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Cross-Cultural Differences and Sexual Risk Behavior of Emerging Adults

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Abstract

Purpose—This study examined population-specific risk factors that increase emerging adults' risk of acquiring sexually transmitted infections (STIs), including the human papillomavirus (HPV).

Design and Method—A cross-sectional sample of 335 diverse, emerging adults ages 18 to 24 years was recruited from a health center at a large university in the Southeastern United States. The mean age was 20.6 ± 1.9 years, majority were females (74.0%), and 61.0% were Hispanic.

Results—Findings revealed inconsistent condom use, reasons for not using condoms, and a need for more culturally-specific intervention strategies.

Discussion and Conclusions—Healthcare providers should identify culturally-specific reasons for inconsistent condom use, examine cultural and geographic differences in sexual risk behaviors among groups and communities, and modify communication, educational programs, and interventions accordingly.

Implications for Practice—By adopting a multi-cultural approach to the control of STIs, nurses can address specific cultural attitudes and behaviors that may influence exposure to STIs, including HPV.

Keywords

Multi-Cultural; Sexually Transmitted Infections; Human Papillomavirus; Nursing Interventions; Students; Emerging adults/young adults

Introduction

Research findings from multi-cultural samples and settings are central to better understanding sexually transmitted infections (STIs), including human papillomavirus (HPV) transmission and developing programs to reduce their incidence in populations at risk in the United States. African American and Hispanic women in the United States suffer disproportionately high rates of STIs including persistent HPV infection, the most commonly acquired STI despite primary prevention measures (Koutsky, 1997; Tsubokura, Komatsu, & Kami, 2008). An estimated 6.2 million men and women are newly infected every year with HPV in the U.S, approximately 20 million people are currently infected, and HPV prevalence continues to climb in all populations (Prevention, 2007; Smith, Melendy, Rana, & Pimenta, 2008; Weber, 2007; Zimet, Rosberger, Fisher, Perez, & Stupiansky, 2013). Young adults from ethnic minority groups ages 16– 24 are the most at risk with current overall rates of STIs and HPV in racial minorities ranging from 8 to 21 times the rates in Whites (Hock-Long et al., 2012).

While HPV remains the most common STI in the US; unlike other infections it can also be transmitted through skin-to-skin contact and sexual risk taking (Braaten & Laufer, 2008). The most common form of sexual risk-taking in the university student population is penile-vaginal intercourse without the use of a condom (Sipkin, 2003; Whaley & Winfield, 2003; Winer et al., 2006). The practice of not using a condom during penile-vaginal intercourse or inconsistent condom use are just a few of the many sexual risk-taking behaviors that increase in student populations as these individuals transition from home life to university campus settings (Renn & Arnold, 2003). Emerging adults–adolescents or young adults ages 18 to 24–frequently engage in sexual risk-taking as they develop their adult identity, which increases their vulnerability to HPV and other STIs (Arnett, 2004).

Adolescents and adults ages 15 to 24 represent an estimated 74% of newly-acquired HPV infections (Markowitz, 2007). Research has shown that consistent condom use is the primary strategy to prevent or decrease transmission of HPV, especially in young adults (Barr & Sings, 2008; D'Urso, Thompson-Robinson, & Chandler, 2007; Lee & Clarke, 2004). However, HPV transmission can also occur through skin to skin contact, making condoms ineffective, since they do not necessarily cover all of the epithelial surface at risk (Cothran & White, 2002).

Literature Review

Despite healthcare providers' efforts to provide primary and secondary prevention measures for emerging adults, STI rates, including rates of HPV, continue to climb, especially among emerging adults (Parkin & Bray, 2006). Secondary prevention measures used to treat HPV when primary prevention measures fail are much more costly and include treatment of genital warts and management of cervical dysplasia with colposcopies, exceeding billions of dollars annually (Dunne & Markowitz, 2006; Kim & Goldie, 2008; Parkin & Bray, 2006). Primary and secondary prevention measures such as providing educational pamphlets, displaying informative posters, distributing free condoms, and encouraging HPV vaccination and annual cervical cancer screenings (Pap smears) have neither halted infection nor

increased HPV vaccination (Damm et al., 2009; Eaton et al., 2006; Phipps, Stanley, Kohn, Stansell, & Klausner, 2005; Steele, Richmond-Reese, & Lomax, 2006). The Centers for Disease Control and Prevention (CDC) reports that HPV vaccine uptake in 2011 for women ages 18 to 24 was less than 50 % for females and less than 12% for males (Bynum, Brandt, Sharpe, Williams, & Kerr, 2011; CDC, 2011).

As the demographics of the United States change from a larger Caucasian demographic to increasing percentages of diverse ethnic groups, more culturally-tailored HPV and STI prevention strategies are warranted as the proportion of racial and ethnic minority populations is consistently increasing (U.S. Census Bureau, 2011). There is a gap in knowledge regarding condom use among female university students who are: 1) newly immigrated, 2) first generation citizens, or 3) from ethnically diverse backgrounds (Bachelor, 2004). This knowledge gap is particularly important since these women are a subpopulation of emerging adults who may use condoms inconsistently or not at all (Berer, 2006).

The transmission of HPV due to risk taking behavior such as having multiple sexual partners or inconsistent condom use has increased among university students of all cultural backgrounds (Hock-Long et al., 2012). Results from past research have identified embarrassment and stigma as barriers to condom use (Gurman, 2004). The impact of stigama may influence rates of STIs and HPV. The rates are highest among African American and Hispanic students l, despite interventions and health education programs targeted to these specific groups (Adam, 2006; Crosby et al., 2005). In the context of cross cultural rsik taking in emerging adults, the absence of condom use may be harder to change than other sexual-risk behaviors, such as having multiple sexual partners (DiClemente, Wingood, Crosby, et al., 2008).

Einwalter, Ritchie, Ault, and Smith (2005) postulated that some racial and ethnic groups may engage in high-risk sex behaviors because of cultural influences or acculturation to the United States. However, this may not be a complete explanation for increasing HPV and STI rates in these groups. Many university students from different racial/ethnic backgrounds have limited access to healthcare and inadequate insurance as they transition from high-school to university life. Unfortunately, university students experiencing such disparities have not been studied with a focus on condom use in the context of cultural or ethnic differences.

While condom use or non condom use has been studied both in whites and non-whites in relation to sexual risk taking behavior, little research has examined racial/ethnic differences in condom use or inconsistent condom use as sexual risk taking among university students (Brown, Taylor, Mulatu, & Scott, 2007; Davis, Duncan, Turner, & Young, 2001; Turner, Garnett, Ghani, Sterne, & Low, 2004). Nurses and other healthcare providers serving college students or emerging adults may benefit from information on cross cultural groups and population-specific sexual risk-taking behaviors, including condom use (Albarracin, 2004; Harvey et al., 2008; Hirozawa, 2001).

It is important to examine longitudinal patterns of condom use (over a 12-month period) because this practice reduces risk of acquiring sexually transmitted infections among university students from different racial/ethnic backgrounds. Identifying these longitudinal patterns of inconsistent or absent condom use can provide nurses and nurse scientists with valuable information to identify intervention points to reduce sexual risk taking and the long term sequale associated with STI and HPV infection. Student residence, either on-campus or off-campus living, should be included in examining these longitudinal patterns of sexual risk taking, as residence can affect access to condoms and health care. Once residence is identified along with patterns of sexual risk taking. culturally-specific interventions can be developed to increase consistent condom use and prevent transmission of HPV and other STIs.

The purpose of this study was to describe sexual risk-taking behaviors that contribute to the transmission of STIs, including HPV, in a sample of university students from diverse racial and cultural backgrounds.

Methodology

The study was a descriptive, cross-sectional study of emerging adults ages 18 to 24 years from diverse racial/ethnic backgrounds who attended a large urban university in the Southeastern United States between 2007 and 2008. The study aimed to answer a research question focused on the influence of ethnicity and residence on sexual risk taking behaviors such as inconstitent condom use and abstinence based education fromed on the theory of self-efficacy (Bandura, 1997). The hypothesis was that sexual risk taking behaviors would vary among ethnic groups. The overall goal was that the identified differences could be used to develop culturally specific intervention strategies to decrease infection rates of STIs and HPV to reduce HPV related cancers.

Research Question 1: Do race/ethnicity and geographic residence area influence college students' sexual behavior practices, particularly their condom use and abstinence practices?

> Hypothesis 1: Students who self identify as belonging to a an ethnic minority groups identified in the literature as high risk who attend an urban university will report higher rates of unprotected vaginal sex and lower condom use self efficacy scores compared to the students attending the same urban university who self identify as Caucasian.
>
> Hypothesis 2: Students who live in on-campus dormitories or sorority houses will report lower condom use self-efficacy than students living off campus, and students living in on-campus sororities will report the lowest condom use self-efficacy scores.

The university's institutional review board approved the study. Participants provided informed consent and anonymous responses to a health risk survey and in retrun received a five dollar gift card when the survey was completed. Analysis focused on examination of the differences between racial and ethnic groups in their responses to questions about condom use, condom use self-efficacy, and specific high-risk sexual behaviors over a 12-month period and residence.

Sample and Setting

The sample consisted of 335 male and female university students ages 18 to 24 years of age who visited the university health center for various health concerns. These concerns included but were not limited to health education needs, acute problems and management of chronic medical issues. Students were recruited using IRB approved flyers directing them to an specifc private area if they agreed to participate in the study and complete an anonymous health risk survey.

Procedures and Measurement

Students were given an introductory letter–either in English or Spanish depending on their preference–that explained the purpose of the study with the anonymous survey attached. After reading the study letter, interested participants directed any questions to study staff and provided their written informed consent on the study consent form provided. The survey was administered in English and Spanish, and it included questions about demographics, sexual behavior, high-risk drinking, and treatment for STIs during the previous 12 months. Students also completed the Condom Use Self-Efficacy Scale (CUSES) (Brafford, 1991). The CUSES has 28 items on a 5-point Likert Scale ranging from “strongly disagree” (scored as 1) to “strongly agree” (scored as 5). The total CUSES scores range from 28 to 140, with higher scores indicating higher knowledge and self-efficacy of condom use. The surveys were anonymous to allay fears that behavior would be reported to parents. Those who completed the survey received a $5 gift card. The survey responses were then manually entered into an SPSS statistical program twice to check for entry errors.

Data Analysis

The latest versions of SAS and SPSS computer programs were used for data management and analysis. Data analysis included descriptive statistics, one-way ANOVA, Chi-square test, and multiple linear regression analysis. Descriptive statistics were used on demographic variables in computing the summary measures (mean, standard deviation, and range) for the variables measured on interval or ratio scales and frequency distributions (absolute frequency and percent) for the variables measured on nominal or ordinal scales. One-way ANOVA was used to the examine the difference in mean total score for condom use self-efficacy for various group categories based on frequency of condom use, language, gender, race/ethnicity, class standing, and residence. For post-hoc analysis, the Bonferroni method was used to control for multiple comparisons. Chi square tests were performed to examine the homogeneity of the students with specific race or ethnic backgrounds engaging in various sexual activities. Multiple linear regression equations evaluated the potential impact of demographic characteristics including residence and sexual activities on condom use self-efficacy scores. Step-type regression analysis was used to obtain the optimal regression model.

Results

Sample Characteristics

The mean age was 20.60 years (SD = 1.85). Students identified their race or ethnicity from one of the following groups: African American (*n* = 40); Asian including Chinese, Japanese, and Filipino (*n* = 21); Caucasian (*n* = 46); Cuban (*n* = 53); Haitian (*n* = 8); Hispanic (*n* = 69); Jamaican (*n* = 9); Mexican (*n* = 11); Puerto Rican (*n* = 19); South American (*n* = 36); or other (*n* = 24). Due to very small number of students in some race/ethnicity background categories, the groups were collapsed into 5 broader categories of Caucasian, African American, Hispanic, Asian, and Other (Table 1). According to Table 1, the majority of students were female (74.0%), considered themselves as Hispanic (61.0%), lived on campus or in sorority houses (53.6%), and reported English as their primary language (71.6%). They were distributed almost evenly among the four undergraduate years and graduate students comprised only about 7.8% of the sample.

Sexual Behaviors

Regarding sexual behaviors during the previous 12 months (Table 2), the majority of students reported having male sex partners (52.4%), engaged in petting (57.9%), oral sex (66.0%), and penile vaginal intercourse (76.1%). About 5.5% of both males and females reported having sex exclusively with a same sex parterner and anal intercourse was reported for all groups at 13.9%.

Condom use among students varied (Table 1): 30.2% reported that they never used condoms and 22.2% used condom all the time. About 47.7% of students reported that they used condoms between 20% and 70% of the time (Table 1). Additionally, a majority of students stated that they were “very comfortable” with asking a partner to seek treatment for STIs (70.1%) and discussing their own STI diagnosis with their partner (61.2%). Unfortunately, many students mistakenly think they have an STI and come to the University Health Center for treatment only to find out that they have a yeast infection. So, treatment for a yeast infection was included on the health survey. This is important to note as the most common gynecologic complaint diagnosed and treated at the University Health Center during the time of the study (during 2007 and 2008) was yeast infection (8.73%), HPV (6.33%), and bacterial vaginitis (5.42%). There were two cases of herpes simplex virus type 2, four cases of *Chlamydia trachomatis*, and no reported cases of gonorrhea at the health center.

Condom Use Self-Efficacy

The average CUSES score for the study was 113.47 (SD = 17.92, Range = 41–140). As indicated in Table 1, those with higher frequency of condom use had significantly higher mean CUSES score ($F = 4.37$, $p < 0.01$). Students whose primary language was English had higher mean CUSES score ($F = 120.70$, $p < 0.001$) than those whose primary language was Spanish. There were significant differences in mean CUSES scores among racial/ethnic groups ($F = 4.37$, $p < 0.05$). Those categorized as “Other” had the highest mean CUSES score (121.39), followed by African Americans (117.6), and Asians had the lowest mean CUSES score (108.57). Those whose residence was described as “living on campus sorority housing” had the lowest mean CUSES score ($F = 25.94$, $p < 0.001$), and those who indicated

residence as “lived off campus in an apartment” had the highest mean CUSES (119.9). There were no significant differences in mean CUSES scores between male and female students or between the different categories of class standing.

Table 3 shows the percent of students with specific race or ethnic backgrounds engaging in various sexual activities over the previous 12-month period. There were significant differences in various sexual activities reported between students from specifc racial of ethnic groups. Caucasian students reported the highest percent of engagement in masturbation and oral sex. Caucasian students also reported the highest percentage of petting, but this difference neared significance ($p = .075$). Asian students reported the lowest percentage of oral sex, and African American students reported the lowest percentage of masturbation. Regarding having sex with both genders, the racial/ethnic group categorized as “Other” category had the highest percent (8.33%), and African Americans did not report the behavior (0.00%) (Chi-square = 18.74, $p < 0.05$). Overall, all students were fairly homogenous with respect to petting, penile vaginal intercourse, and anal intercourse (i.e. the difference in percentages of these activities among the specific race or ethnic groups were not statistically significant at a 0.05 level).

Additionally the relationship between racial and ethinic groups and the frequency of condom use was statistically non-significant (Chi-square = 17.93, $p = 0.33$), (i.e. they were homogenous with respect to frequency of condom use as related to their racial or ethnic backgrounds). Students in all groups indicated that were “very comfortable” in asking their partner to seek STD treatment (Chi-square = 16.81, $p = 0.16$) and in discussing their STD diagnoses with a partner (Chi-square = 13.23, $p = 0.35$).

Finally, the data were analyzed by using step-type (backward, forward, and stepwise) multiple regressions. The predictors that made the optimal model were number of sexual partners in the past 12 months, Spanish speaking, dormitory residence, penile vaginal intercourse, frequency of condom use, and asking if a partner ever sought STD treatment. All the partial slope coefficients were statistically significant at a 0.05 level. About 44% of the variance (Adjusted $R^2 = 0.437$) in condom use self-efficacy scores could be explained by the predictors ($F = 33.45$, $p < 0.001$). With other variables held constant, condom use self-efficacy scores were positively related to number of sexual partners in the past 12 months ($t = 2.13$, $p < .05$) and frequency of condom use ($t = 3.37$, $p < 0.001$). Language significantly predicted condom use self-efficacy ($t = -12.15$, $p < 0.001$) such that Spanish speaking students had lower self-efficacy scores. On the other hand, students who: (1) resided in a dormitory; (2) engaged in penile vaginal intercourse; and (3) asked their partner(s) to seek treatment for STIs, all had higher condom use self-efficacy scores.

Discussion

These findings indicate that cross cultural differences exist in the sexual risk taking behavior of the emerging adults who participated in this study. In addition, all of these emerging adults could benefit from education to reduce sexual risk taking behaviors. Our results indicate that some intervention points might include; condom use, condom application and exercises to encourage self-efficacy when negotiating condom use with sexual partners.

Item-by-item analysis yielded consistently low scores on questions that asked about self-efficacy of purchasing, carrying, and applying condoms, and using condoms if they had been using alcohol or other drugs. This was consistent across all cultural groups, there were no differences in this behavior among ethnicities.

Cross cultural differences in sexual risk behavior, such as inconsistent condom use were not found, No single racial or ethnic group used condoms consistently. In fact, fewer than 20% of the entire sample used condoms consistently across all cultural groups. This finding might suggest that previous intervention strategies have been mostly ineffective for these groups and that these emerging adults require more or repeated exposure to successful prevention messages and interventions. Condom use, a safer sexual behavrior, has been shown to be effective in preventing transmission of STI and HPV. In the context of this study's results, it is therefore crucial to develop, implement, and maintain intervention strategies aimed at increasing condom use among cross cultural groups in the emerging adult populations living in large urban communities (DiClemente, Wingood, Blank, & Metzger, 2008). New intervention strategies must be culturally appropriate to be effective across cultural groups.

An Item-by-item analysis of the study data, across all racial or ethnic groups, yielded consistently low scores on questions that asked about self-efficacy of purchasing, carrying, and applying condoms, and using condoms if they had been using alcohol or other drugs. This information yields an additional intervention point for nurses and nurse scientists. The development of a skill based intervention focused on purchasing condoms, applying condoms and negation/use of condoms when students have been using alcohol or other drugs should be considered.

Our study results also suggest that Hispanic students point to embarrassment when attempting to reduce sexual risk by using condoms among both males and females in this cultural group. In addition, all students in this cultural group indicated a strong fear of stigma associated with STI, HPV or STI diagnosis. As acculturation of Hispanic students to US culture may have little effect on reducing the sexual-risk behaviors, new nursing intervention strategies for this group should focus on these 2 specific issues, embarrassment and stigma of HPV and STIs. Skill-based intervention strategies have been quite successful in the African American cultural groups and may hold promise in others (Jemmott, Jemmott, Braverman, & Fong, 2005). Similar culturally specific intervention strategies could be developed for emerging adults who self-identify as Cuban, Mexican, South American, Haitian, or Hispanic.

Finally, qualitative research approaches to refine nursing interventions using interviews and focus groups among Spanish speaking emerging adults might be ideal ways to gain insight from and regarding this community (Zenilman, 2005). These techiniques often yield rich data to help build effective interventions based on previously identified intervention points from quantitative research, such as the findings from this study(Dodd, 2008). Focus groups might be particularly suited for collecting information on sensitive subjects, such as sexual behavior and assisting the development of more effective and culturally specific intervention strategies (Thomas & Stephens, 2009). Nurses and nurse practitioners may be the most effective vehicle for implementation of culturally specific interventions to decrease health

risk behaviors for this population as indicated in previous research (Koskinen et al., 2012; Thomas & Stephens, 2009).

Study Limitations

The limitations of this study include a cross sectional convenience sample so generalizability may be limited, but study findings indicate that improvements must be made to nursing interventions to address sexual risk taking and spread of STIs, including the transmission of HPV and subsequent HPV-related cancer deaths.

Key points

Prior to this research, many studies surveyed students in the classroom regarding their health behaviors, either for extra credit or as part of a course requirement. Survey data in the classroom can be skewed because of perceived power issues by students. Therefore, the research reported here employed a different strategy and recruited participants as they entered a student health care center. These participants could easily decline without fear of losing points on a classroom exercise or the favor of the professor if requested to complete a survey as part of a classroom assignment.

The second key point derived from statistical results indicates that residents in dormitories may be at higher risk of acquiring STI and HPV. Students residing in a dormitory on campus can benefit from nursing interventions that focus on them, and include residents from dormitories in intervention development. Tailoring approaches and messages for spefic cultural groups with input from students is living in campus dormitories is worth consideration.

Third, prior to this study, the university did not make condoms available to students in exam rooms, so discussions with students about reducing sexual risk taking were only discussions, with no condoms available for students. The preliminary results of this study along with the unanimous vote from the medical staff—including all nurse practitioners—led the medical director to change both practice and policy regarding condom distribution. Thereafter, nurses and all healthcare providers were given ready access to free condoms that they could distribute to students in their specified clinical area without students traveling to another department. Thus a primary prevention measure was utilized at a teachable moment, at a time when the student desired or at least considered a change in health behavior. Inclusion of nurses and medical staff in future descriptive research and intervention development with student representatives may facilitate health policy changes and produce effective interventions that may otherwise have take years to achieve.

The final key point, any new interventions should be culturally specific and account for acculturation in populations of ethnically diverse groups of emerging adults. The distribution of CUSES scores shows the differences in condom use self-efficacy among specific race or ethnic groups, English and Hispanic speaking students, residency location, and frequency of condom use. These differences have global implications for nurses practicing in community health, women’s health and public health settings. This final point cannot be overstated as nurses seek to implement research findings in a practical ways, not

only on university campuses, but also in multi-ethnic community settings. Using research such as the results from this study and other resources, nurses can bring their practice up to date.

Recommendations

Incidence of HPV and STIs in this age group is by far the greatest, and therefore prevention programs must be evidence-based and should be tailored to address racial and cultural needs and differences. Nurses, health educators, and healthcare providers may be more effective in increasing health protective behaviors like condom use if they focus on the social and sexual aspects of condom use, which differ among racial and ethnic groups. Revising current intervention strategies by using research findings such as those described in this article and others should address specific cultural practices of ethnic groups including the preferences of sexual behaviors, gender issues and acculturation.

Changes that occur to emerging adults entering a large college atmosphere are vast. Emerging adults are exposed to a new freedom from parental supervision, they are able to consent for themselves with their newly discovered adulthood, and they are now completely responsible for their actions and behaviors. Emerging adults, who are residents of dormitories, need guidance and educational intervention strategies that tailor to their situations. By adopting an approach focused on culture and current residents to the control of STIs, we address the specific actions that may influence exposure to STIs, like HPV. In the future, studying larger samples of ethnic groups within specific geographic regions are recommended so intervention strategies can be quickly adapted for the group or community.

Conclusions

Finally, there is a need for more research focused on cross cultural differences in sexual risk taking behaviors. Embracing the differences in behavior that can be observed in multi-ethnic groups should be a requirement in nursing practice and is a part of many nursing school curricula in the 21st century. The findings have shown that cultural and multi-ethnic differences do exist in such areas as condom use self-efficacy, embarrassment from the purchase and possession of condoms, and frequency of sexually risky behaviors. In the future, to limit the spread of STIs including HPV, nurses will need to use evidenced-based resources, keep the cost of interventions low, and evaluate the cultural and ethnic preferences of clientele carefully so as to optimize resources in the fight to keep HPV and other STIs under control. Replication of this kind of research in other settings is crucial to inform nursing practice and improve current nursing interventions to decrease transmission of all STIs. New intervention strategies must be culturally appropriate to be effective across cultural groups. A traditionally “one size fits all” approach may no longer increase self-protective behaviors or reduce sexual risk or HPV and STI transmission.

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Table 1

Sample characteristics and summary measures of total score for Condom Use Self-Efficacy Scale (CUSES) (N = 335)

Variables	Frequency	Percent	CUSES Mean (SD)	F value
Language				120.70**
English	242	71.6	119.4 (16.8)	
Spanish	96	28.4	98.9 (10.9)	
Gender				0.17
Male	87	25.9	112.8 (19.6)	
Female	248	74.0	113.8 (17.4)	
Race/Ethnicity				3.07*
Caucasian	46	13.7	116.9 (14.0)	
African American	40	11.9	117.6 (22.8)	
Hispanic	205	61.0	111.6 (17.8)	
Asian	21	6.3	108.6 (18.9)	
Other	24	7.1	121.4 (13.5)	
Class Standing				0.30
Freshman	75	22.6	115.3 (16.7)	
Sophomore	75	22.6	112.3 (20.2)	
Junior	76	22.9	113.5 (17.0)	
Senior	80	24.1	113.3 (17.1)	
Grad Student	26	7.8	112.1 (20.5)	
Residence				25.94**
On campus dormitory	104	31.3	116.0 (18.8)	
On campus sorority	74	22.3	98.9 (11.1)	
Off campus apartment	54	16.3	119.9 (14.7)	
Off campus at home	100	30.1	117.8 (17.2)	
Condom Use				4.37**
Never	98	30.2	108.6 (19.5)	
20% of the time	52	16.0	118.7 (11.4)	
50% of the time	30	9.2	113.3 (15.1)	
70% of the time	73	22.5	118.2 (15.7)	
Always	72	22.2	115.8 (18.2)	

* $p < 0.05$

** $p < 0.01$

Table 2

Sexual activity and behaviors (N = 335)

Variables	Frequency	Percent
Sex Partner's Gender		
Male	173	52.4
Female	139	42.1
Both	18	5.5
Sexual Activity Engaged In		
Petting	194	57.9
Masturbation	156	46.9
Oral Sex	221	65.9
Penile Vaginal Intercourse	255	76.1
Anal Intercourse	46	13.9
Asking partner seeking STD treatment		
Uncomfortable	15	4.6
Somewhat comfortable	30	9.2
Moderately comfortable	53	16.2
Very comfortable	230	70.1
Discussing own STD diagnosis with partner		
Uncomfortable	32	9.8
Somewhat comfortable	34	10.4
Moderately comfortable	61	18.7
Very comfortable	200	61.2

Table 3

Percent of students with different race/ethnicity background engaging in various sexual activities (N = 335).

	Race/Ethnicity					
Sexual Activities	**Caucasian**	**African American**	**Hispanic**	**Asian**	**Other**	**Chi-square**
Petting	63.0	37.5	60.8	52.4	62.5	8.50
Masturbation	63.0	22.5	50.0	28.6	45.8	18.00**
Oral Sex	84.8	45.0	68.1	38.1	70.8	23.04**
Penile Vaginal Intercourse	82.6	72.5	77.5	61.9	70.8	4.26
Anal Intercourse	10.8	5.0	16.1	14.3	16.7	3.94
Sex with both Gender	6.5	0.0	5.9	5.3	8.3	18.74*

* $p < 0.05$

** $p < 0.01$