compared. As reflected in the literature, it is expected that younger participants, women, and whites, sexually active participants, and students of higher socio-economic status are more likely to report awareness of HPV.

CHAPTER THREE: METHODS

The following methodology was approved by the Institutional Review Board at the University of Central Florida. Please see Appendix A for the approval letter. A survey instrument was developed and distributed among the student population. The sampling design involved a random sample of undergraduate classes in order to recruit participants. From that random sample, the instructors were contacted to distribute the surveys to their classes via the web or face-to-face during the class period. Online surveys have been found to have a better response rate and less missing responses than paper surveys (Lonsdale, Hodge, & Rose, 2006). Studies have found that online respondents are more likely to respond affirmatively to both socially desirable and undesirable items (Taylor, Krane, & Thomas, 2009). Others have found that respondents do not bias their responses due to the survey medium (Herrero & Meneses, 2006; Walt, Atwood, & Mann, 2008). Once the data from both the paper and online surveys were collected, data were then analyzed to answer the research questions.

Sampling and Distribution Procedure

A random sample of the undergraduate classes at the University of Central Florida during the Fall semester of 2008 was generated by creating a numbered list of all the classes and then generating 20 random numbers within the range of classes using Microsoft Excel and then selecting those classes to solicit. The instructor of each selected class was contacted using the letter shown in Appendix B. The instructor was given the option of having the research

administer the survey during the class period or forwarding the students the link for the online version of the survey. Out of the 20 instructors contacted, four did not reply and two declined the offer. Both instructors claimed that their students did not have enough time to complete the survey either in class or online. Three instructors agreed to share the link to the survey with their students. I administered paper surveys to 11 classes. Per IRB stipulations, students from the 11 classes were offered the choice of taking the survey online. See Appendix C for the paper survey and Appendix D for the online survey.

Variables of Interest

The dependent variable, HPV *awareness*, was measured by one question in the survey. The question read, “Have you ever heard of the Human Papillomavirus, HPV?” with yes (1) or no (0) being the only two answer choices. The independent variables include, *age*, *race*, *sex*, *socio-economic status*, and *sexual activity*. The demographic questions were asked at the beginning of the survey. *Age* and *race* were free-response questions. *Race* was coded from 1 to 5 as White (1), Black/African American (2), Hispanic/Latino (3), Asian/Native American (4), and Multi-racial/Other (5). For the analysis, *age* remained a continuous variable and *race* was coded into a dichotomous variable as white (1) and non-white (0) due to low variance in minority respondents. Respondents were given the option of female (1) or male (0) for variable *sex*. The participants were also asked whether or not they were a first-generation college student with yes (1) and no (0) as the available responses. This variable is an indicator of *social-economic status* among college students (Chen, Martin, & Matthews, 2006). To measure *sexual activity*, respondents were asked if they have ever been sexually active with yes (1) and no (0) as the

possible answer choices. The *environment* in which the survey was taken was also measured as a control variable coded paper (1) and online (0).

Data Analysis Strategy

The data was entered into SPSS 12 ("SPSS for Windows," 2001) to conduct various statistical analyses. Frequencies of each variable are provided, as well as basic descriptive statistics, including the mean, standard deviation, and range. To predict HPV awareness, a dichotomous variable, a binary logistic regression model was created including the independent variables as the predictors controlling for the survey environment. A t-test was conducted to examine any possible differences in the average responses to the dependent variable, awareness, between the two survey-taking environments. An ANOVA was also used for the categorical race variable, in order to identify any possible differences in average awareness among racial groups.

CHAPTER FOUR: RESULTS

Descriptive Statistics

After cleaning the data, the sample consisted of 438 participants. 84.0% of the participants (368) responded to the paper survey rather than the online survey. The participants ranged in age from 18 to 40 years old and the average age was 19.4 years with a standard deviation of 2.3 years. The average age of undergraduate students at the University of Central Florida is 22 years ("Facts about UCF," 2008). The sample consisted of 243 females (56.6 %) and 186 males (43.4 %). This is proportionally representative of the undergraduate university population of which females make up 54.7% ("Facts about UCF," 2008). Racially, the sample was primarily white with 311 participants (71.0%) reporting to be white or Caucasian, which is similar to the overall university population that has 68.2% white students ("Facts about UCF," 2008). In addition, the majority of the sample did not identify as a first-generation college student (67.8%), which is proportional to the 86% that of UCF students that whose parents went to college ("First Generation Fund Facts," 2009).

Most of the participants (71.4%) reported being sexually active in their lifetime and an even greater percentage (89.3%) reported hearing of HPV before. It is important to note that there were 75 missing cases from the dependent variable, and as such, this limited the number of participants used for the analysis. The lack of response could be due confusion caused by the positioning of the questions near a section for women only. See Table 1 for further descriptions of the demographic variables.

Table 1: Sample Demographics

Variable	N	Mean	SD
Age (18-40)	425	19.44	2.270
Sex Female (1) Male (0)	429	.566	.496
Race White (1) Non-white (0)	438	.710	.454
First-Generation Yes (1) No (0)	429	.308	.462
Sexually-active Yes (1) No (0)	423	.714	.452
HPV Awareness Yes (1) No (0)	363	.893	.310
Environment Paper (1) Online (0)	438	.840	.367

Binary Logistic Regression

A binary logistic regression test was initiated to predict the dependent variable, HPV awareness. The independent variables used to predict the dependent variable were age, sex, race, social-economic status, and sexual activity. Survey-taking environment was used as a control variable. The model explained 29.9% of the variance in the dependent variable. At the 95% confidence level, sex and sexual activity both had a significant relationship with HPV awareness. Females were significantly more likely to report being aware of HPV (O.R. = 11.00). Similarly, sexually active respondents (O.R. = 6.48) were more likely to report HPV awareness. Age, race, and social-economic status had marginally-significant relationships with HPV awareness at the 90% confidence level. For each year in age increased, the likelihood of reporting HPV awareness

decreased by .136 (O.R. = .87). Non-white (O.R. = .81) and first-generation college students (O.R. = 2.19) are more likely to report HPV awareness. A binary logistic regression not shown here that did not control for survey-taking environment yielded similar results, except that it presented whites as more likely than non-whites to report HPV awareness.

An ANOVA was conducted using the categorical measure of race to further investigate the significance of race as a predictor of awareness. Between these groups there was no significant difference in the mean awareness score illustrating that the extant difference is between whites and non-whites. This could be due to the low number of minorities in the sample.

Table 2: Binary Logistic Regression Predicting HPV Awareness (N=341)

Independent Variable	B	SE	Sig	Exp (B)
Age	-.136	.073	.063 ⁺	.873
Sex	2.397	.448	.000***	10.994
Race	-.210	.119	.077 ⁺	.811
SES	.782	.458	.088 ⁺	2.186
Sexual-Activity	1.869	.423	.000***	6.479
Environment	-.543	.597	.364	.581
Model Chi-Square	54.813***			
R-Squared	.299			
***p< .001; **p< .01; *p< .05; ⁺ p< .10				

CHAPTER FIVE: DISCUSSION

The results from the survey yielded significant results. The research question sought to explain HPV awareness using demographic variables. The demographic variables used were age, sex, race, social-economic status, and sexual activity. Since there were two methodologies, paper surveys and online surveys, the survey-taking environment was used as a control variable. The research hypothesis was that being young, female, white, and sexually active, as well as not being a first-generation college student would predict HPV awareness. In testing this hypothesis, three major results were found. First, females are more likely than males to report being aware of HPV. Second, younger, sexually active, and first-generation college students are more likely to report being aware of HPV. Lastly, when controlling for survey-taking environment, minorities are more likely than whites to report HPV awareness. These results are further discussed below.

Gender & HPV Awareness

Although the majority of the sample had heard of HPV before, females were significantly more likely to report having heard of HPV than males, consistent with prior literature (D'Urso, Thompson-Robinson, & Chandler, 2007; M.A. Gerend & Magloire, 2008; Yacobi et al., 1999). This suggests a lack of awareness about safe-sex practices and STI prevention among males, despite the fact that most of the males had heard of HPV. In conclusion, male college students need to be targeted for further HPV prevention efforts.

Other Predictors of HPV Awareness

A few other predictors of HPV awareness emerged from the analyses. Older students were found to be less likely to have heard of HPV, supporting prior research (Tiro, Meissner, Kobrin, & Chollette, 2006). Regardless of the increased likelihood of older students already having contracted the virus, the older and non-traditional students need to be targeted for intervention programs so they can make educated decisions about routine pap smears and vaccination for their children. In addition to age, being a first-generation college student marginally predicted being aware of HPV. Not much research has been done to investigate such a difference; however, the majority of the first-generation college students in this sample were non-white, which could account for the difference in awareness. Other measures of socio-economic status has indicated the opposite relationship in which, for example, those living below the poverty line were less likely to have heard of HPV (Jain et al., 2008).

Sexually active students were significantly more likely to report HPV awareness, making sexual activity a strong predictor ($p = .000$). This is not surprising since HPV presently concerns sexually active students, but this variable is often overlooked in other studies as most only consider sexually active students (Vail-Smith & D.M., 1992). However, awareness of HPV needs to precede sexual activity to ensure safe-sexual practices, like condom usage. Perhaps HPV is not discussed in sex education classes early enough. It may not be adequate for someone to hear about HPV, a sexually transmitted infection that can cause cancer, for the first time in college. College students, regardless of their sexual activity, need to be educated on safe-sex practices and the consequences of HPV.

Minorities & Survey-taking Environment

Besides examining the predicting power of demographics, the survey-taking environment was taken into consideration. Although there was no significant difference between HPV awareness between subsamples, there was a marginal significance relationship between race and HPV awareness when controlling for the environment. When considered, non-whites were found to be more likely to report HPV awareness than whites when responding online. These findings are contradictory to the research within other populations, like the rural South, which has found blacks and other minorities to be less likely to report awareness (Cates, Brewe, Fazekas, Mitchell, & Smith, 2009). This difference may be due to the more confidential nature of the online survey, which is assumed to be free from peer pressure. In a classroom setting it is possible for peers to gaze over at a respondent's survey and the perception of this may affect responses due to social desirability. Further research on this interaction should be investigated.

CHAPTER SIX: CONCLUSION

Increase in HPV Awareness

This study and others (M.A. Gerend & Magloire, 2008) have found high rates of HPV awareness on college campuses compared to the research from the late 1990s that claimed that awareness was very low among college students (Yacobi et al., 1999). The introduction of the vaccine in recent years has increased the awareness of HPV in the United States and continues to gain popularity, despite some controversy (Smith, 2009). Some parents are resisting vaccinating their daughters in fear that it will promote promiscuity, but it is clear that college students have different attitudes about vaccinating themselves.

Awareness & Attitudes towards the HPV Vaccine

In recent years, the HPV vaccine has been developed for females to protect themselves against the strains that cause cancer. Meanwhile, no developments have been to protect males, despite studies that have found their acceptance of the vaccine (M.A. Gerend & Barley, 2009; Lenselink et al., 2008). College males in particular are at a higher-risk for health problems (Courtenay, 1998) due to the prevalence of risk behaviors among them. The spread of HPV can oftentimes be prevented through the use of condoms. Sexually active college students, both males and females, approve of the HPV vaccine and do not feel that it approves unprotected sex (Caron, Kispert, & McGrath, 2008). These positive attitudes towards the vaccine are correlated

with awareness of the vaccine and HPV. However, the connection between awareness and attitudes in relation to prediction of behavior is not often considered.

Applications

In order to combat the spread of HPV, vaccination and condom usage needs continued promotion to the college student population. As discussed earlier, awareness is linked to attitudes. In order to change attitudes and ultimately behavior, awareness about HPV vaccine must be the increased through various methods. A trial intervention showed that HPV knowledge can be increased rapidly through a brief educational session whether it is at a health center or in class (Lambert, 2001). Such interventions proved to change the attitudes towards the HPV vaccination among women, and increase knowledge about HPV among men (Doherty & Low, 2008).

Limitations

Limitations to the findings are discussed. This study cannot be used to predict awareness among the entire U.S. population because the sample consisted exclusively of college students. Future research should look at different subpopulations, including minority communities. This was a cross-sectional study; however, in the future a longitudinal or time series study should be conducted to examine influences and predictors over time. This could help explain the correlation between age and the health behaviors. At this time it is unknown whether age or cohort is the correlate.

Future Research

Further social research needs to be conducted in the area of HPV awareness and prevention. In particular, studies need to continue to target other groups of the U.S. population to test the utility of the health behavior theories and perhaps research bridging the gap between behavioral intention and behavior, like Sutton's current work (2008). Populations that should be investigated include not only first-generation college students, but also minorities in general. Research on both the prevalence rates and attitudes towards HPV among these groups is scarce. A study examining the generational effects on similar health behaviors should also be considered. Lastly, evaluations of programs using the findings of studies such as this one need to be evaluated for effectiveness. Not only knowledge gained should be evaluated, but also the connection between awareness and attitudes. Since attitudes predict behavioral intention to perform such health behaviors it is important to evaluate them before and after the program, as well as validating this with actual measures of the health behaviors.

APPENDIX A: IRB APPROVAL LETTER



University of Central Florida Institutional
 Review Board
 Office of Research & Commercialization
 12201 Research Parkway, Suite 501
 Orlando, Florida 32826-3246
 Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Notice of Expedited Initial Review and Approval

From : UCF Institutional Review Board FWA00000351, Exp. 6/24/11, IRB00001138
 To : Meagan Arrastia
 Date : September 30, 2008
 IRB Number: SBE-08-05819 Study Title: **Knowledge and Attitudes towards HPV, the HPV Vaccine, and Health Behaviors among College Students**

Dear Researcher:

Your research protocol noted above was approved by **expedited** review by the UCF IRB Vice-chair on 9/29/2008. **The expiration date is 9/28/2009.** Your study was determined to be minimal risk for human subjects and expeditable per federal regulations, 45 CFR 46.110. The category for which this study qualifies as expeditable research is as follows:

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

A **waiver of documentation of consent** has been approved for all subjects. Participants do not have to sign a consent form, but the IRB requires that you give participants a copy of the IRB-approved consent form, letter, information sheet, or statement of voluntary consent at the top of the survey.

All data, which may include signed consent form documents, must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained on a password-protected computer if electronic information is used. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

To continue this research beyond the expiration date, a Continuing Review Form must be submitted 2 – 4 weeks prior to the expiration date. Advise the IRB if you receive a subpoena for the release of this information, or if a breach of confidentiality occurs. Also report any unanticipated problems or serious adverse events (within 5 working days). Do not make changes to the protocol methodology or consent form before obtaining IRB approval. Changes can be submitted for IRB review using the Addendum/Modification Request Form. An Addendum/Modification Request Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <http://iris.research.ucf.edu> .

Failure to provide a continuing review report could lead to study suspension, a loss of funding and/or publication possibilities, or reporting of noncompliance to sponsors or funding agencies. The IRB maintains the authority under 45 CFR 46.110(e) to observe or have a third party observe the consent process and the research.

On behalf of Tracy Dietz, Ph.D., UCF IRB Chair, this letter is signed by:
 Signature applied by Joanne Muratori on 09/30/2008 10:02:56 AM EDT

IRB Coordinator
 University of Central Florida Institutional Review Board
 Office of Research & Commercialization
 12201 Research Parkway, Suite 501
 Orlando, Florida 32826-3246
 Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

APPENDIX B: RECRUITMENT LETTER

Hello,

My name is Meagan Arrastia and I am a MA student of Applied Sociology at UCF working with Dr. Fernando Rivera. As part of my thesis I am conducting a survey about the knowledge and attitudes toward the Human Papillomavirus (HPV), the HPV vaccine, and other health behaviors. The purpose of the study is to evaluate what college students know and think about HPV. In addition I will also be asking questions about mental health and risk-taking behaviors, including illegal drug use. If you have a web component to your class, I have provided this (link) for your students to take the survey which takes about 15 minutes. If you are a face-to-face class, I would love to distribute the surveys in your class at a convenient time for you. The survey only takes 15 minutes and is completely voluntary. Students can skip questions and stop whenever they want to stop. The survey is anonymous because I will not be collecting names and the online survey does not collect IP addresses. Please let me know if it is possible for you to pass on this link to your students or if I can visit your class.

Thank you for your help,

Meagan C. Arrastia

For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

APPENDIX C: CONSENT FORM

INFORMED CONSENT

You are being invited to take part in a research study which will include about 300 people. In the analysis of data, your responses will be combined with the responses of these 300 other people. You can ask questions about the research. Please read this consent form, ask questions, and take the survey if you agree to participate. You have been asked to take part in this research study because you are a university student. **You must be 18 years of age or older to be included in the research study.**

The person doing this research is Meagan C. Arrastia, a Master's student of Applied Sociology at the University of Central Florida. Because the researcher is a Master's student, Dr. Nadine Barrett, a UCF faculty member in the Sociology Department, is guiding her through the process.

Study Title: Knowledge and Attitudes towards HPV, the HPV vaccine, and Health Behaviors among College Students

Purpose of the research study: The purpose of this study is to evaluate what students know about HPV, how they feel about the HPV vaccine, and how likely they are to use condoms to protect themselves against HPV.

What you will be asked to do in the study: You will be asked to fill out a survey.

Voluntary participation: You should take part in this study only because you want to. There is no penalty for not taking part, and you will not lose any benefits. You have the right to stop at any time. Just leave any and all items that you don't want to fill out blank.

Time required: The survey will take about 15 minutes to complete.

Audio or video taping: This study does not include any audio or videotaping.

Risks: There are minimal anticipated risks for participating in this study; however, you will be asked sensitive information about your past and current sexual behaviors, medical history, alcohol use, illegal-drug use, and mental health. If at any time you feel uncomfortable, feel free to discontinue taking the survey.

Benefits: There are potential societal benefits to this research, which include learning what college students know about HPV in order to educate the population. Becoming aware of your own health behaviors is a potential individual benefit.

Compensation or payment: There is no compensation for participating in this study.

Confidentiality: This study is anonymous, meaning that at no point in time will your name be collected.

Data Storage: I am not collecting any identifying material, such as names, social security numbers, etc. The survey I am giving you is numerically coded. The survey forms will be stored in a locked filing cabinet. Once I have entered the numerical data into a computer, the paper survey will be shredded and the online version will be deleted.

Contact IRB about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

To learn more about the Human Papillomavirus or safer sex practices: Contact the UCF Health Center 4000 Central Florida Blvd. Orlando, FL 32816 Building 127, (407) 823-3850.

Since I am not gathering names, your participation in this survey, constitutes your informed consent. Please feel free to keep this form for your records and if you have any concerns related to this study.

APPENDIX D: PAPER SURVEY

Demographic Information

Age:	Sex (Circle One) M F
Race/Ethnicity :	First Generation College Student?(Circle One) Y N
Major:	Minor:

Mental Health and Risk Taking

Please check the best answer that describes your feelings and thoughts in the last 30 days.

During the last 30 days, about how often did...	Most of the time	Some of the time	A little of the time	None of the time
You feel so depressed that nothing could cheer you up?				
You feel hopeless?				
You feel restless or fidgety				
You feel that everything was an effort?				
You feel worthless?				
You feel nervous?				

In the last 30 days have you...	Smoked cigarettes?	Done illegal drugs?	Binge drank?	Worn a seatbelt?
Yes				
No				

The next questions concern different health behaviors

1. Have you ever been sexually-active?
Yes No
2. Do you engage in sexual activity with same-sex partners?
Yes No

Some of the following questions are sex-specific. Please just skip the questions that do not correspond to your sex.

3. Females Only: Have you had a pap smear in the last year?
Yes No
4. Have you ever heard of the Human Papillomavirus, HPV?
Yes No (Skip to 12)
5. If so, where did you hear about it?
 - a. Healthcare provider
 - b. Parents
 - c. Friends
 - d. Teachers
 - e. TV/Commercial
 - f. Other (Specify): _____
6. Is HPV a sexually-transmitted disease?
Yes No
7. Has HPV cause cancer?
Yes No
8. Has your healthcare provider ever talked to you about the connection between HPV and cervical cancer?
Yes No
9. How comfortable are you talking to your healthcare provider about STDs?
 - a. Very Comfortable
 - b. Somewhat comfortable

- c. Not very comfortable
- d. I would not be comfortable talking about STDs with my practitioner

10. To your knowledge have you ever had the Human Papillomavirus?

Yes No

11. When engaging in sexual intercourse do you use condoms every time?

- a. Always
- b. Sometimes
- c. Hardly ever
- d. Never
- e. I abstain from sex (Skip to 18)

12. Do you consider protecting yourself from HPV when using a condom?

- a. Yes
- b. No
- c. I don't use condoms

18. Have you ever heard of the HPV Vaccine?

- a. Yes
- b. No (Males skip to 21, Females skip to 22)

19. Males Only: As you may know, the HPV vaccine is only available for females. Which of the following best describes how you would feel if the HPV vaccine was available for males?

- a. I would definitely get the vaccine
- b. I would not get the vaccine
- c. I am unsure if I would get the vaccine
- d. I have never thought about it

STOP HERE

20. Females Only: Which of the following best describes your thoughts about getting the HPV Vaccine?

- a. I've never thought about getting the HPV Vaccine
- b. I'm undecided about getting the HPV Vaccine

- c. I've decided I don't want to get the HPV Vaccine
- d. I've decided I do want to get the HPV Vaccine
- e. I have received the vaccine

STOP HERE

21. Males Only: HPV can be passed from a male to a female without visible symptoms. The HPV vaccine protects against three of the strains of HPV that cause cervical cancer in women. Unfortunately, a vaccine for males has not been approved. If there was one available how would you feel about receiving the vaccine?
- a. I would definitely get the vaccine
 - b. I would not get the vaccine
 - c. I am unsure if I would get the vaccine
22. Females Only: The HPV vaccine protects against three of the strains of HPV that cause cervical cancer in women. Having heard that how would you feel about getting the vaccine?
- a. I would definitely get the vaccine
 - b. I would not get the vaccine
 - c. I am unsure if I would get the vaccine

1. How likely are you to get the vaccine given it is available to you?
 - a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely

2. How often do you use condoms?
 - a. Never
 - b. Seldom
 - c. Sometimes
 - d. About half the time
 - e. Most of the time
 - f. Almost All the time
 - g. All the Time

1. My using condoms every time I have sex during month is:
 - a. Extremely Bad
 - b. Quite Bad
 - c. Slightly Bad
 - d. Neither
 - e. Slightly Good
 - f. Quite Good
 - g. Extremely Good

2. My getting the HPV vaccine is:
 - a. Extremely Bad
 - b. Quite Bad
 - c. Slightly Bad
 - d. Neither
 - e. Slightly Good

- f. Quite Good
- g. Extremely Good

1. Most people who are important to me think I should use condoms every time I have sex during the next month:

- a. Extremely Unlikely
- b. Quite Unlikely
- c. Slightly Unlikely
- d. Neither
- e. Slightly Likely
- f. Quite Likely
- g. Extremely Likely

2. Most people who are important to me think I should get the HPV vaccine:

- a. Extremely Unlikely
- b. Quite Unlikely
- c. Slightly Unlikely
- d. Neither
- e. Slightly Likely
- f. Quite Likely
- g. Extremely Likely

1. My using condoms every time I have sex during the next month is:

- a. Extremely Up to me
- b. Quite Up to me
- c. Slightly Up to me
- d. Neither
- e. Slightly Not up to me
- f. Quite Not up to me
- g. Extremely Not up to me

2. My getting the HPV vaccine:

- a. Extremely Up to me

- b. Quite Up to me
 - c. Slightly Up to me
 - d. Neither
 - e. Slightly Not up to me
 - f. Quite Not up to me
 - g. Extremely Not up to me
1. Using a condom every time I have sex during the next month will prevent you from getting HPV.
 - a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
 2. Getting the HPV vaccine will prevent you from getting HPV
 - a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
1. My friends think that I should use condoms every time I have any type of sex during the next month:
 - a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
 2. My partner thinks that I should use condoms every time I have sex with him/her during the next month:

- a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
3. My friends think that I should get the HPV vaccine:
- a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
4. My partner thinks that I should get the HPV vaccine:
- a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
1. In general, I want to do what my friends thinks I should do:
- a. Extremely Agree
 - b. Quite Agree
 - c. Slightly Agree
 - d. Neutral
 - e. Slightly Disagree
 - f. Quite Disagree
 - g. Extremely Disagree

1. When you have sex how likely are you to be the person who has the condom?
 - a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
2. How likely is it that your health insurance covers the HPV vaccine?
 - a. Extremely Unlikely
 - b. Quite Unlikely
 - c. Slightly Unlikely
 - d. Neither
 - e. Slightly Likely
 - f. Quite Likely
 - g. Extremely Likely
3. Would being the partner who has a condom make it easy or difficult to use the condom?
 - a. Extremely Easy
 - b. Quite Easy
 - c. Slightly Easy
 - d. Neither
 - e. Slightly Difficult
 - f. Quite Difficult
 - g. Extremely Difficult
4. Would having insurance make it easy or difficult for you to get the HPV vaccine?
 - a. Extremely Easy
 - b. Quite Easy
 - c. Slightly Easy
 - d. Neither
 - e. Slightly Difficult
 - f. Quite Difficult
 - g. Extremely Difficult

APPENDIX E: ONLINE SURVEY

1. Informed Consent

INFORMED CONSENT

You are being invited to take part in a research study which will include about 300 people. In the analysis of data, your responses will be combined with the responses of these 300 other people. You can ask questions about the research. Please read this consent form, ask questions, and take the survey if you agree to participate. You have been asked to take part in this research study because you are a university student. You must be 18 years of age or older to be included in the research study.

The person doing this research is Meagan C. Arrastia, a Master's student of Applied Sociology at the University of Central Florida. Because the researcher is a Master's student, Dr. Nadine Barrett, a UCF faculty member in the Sociology Department, is guiding her through the process. **Study Title:** Knowledge and Attitudes towards HPV, the HPV vaccine, and Health Behaviors among College Students

Purpose of the research study: The purpose of this study is to evaluate what students know about HPV, how they feel about the HPV vaccine, and how likely they are to use condoms to protect themselves against HPV.

What you will be asked to do in the study: You will be asked to fill out a survey.

Voluntary participation: You should take part in this study only because you want to. There is no penalty for not taking part, and you will not lose any benefits. You have the right to stop at any time. Just leave any and all items that you don't want to fill out blank.

Time required: The survey will take about 15 minutes to complete.

Audio or video taping: This study does not include any audio or videotaping.

Risks: There are minimal anticipated risks for participating in this study; however, you will be asked sensitive information about your sexual behavior, medical history, alcohol use, illegal-drug use, and mental health. If at any time you feel uncomfortable, feel free to discontinue the survey.

Benefits: There are potential societal benefits to this research, which include learning what college students know about HPV in order to educate the population. Becoming aware of your own health behaviors is a potential individual benefit.

Compensation or payment: There is no compensation for participating in this study.

Confidentiality: This study is anonymous meaning that your name and IP address will not be collected.

Data Storage: I am not collecting any identifying material, such as names, social security numbers, etc. The survey I am giving you is numerically coded. The survey forms will be stored in a locked filing cabinet. Once I have entered the numerical data into a computer, the paper survey will be shredded and the online version will be deleted.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

Since I am not gathering names, your participation in this survey, constitutes your informed consent. Please feel free to print out this page for your records.

[Add Question Here](#)

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2. Demographic Information

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*

1. What is your age?

[Add Question Here](#)[Split Page Here](#)

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2. What race or ethnicity do you identify with?

[Add Question Here](#)[Split Page Here](#)

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3. What is your major?

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4. What is your minor?

[Add Question Here](#)[Split Page Here](#)

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5. Are you a first-generation college student?

yes

no

[Add Question Here](#)

[Add Page Here](#)

3. Mental Health

[Add Question Here](#)

[Edit Question](#)[Move](#)[Copy](#)[Delete](#)

1. Answer the question below about the way you have felt within the last 30 days.

	Most of the time	Some of the time	A little of the time	None of the time
You feel so depressed that nothing could cheer you up?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Answer the question below about the way you have felt within the	of the time	Some of the time	A little of the time	None of the time

last 30 days. You feel so depressed that nothing could cheer you up?
Most of the time

You feel hopeless? Most of the time
 You feel hopeless? Some of the time
 A little of the time
 None of the time

You feel restless or fidgety Most of the time
 You feel restless or fidgety Some of the time
 A little of the time
 None of the time

You feel that everything was an effort? Most of the time
 You feel that everything was an effort? Some of the time
 A little of the time
 None of the time

You feel worthless? Most of the time
 You feel worthless? Some of the time
 A little of the time
 None of the time

You feel nervous? Most of the time
 You feel nervous? Some of the time
 A little of the time
 None of the time

[Add Question Here](#)

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4. Risk Behaviors

[Add Question Here](#)

[Edit Question](#)[Move](#)[Copy](#)[Delete](#)

1. In the last 30 days have you...

	Yes	No
<input type="radio"/> Smoked cigarettes?	<input type="radio"/> In the last 30 days have you... Smoked cigarettes? Yes	<input type="radio"/> No
<input type="radio"/> Done illegal drugs?	<input type="radio"/> Done illegal drugs? Yes	<input type="radio"/> No
<input type="radio"/> Binge drank?	<input type="radio"/> Binge drank? Yes	<input type="radio"/> No
<input type="radio"/> Worn a seatbelt?	<input type="radio"/> Worn a seatbelt? Yes	<input type="radio"/> No

[Add Question Here](#)

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5. Health Behaviors

[Add Question Here](#)

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1. Please answer the following questions

- | | Yes | No |
|----------------------------------------------------------|-----------------------|-----------------------|
| Have you ever been sexually-active? | <input type="radio"/> | <input type="radio"/> |
| Do you engage in sexual activity with same-sex partners? | <input type="radio"/> | <input type="radio"/> |
| Females Only: Have you had a pap smear in the last year? | <input type="radio"/> | <input type="radio"/> |

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2. Have you ever heard of the Human Papillomavirus, HPV?

- Yes
 No

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[Add Page Here](#)

6. HPV questions

[Add Question Here](#)

[Edit Question](#)[Move](#)[Copy](#)[Delete](#)

1. Knowledge of HPV

- | | Yes | No |
|----------------------------------------|-----------------------|-----------------------|
| Is HPV a sexually-transmitted disease? | <input type="radio"/> | <input type="radio"/> |
| Can HPV cause cancer? | <input type="radio"/> | <input type="radio"/> |

Has your healthcare provider ever talked to you about the connection between HPV and cervical cancer?

Has your healthcare provider ever talked to you about the connection between HPV and cervical cancer? Yes

No

To your knowledge have you ever had the Human Papillomavirus?

To your knowledge have you ever had the Human Papillomavirus? Yes

No

[Add Question Here](#)

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7. Sex-specific

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1. What is your sex?

Female

Male

[Add Question Here](#)

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8. Sex-Specific (2)

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1. What is your sex?

Male

Female

[Add Question Here](#)

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9. Male Questions (2)

[Add Question Here](#)

[Edit Question](#)[Move](#)[Copy](#)[Delete](#)[Add Logic](#)

1. Males Only: As you may know, the HPV vaccine is only available for females. Which of the following best describes how you would feel if the HPV vaccine was available for males?

- I would definitely get the vaccine
- I would not get the vaccine
- I am unsure if I would get the vaccine
- I have never thought about it

[Add Question Here](#)

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10. Female Questions (2)

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1. Females Only: Which of the following best describes your thoughts about getting the HPV Vaccine?

- I've never thought about getting the HPV Vaccine
- I'm undecided about getting the HPV Vaccine
- I've decided I don't want to get the HPV Vaccine
- I've decided I do want to get the HPV Vaccine
- I have received the vaccine

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12. Female Questions

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1. Females Only: The HPV vaccine protects against three of the strains of HPV that cause cervical cancer in women. Having heard that how would you feel about getting the vaccine?

- I would definitely get the vaccine

- I would not get the vaccine
- I am unsure if I would get the vaccine

[Add Question Here](#)

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13. Male Questions

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1. Males Only: HPV can be passed from a male to a female without visible symptoms. The HPV vaccine protects against three of the strains of HPV that cause cervical cancer in women. Unfortunately, a vaccine for males has not been approved. If there was one available how would you feel about receiving the vaccine?

- I would definitely get the vaccine
- I would not get the vaccine
- I am unsure if I would get the vaccine

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14. Condom Questions

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1. How comfortable are you talking to your healthcare provider about STDs?

- Extremely Comfortable
- Quite Comfortable
- Slightly Comfortable
- Neither
- Slightly Uncomfortable
- Quite Uncomfortable
- Extremely Uncomfortable

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2. How often do you use condoms when having any type of sex

- Never
- Seldom
- Sometimes
- About 1/2 the time
- Most of the time
- Almost all the time
- All the time

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3. Answer the following questions about condom usage

Extre Q Sli Ne Sli Qu Ext

mely uite ghtly ither ghtly ite Likely remely Likely

Unlikely Unlikely Unlikely Likely Likely Likely

Answer the following questions about

How likely are you to use a condom every time you have sex in the next month?

How likely are you to use a condom every time you have sex in the next month?

() () () () () ()

Quite Slightly Neither Slightly Quite Extremely

Unlikely Unlikely Likely Likely Likely

Extremely Unlikely

Using a condom every time I have sex during the next month will prevent you from getting HPV.

Using a condom every time I have sex during the next month will prevent you from getting HPV.

() () () () () ()

Quite Slightly Neither Slightly Quite Extremely

Unlikely Unlikely Likely Likely Likely

Extremely Unlikely

My friends think that I should use condoms every time I have any type of sex during the next month:

My friends think that I should use condoms every time I have any type of sex during the next month: Extremely Unlikely

Quite Unlikely Slightly Unlikely Neither Slightly Likely Quite Likely Extremely Likely

My partner thinks that I should use condoms every time I have sex with him/her during the next month:

My partner thinks that I should use condoms every time I have sex with him/her during the next month: Extremely Unlikely

Quite Unlikely Slightly Unlikely Neither Slightly Likely Quite Likely Extremely Likely

How likely are you to consider protecting yourself from HPV when using a condom?

How likely are you to consider protecting yourself from HPV when using a condom? Extremely Unlikely

Quite Unlikely Slightly Unlikely Neither Slightly Likely Quite Likely Extremely Likely

Most people who are important to me think I should use condoms every time I have sex during the next month:

Most people who are important to me think I should use condoms every time I have sex during the next month:

Quite Unlikely Slightly Unlikely Neither Slightly Likely Quite Likely Extremely Likely

next month:
 Extremely Unlikely

When you have sex how likely are you to be the person who has the condom?

When you have sex how likely are you to be the person who has the condom?

Extremely Unlikely

Quite Unlikely Slightly Unlikely Neither Slightly Likely Quite Likely Extremely Likely

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4. My using condoms every time I have sex during month is:

- Extremely Bad
- Quite Bad
- Slightly Bad
- Neither
- Slightly Good
- Quite Good
- Extremely Good

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5. My using condoms every time I have sex during month is:

- Extremely Bad
- Quite Bad
- Slightly Bad
- Neither
- Slightly Good
- Quite Good
- Extremely Good

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6. My using condoms every time I have sex during the next month is:

- Extremely Up to me
- Quite Up to me

- Slightly Up to me
- Neither
- Slightly Not up to me
- Quite Not up to me
- Extremely Not up to me

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7. In general, I want to do what my friends thinks I should do:

- Extremely Agree
- Quite Agree
- Slightly Agree
- Neither
- Slightly Disagree
- Quite Disagree
- Extremely Disagree

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8. Would being the partner who has a condom make it easy or difficult to use the condom?

- Extremely Easy
- Quite Easy
- Slightly Easy
- Neither
- Slightly Difficult
- Quite Difficult
- Extremely Difficult

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9. Would being the partner who has a condom make it easy or difficult to use the condom?

- Extremely Easy
- Quite Easy
- Slightly Easy
- Neither
- Slightly Difficult

- Quite Difficult
- Extremely Difficult

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15. Thank You!

Thank you for participating. Please feel free to email me at arrastia@mail.ucf.edu if you have any comments or questions.

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