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Impact of School-Based Sex Education on College Students' Rape Myth Acceptance: An
Exploratory Analysis

Impact of School-Based Sex Education on College Students' Rape Myth Acceptance
An Exploratory Analysis

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science
at Virginia Commonwealth University.

by

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Richmond, Virginia

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Impact of School-Based Sex Education on College Students' Rape Myth Acceptance: An Exploratory Analysis

Abstract

IMPACT OF SCHOOL-BASED SEX EDUCATION ON COLLEGE STUDENTS' RAPE MYTH ACCEPTANCE: AN EXPLORATORY ANALYSIS

By Erika F. Carpenter, BA

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2017

Director: Meredith Katz, PhD, Instructor, Sociology

Research indicates nearly one-fourth of college women fall victim to sexual assault (Cantor et al., 2015). Two predictors of high proclivity to rape are endorsement of rape myths and adherence to traditional gender norms (King & Roberts, 2011). Additionally, research shows school-based sex education in the United States presents gender and sexual norms in troubling ways that disproportionately harm women (Kendall, 2013). However, research on sexual assault and rape myths have not examined the impact school-based sex education has on rape supportive attitudes. This study aimed to bridge that gap by using original survey data from undergraduate students at a large public university. Analyses indicate sex education has an inconsistent impact on rape myth acceptance; additionally, seeking sexual health information online was found to

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significantly lower endorsement of rape myths. Study outcomes suggest that further research is needed to explore the relationship between sex education curricula and rape supportive attitudes.

Word count: 150

Background and Significance

Sexual violence is a widespread threat for college-aged women. Research consistently shows 18-23 percent of women ages 18-24 have experienced either attempted or completed rape and/or other type of sexual violence in their lifetime (Cantor et. al., 2015; Browman-Fulks et. al., 2007; U.S. Department of Justice, 2000). Further, Erickson and Rapkin (1991) found 18 percent of the middle and high school students surveyed experienced dating violence, and a more recent study of middle and high school students found 10.8% of girls and 4.2% of boys had experienced forced sexual intercourse at least once in their lives (Center for Disease Control and Prevention, 2006 as cited by Ting, 2009). The majority of sexual assaults of both of these age groups were perpetrated by someone the victim knew (Deming et al. 2013; Ybarra & Mitchell, 2013). While there are many different theories and explanations for the prevalence of sexual violence (male peer support model, Schwartz & DeKeseredy, 1997; evolutionary psychology theory, Durrant & Ward, 2011; feminist theories, Brownmiller, 1975; Ellis, 1989; Donat & D'Emilio, 1992; Johnson & Sigler, 1997; confluence model of sexual aggression, Malamuth, 1996), researchers consistently find the acceptance of traditional gender norms has a strong influence on whether or not someone will engage in sexually violent behavior (King & Roberts, 2011). In recent years, many colleges and universities have bolstered their prevention efforts and bystander awareness as evidenced by mandatory Title IX trainings and the 2013 congressional act that requires all federally funded universities to provide sexual violence prevention and awareness programs (O'Donohue, Lloyd & Newlands, 2016). However, many argue that college is too late to begin “undoing” a sexually normative narrative that has already been presented as fact (Schewe, Relyea & Kaufman, 2014).

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It takes time to accept a new cultural narrative and unlearn traditional gender and sexual norms, a set of social rules that dictate appropriate masculine and feminine behavior (Grose, Grabe & Kohfeldt, 2014; Emmerink, van den Eijnden, Vanwesenbeeck, F.M. ter Bogt, 2016). Additionally, research shows a “red zone” exists, or a period of time (usually defined as the first year) at the beginning of a woman’s college career in which she is most vulnerable to sexual assault (Flack et al, 2008; Cranney, 2015). For these reasons, prevention efforts need to begin prior to the start of college. The National Center for Education Statistics (2015) states there are 14.9 million 9-12 graders enrolled in U.S. public schools, the majority of whom receive mandatory sex education at some point during high school, or had some form of it in primary school (Martinez, Abma & Copen, 2010). Given the importance of cultural narratives of sexuality to sexual assault, school-based sex education programs are an ideal place to begin prevention efforts.

Despite extensive research on both school-based sex education programs (Fine, 1988; U.S. Committee on Oversight and Government Reform, 2004; Filipovic, 2008; Valenti, 2008; Kendall, 2013; Hall, Sales, Komro, & Santelli, 2016) and sexual assault on college campuses (Lonsway & Fitzgerald, 1994; Burgess, 2007; McMahon & Farmer, 2011), there is little research examining a potential relationship between the two. The current study aimed to bridge this gap by answering the question: What impact does school-based sex education have on college students’ rape supportive attitudes?¹

¹ It should be noted, while research on same-sex sexual violence and sexual violence perpetrated against males is expanding (for male victimization see Coxell & King, 1996 and Weiss, 2010; for same-sex sexual assault see Duke & Davidson, 2009; Wang, 2011), the majority of studies look at heterosexual rape with male as perpetrator/female as victim assumptions. This is, no doubt, due to research consistently showing that males are much more likely to perpetrate rape, and females much more likely to be victims of such perpetration (Weiss, 2010; Hines, Armstrong,

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School-Based Sex Education

Despite a wide variation in content among school-based sex education programs in the United States, programs are generally divided into two main types of curricula: abstinence-only, or abstinence-only-until-marriage (AOUM) and comprehensive. Abstinence-only programs teach students to abstain from sexual activity until they have entered into a heterosexual marriage and do not provide information about condoms or contraception. Comprehensive sex education still teaches students that abstaining from sex is their best (safest) option, but teachers are required to provide medically accurate, evidence-based information on a broad range of topics, including contraceptives, sexually transmitted infections (STIs) and how to best prevent unwanted pregnancy (SIECUS, 2016). Some comprehensive sex education curricula also teach students about non-heterosexual relationships and touch on other topics such as the gender spectrum; however, comprehensive programs still tout that (heterosexual) marriage should be the ultimate goal (or at the very least a lifetime commitment to monogamy) (Fine, 1988; Curran, 2011). Traditional lessons on marriage are taught in conjunction with traditional gender and sex role narratives: posing females as passive and pure, and males as aggressive, dominant, and driven by sex (Valenti, 2009).

These lessons are being taught to nearly all of America's youth: among 15-19 year olds 96 percent of females and 97 percent of males had received some form of sex education before they were 18 years old (U.S. Department of Health and Human Services, 2010, p 1). Currently, there is no national data on the number of students who receive either abstinence only or comprehensive sex education; however, both the Guttmacher Institute (2016) and the Centers for

Reed & Cameron, 2012; Sinha, 2013). As such, this study will follow in accordance with prevalent research.

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Disease Control and Prevention (CDC) (2014) provide the most comprehensive list of state mandates for adolescent sex education and the kinds of information provided regarding pregnancy and STI prevention, including HIV prevention and abstinence. For example, the Guttmacher Institute (2016) found 24 states and the District of Columbia require sex education in schools, however 37 states require schools to provide information on abstinence. Of the schools that mandate sex education, only 13 states require information to be medically accurate and 18 states and the District of Columbia require information on contraception be provided. Twenty-five states have sex education programs that stress abstinence and 19 states include information on the importance of “sex only within marriage,” a staple focus of abstinence-only education (Guttmacher Institute, 2016). Additionally, the CDC’s (2014) School Health Policies and Practices Study of 828 schools in the United States found 49.6 percent of participating middle schools and 76.3 percent of participating high schools promoted abstinence as the most effective way to avoid pregnancy and contracting STIs, while only 10.4 percent of middle schools and 35.3 percent high schools taught the correct way to use a condom (CDC, 2014). With these data, it is reasonable to conclude a significant number of adolescents are being taught some form of abstinence education, and most adolescents are not given adequate information about their sexual health.

Comprehensive sex education curricula have demonstrated higher success rates of preventing pregnancy and STIs (Hall, Sales, Komro, & Santelli, 2016). Yet, like abstinence-only education, they often still adhere to traditional gender norms (Fine, 1988; Curran, 2011). Indeed, very few sex education programs include lessons designed to impact gender norms or address them at all (Rolleri, 2013b). Additionally, a large body of research has found abstinence-only education is not only ineffective in preventing pregnancy and sexually transmitted infections, it

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has also been shown to present traditional gender and sexual norms in problematic ways that disproportionately harm women (U.S. Committee on Oversight and Government Reform, 2004; Filipovic, 2008; Valenti, 2008; Kendall, 2013). According to some scholars (Fine, 1988; Fields, 2008; Filipovic, 2008; Valenti, 2008; McNeill, 2013), abstinence-only curricula systematically perpetuate heteronormativity, defined as “monogamous, marital, middle-class, normatively gendered [...] white, heterosexual” (McNeill, 2013, p 827), thus providing a foundation for future sexual coercion and/or violence. Abstinence-only curricula present female sexuality as passive and male sexuality as aggressive; sex is not a mutually consensual act, but instead is something men *do to* or *take from* women (Filipovic, 2008). For example, the popular abstinence-only textbook *Choosing the Best Way* (2006) uses a date rape scenario to teach “Boundary #1: not being alone with someone of the opposite sex” (*Choosing the Best WAY*, Leader Guide, p. 38 as cited by SIECUS, 2008); additionally it asks students “How do some people say NO with their words, but YES with their actions or clothing?” (*Choosing the Best WAY*, Leader Guide, p. 40 as cited by SIECUS, 2008).

Abstinence-only programs also uphold the notion that sexual purity (virginity) is the standard expectation for all females, at least until marriage. *Choosing the Best WAY* presents students with the statement “By being abstinent, she is respecting herself and the person she will marry” (*Choosing the Best WAY*, Leader Guide, p. 31 as cited by SIECUS, 2008), to demonstrate that females owe their virginity to their future husbands. Women’s worth is reduced to the “asset” they are able to give: sex; and this myth of sexual purity only reinforces rape culture (Valenti, 2008). While girls are taught to “just say no,” boys are taught their sexual aggression is normal and that a girl’s non-consent is just “part of the game” (Filipovic, 2008, p 20). This “boys will be boys” sexual norm equates maleness with constant desire for sex,

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making it easier for assailants to justify rape (Valenti, 2008). Sex education, especially abstinence-only curricula, further perpetuates these harmful sexual norms rather than providing a counter narrative to sexual and gender-norming beliefs.

Researchers have argued for the need for better sex education, noting a sex education program should be grounded in social context and emphasize gender (Rogrow & Haberland, 2005). This shift might remove some of the political controversy school-based sex education faces in the United States while providing students with critical thinking skills and a more relevant understanding of gender inequity (Rogrow & Haberland, 2005). Indeed, less/non gender-norming sex education programs have been found to equip young people with more progressive attitudes about women and girls as well as the ability to resist dominant masculine ideologies (Grose, Grabe & Kohfeldt, 2014). Yet, even with the increase in number of evidence-based programs (Office of Adolescent Health, 2015), most of these programs do not address gender inequities or challenge gender norms (Shalet et al., 2014).

Moreover, adolescents find typical school-based sex education inadequate and are turning to the internet for information about sexual health and relationships (Rideout, Foehr & Roberts, 2010). Recent research shows 40 to 76.5 percent of young adults and teens seek sexual health information online (Ralph, Berglas, Schwartz & Brandis, 2011; Bess, Doe, Green & Terry, 2009; Buhi, Daley, Fuhrmann & Smith, 2009). A review of the literature shows sexual health websites have been found to have information on a wide range of topics including: HIV/STIs, pregnancy and prevention, contraceptives, sexual acts and behaviors, relationships, sexual violence and virginity (Simon & Daneback, 2013). Although there is a substantial amount of sexual health information online, most of the content of sexual health websites is devoted to pregnancy and STIs (53%) as well as peer and parent relationships (11%); only two percent of online content

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was dedicated to sexual violence including ways to seek help, worse still only one percent of content addressed gender norms (Marques et al, 2015, p 1314).

Rape Myths

The underlying ideas of rape myths have been prevalent in our culture throughout history, from biblical texts to English laws passed in the 1970's. For example, in the 5th century B.C., a Greek historian wrote

Abducting young women is not, indeed a lawful act; but it is stupid after the event to make a fuss about it. The only sensible thing is to take no notice; for it is obvious that no young woman allows herself to be [raped] if she does not want to be (Edwards et al. 2011, p. 765).

In the 1962 *Model Penal Code*, an act was only considered rape if it was between a male and a "female not his wife," furthermore an assault could not be a felony of the first degree if the victim was a "voluntary social companion of the actor upon the occasion of the crime" and had "previously permitted him sexual liberties" (The American Law Institute, 1962, p 132), effectively making what we now characterize as "date" or "acquaintance rape" and marital rape legal. In fact, it wasn't until 1993 that marital rape was outlawed in all 50 states. Laws like these were based on cultural ideals that we now know to be myths. Burt (1980) first defined these beliefs as "rape myths" in an effort to address the misconceptions and cultural norms behind the sexual victimization of women. Rape myths are used to support traditional gender norms and the "man as aggressor/woman as submissive victim" heteronormative standards (Lonsway & Fitzgerald, 1994). Rape myths "define" what rape is, who can be the victim of rape and who can be a rapist. These myths provide reasons to blame the victim and justify a perpetrator's violent acts as understandable and "normal" given the victim was at least partially, if not completely, to blame. Some common rape myths include: "She was asking for it," "All women want to be

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raped,” “No woman can be raped against her will,” “Women ‘cry rape’ only when they’ve been jilted or have something to cover up,” “Rapists are sex-starved, insane or both,” “Men from nice middle-class homes almost never rape,” “If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control,” or simply “She lied” (King & Roberts, 2011, p. 3).

Research consistently indicates a positive correlation between men’s acceptance of rape myths and the propensity to rape (Loh et al. 2005; King & Roberts 2011; Lonsway & Fitzgerald, 1994; Lanier, 2001; Bohner et al., 1998). For example, Bohner et al. (1998) found a causal relationship between rape myth acceptance and behavioral inclinations; men who had rape-supportive attitudes had a higher self-reported likelihood of committing rape if assured they would not get caught. Even more troubling is the fact that women have been found to agree with these myths as well. Lonsway & Fitzgerald’s (1994) study with a coed sample of college students found that as many as 35 percent of both male and female respondents accepted the myths as true. This has large implications for whether or not a survivor will report an assault; survivors who are unsure an act would be considered “rape” are much less likely to report it (Heath, Lynch, Fritch & Wong, 2013).

Traditional Gender Norms, Rape Supportive Attitudes and College Students

Several studies show that traditional gender norms are a strong indicator of rape-supportive attitudes (Costin, 1985; Costin & Schwartz, 1987; Abrams, Viki, Masser, & Bohner, 2003). For example, Costin (1985) found individuals who held stronger beliefs in conservative gender role notions including: “Women should receive the same pay as men for doing the same work,” and “Women should have as much sexual freedom as men” had a higher acceptance of

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rape myths (p. 50). Further, benevolent and hostile sexism was found to negatively affect the way individuals view rape victims and a person's proclivity to rape (Abrams et. al., 2003). Sex education, especially abstinence-only programs, further perpetuates the same rape supportive attitudes seen in college males who hold dangerous ideas about sexual violence. For example, one study found that college male participants did not see forced sex as "rape" if the female acquaintance acted sexually provocatively (as perceived by participants) either in actions or dress; indeed, these participants actually believed the woman deserved and/or enjoyed being raped (Burgess, 2007). Additionally, college males were found to be more likely to use alcohol as a means to make a woman more vulnerable, thus more likely to have sex (e.g. coerce a "no" into a "yes") and more likely to pin responsibility of the rape on women, claiming men fell victim to women's seductive appearance and/or actions (Burgess, 2007).

In a similar vein, abstinence-only curricula found students were taught that women "live in inherently tempting bodies" (Filipovic's, 2008, p 20); this is made even more problematic because college women adhere to hegemonic gender roles in sexual hook up culture (Hamilton & Armstrong, 2009). Less adherence to traditional gender roles leads to more conversation about sexual issues between partners and increased autonomy in sexual negotiation (Greene & Faulkner, 2005). Further, college women have reported regulatory behavior as problematic; women are told what to do and what not to do in sexual settings while college men are disrespectful to women at parties and selfish during hook-ups (Hamilton & Armstrong, 2009). Given the positive correlation between belief in/adherence to traditional gender roles and rape myth acceptance, and rape myth acceptance and likelihood of a person engaging in sexually aggressive behavior, it can be presumed that minimizing traditional gender role ideals in sex

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education curricula will also minimize rape myth acceptance, and likely the number of rapes committed.

Instead of teaching youth how to combat societal pressures to adhere to heteronormative standards, formal sex education in the United States systematically perpetuates traditional gender roles and promotes heteronormativity (Fine, 1988; U.S. Committee on Oversight, 2004), providing a foundation for future sexual coercion and/or violence (Fields, 2008; Valenti, 2009). Sex education in public schools is not doing its part to provide a counter-narrative to rape culture beliefs and stigmas, and in fact it promotes and perpetuates the very cultural narratives, norms and ideals of sexuality and gender held by those most likely to commit sexual assault. As noted above, research shows a positive correlation between men's acceptance of rape myths and the likelihood of their perpetrating sexual violence (Loh et al. 2005), and those who hold traditional beliefs about gender are more likely to accept rape myths. Currently, a large body of research demonstrates how school-based sex education content supports traditional gender and sexual norms, as well as a large body of research showing the correlation between traditional gender norms, rape myth acceptance and likelihood of committing sexual assault. However, research in these fields does not examine the effects of sex education on rape myth acceptance. The current study bridges this gap by looking at the impact school-based sex education has on rape myth acceptance.

Scripting Theory

Sexual Scripts

Sexual scripts are general sociocultural guidelines that individuals in a society tend to follow (Simon & Gagnon, 1986). Scripts provide common expectations and “increase

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legitimacy” for individuals (Simon & Gagnon, 1986 p 106) by delineating rules for the appropriateness of a sexual encounter, when the sexual act can take place and with whom the sexual act can happen. Both individual experiences and cultural standards affect one’s sexual script and ideas of what it means to be intimate/romantic with another person. As Simon and Gagnon (1986) note “it is this complex process of sexual scripting that encourages the very conservative highly ritualized, or stereotyped character that sexual behavior often takes” (p 110). Put simply, sexual scripting theory explains that how one engages in a sexual act follows their perceived cultural expectations of said act, scripting women as passive actors (Diekmann, McDonald & Gardner, 2000), who are taught to repress their sexual desires and focus on their male partners’ needs (Hynie, Lydon, Cote & Wiener, 1998), which may limit women’s sexual decision making (Bowleg, Lucas & Tschann, 2004).

Heterosexual Sexual Scripts

In Western culture, heterosexual sexual scripts are the prevailing standard. Males and females are given separate scripts and experience a different set of sexual expectations (Wiederman, 2005). Males and females are exposed to separate, but compatible scripts: male sexuality is defined as external and pursuing and female sexuality as passive and limiting. Females’ consistent exposure to “feminine ideals” such as self-restraint and protection lead women to their role as sexual gatekeeper (Wiederman, 2005). Males, whose sexuality is framed as “goal-oriented and motivated by bodily pleasure for its own sake,” pursue new sexual partners and get an ego boost when able to overcome females’ initial self-restraint (Wiederman, 2005). Heterosexual sexual scripts such as “men are always ready for sex” and “women must inhibit their sexual expression” have been found to be relevant and relatively stable among college age

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adults (Sakaluk et al., 2014). These scripts are influenced by traditional gender norms and social constructions of masculinity and femininity. As such, they are taught as fact in sex education curricula (Valenti, 2009; Filipovic, 2008).

Rape Scripts

In addition to (hetero)sexual scripts, rape scripts have been found to influence attitudes about sex and sexual behaviors (Ryan, 2011). Common depiction of rape scenarios follow the “stranger in a dark alley” script, where a woman is walking alone at night and a strange man attacks her (Abram et al., 2003; Ryan, 2011). This is called the “real-rape” script (Ryan, 2011), where an occurrence of rape always involves violence on the part of the (male) attacker and forceful resistance on the part of the (female) victim. Other rape scripts include the “date rape” script, to which women attributed more elements of real-rape, the “wrong accusation” scripts, where the woman lied about being raped, and the “party rape” scripts, where alcohol and/or drugs play a large role in the sexual exchange the last two of which men were found to endorse (Clark & Carroll, 2008). This gendered distinction of rape scripts demonstrates how rape myths shape sociocultural ideas about sexual behavior, both consensual and not. Research has shown that both men and women have been found to engage in token resistance (saying “no” when really meaning “yes”) in an effort to adhere to sexual scripts (Muehlenhard & Hollabaugh, 1988; Sprecher, Hatfield, Cortese, Potapova & Levitskaya, 1994). However, later studies refuted these earlier findings because participants were found to misunderstand the meaning of “token resistance” even when the definition was provided (Muehlenhard & Rodgers, 1998). Even still, recent research found men and women have been shown to believe token resistance is common (Emmers-Sommer, 2016).

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Methods

Based upon my review of the literature, with particular attention to (hetero)sexual script and rape script theories I hypothesized the following:

H1: There is a negative correlation between type of school-based sex education one has and their Overall rape myth acceptance (RMA) score

H1a: Those with abstinence-only sex education will have higher RMA than those with comprehensive sex education

H1b: Those with no sex education will the have highest RMA scores

H2: Males will have a higher level of RMA scores than females

H3: There is a negative correlation between type of school-based sex education and their Gender Norm score

H3a: those with no sex education and abstinence-only education will have stronger traditional gender norm beliefs compared with those who had comprehensive sex education.

H4: There exists a positive correlation among overall RMA scores, gender norm (GN) scores and each of the RMA subscale scores

H4a: Subscales She Asked For It, He Didn't Mean To, It Wasn't Really Rape and She Lied are each positively correlated with overall RMA and Gender Norm scores

H4b: There exists a positive correlation between overall RMA score and Gender Norm score

H5: Participants who sought out sexual health information online will have lower RMA and Gender Norm scores than those who did not.

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To test the impact of sex education on rape myth acceptance, primary data was collected using an online survey. The survey was designed with and administered through Virginia Commonwealth University's REDcap system; REDcap removes all identifying information about participants and stores survey data securely with a passcode, fulfilling both IRB's participant privacy and data confidentiality requirements. The 43-item survey (see Appendix A) was comprised of questions about experiences with school-based sex education, the Attitudes Toward Women Scale for Adolescents (AWSA) and a modified version of the Illinois Rape Myth Acceptance Scale. This study was approved by Virginia Commonwealth University's Institutional Review Board.²

Participant Recruitment

This study utilized a convenience sample of students enrolled in 11 different sections of Introduction to Sociology (SOCY 101) offered during the Spring 2017 semester at Virginia Commonwealth University (VCU). I e-mailed every professor teaching at least one section of SOCY 101 (n=8) and asked for their help with survey administration. The e-mail contained information about the study along with recommended verbiage for the announcement in class and/or on Blackboard and a link to the survey and study/consent information. For those professors that did not respond within ten days, I sent a follow up e-mail reminding them of my request. After the follow up e-mails were sent all eight professors confirmed they would invite their SOCY 101 students to participate in the study with the understanding that students' participation would be confidential and have no impact on their course grade. Survey administration began on January 23, 2017 and continued until the survey was closed on March 6,

² IRB no. HM20008842

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2017. On January 31, 2017, I sent one final e-mail to professors asking them to remind their students about the study and to provide the survey link once more. Based on survey administration in these courses, I received 260 responses. I omitted 48 responses due to unfinished surveys and/or missing data.

While non-probability sampling does not lend itself to generalizable findings, this method of sampling was chosen due to feasibility and time restrictions of the project; further, this population was accessible via my relationship with and student status in the VCU Sociology Department. I chose to generate a convenience sample from students enrolled in Introduction to Sociology courses at VCU because these courses are made up of a majority of first and/or second year students. Targeting this population was important because it is the age group closest to primary/secondary school when most U.S. students experience at least one sex education class (Martinez et al., 2010). Additionally, research shows there exists a “red zone,” or a period of time at the beginning of a woman’s college career in which she is most vulnerable to sexual assault and/or rape (Cranney, 2015). Although not all SOCY101 students are freshmen or sophomores, statistically speaking, I had a greater likelihood of having them in this class because SOCY 101 fulfills an undergraduate general education requirement.

Measures

Dependent Variables

The dependent variables for this study are the participants’ score on two different measures (described in detail below): the combined Attitudes Toward Women Scale for Adolescents (AWSA) (Galambos, Peterson, Richards, & Gitelson, 1985) and female stereotyping measure (Gunter & Wober, 1982) as adapted by Foshee, Linder, MacDougall & Bangdiwala

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(2001) and a modified version of the Illinois Rape Myth Acceptance (IRMA) scale (McMahon & Farmer, 2011). Additionally, the study examines participants' scores on four of the subscales making up the modified IRMA. Both the AWSA/female stereotyping measure and modified IRMA use Likert-style questions asking participants to select on a 5-point scale how strongly they disagree (1) or agree (5) with a statement.

AWSA/Female Stereotyping Measure. A combination of the Attitudes Toward Women Scale for Adolescents (AWSA) (Galambos, Peterson, Richards, & Gitelson, 1985) and the female stereotyping measure (Gunter & Wober, 1982) as adapted by Foshee, Linder, MacDougall & Bangdiwala (2001) was used to measure traditional gender norms (GN). The 11-item combined AWSA and female stereotyping scale measures how strongly a respondent agrees or disagrees with traditional gender roles (e.g. "On a date, the boy should be expected to pay all expenses"). This combined measure has been tested in several studies looking at adolescent dating violence (Foshee et al, 2001; Reyes et al, 2015).

Modified IRMA. A modified version of the IRMA scale (Payne, Lonsway & Fitzgerald, 1999) was used to measure participants' support of subtle rape myths (McMahon and Farmer, 2011). McMahon and Farmer's (2011) rape myth acceptance scale includes 22 items and is designed to measure four different subscales of rape myths: *She Asked for It*, *He Didn't Mean To*, *It Wasn't Really Rape*, and *She Lied*. While the original IRMA (Payne, Lonsway & Fitzgerald, 1999) has been widely tested (Kelly, Dubbs & Barlow, 2015; Beck, Boys, Rose & Beck, 2012; McMahon, 2010; Baldwin-White, Thompson & Gray, 2016) and is arguably the most reliable scale for measuring endorsement of rape myths, the present study used an updated version developed by McMahon and Farmer (2011) which has been shown to be more relevant to college students (McMahon, 2010). To modify the IRMA, McMahon & Farmer (2011)

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conducted focus groups at a large northeastern university to determine the relevancy of language used in the IRMA. The study found that the IRMA used outdated concepts of rape, as well as outdated language pertaining to dating; thus, they modified the scale to reflect current terminology in an effort to maintain relevancy. Modifications include eliminating three of the original subscales: She Wanted It, Rape Is a Trivial Event, and Rape Is a Deviant Event because of their more overt nature which has become less socially acceptable (McMahon & Farmer, 2011); replacing man/woman with girl/boy; and updating terms that the focus group found to be outdated such as “slutty clothes” in place of “low-cut top or short skirts” and “hooking up” at parties (McMahon & Farmer, 2011, p 74).

Independent Variables

The primary independent variable was the type of sex education participants had in school. Participants were given definitions (which can be found with the survey in Appendix A) for five different types of the most common school-based sex education programs (No sex education (1); Abstinence-only (2); Abstinence-Only-Until-Marriage (3); Abstinence-plus (4); Comprehensive (5)) obtained from SEICUS (2016) and were asked to select the sex education that best described what was provided by their school. In an effort to account for any possible misunderstanding of definitions/types of sex education, I included on the survey a list of 12 “lessons” participants may have learned from their sex education (e.g. “the benefits and risks associated with various forms of contraceptives, including birth control, condoms and abstinence” and “sex is only safe for adults in long term committed relationships”). Participants were asked to mark all lessons they were taught in the sex education provided by their school. Participants were also asked if they sought out sexual health information from other sources such as friends, parents and Internet websites like Scarleteen. I recoded each type of sex education

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into dummy codes: 0=no and 1=yes. Additionally, each sex education “lesson” and outside source for sexual health information were dummy coded in the same way, 0=no, 1=yes.

Demographic variables included gender (recoded as 1=woman, 2=male, 3=other gender); age (recoded as 1=18-19 years old 2=20-21 years old, 3=22+ years old); race (recoded as 1=Black, 2=Asian, 3=White, 4=Other); religion (recoded as 1=Christian, 2=No Affiliation, 3=Catholic, 4=Other); year in school (1=Freshman, 2= Sophomore, 3=Junior+); and high school type (recoded as 1=Public, 2=Private, 3=Other). Additionally, the survey asked those who identified as Christian to specify their denomination, these were recoded as 1=Baptist, 2=Nondenominational, 3=Other.

Analysis

After cleaning the data, four of the items on the GN scale (“In a heterosexual dating relationship, the boy and girl should have about equal power;” “It is all right for a girl to ask a boy out on a date;” “If both husband and wife have jobs, the husband should do a share of the house-work such as washing dishes and doing the laundry;” and “Girls should have the same freedom as boys”) were reversed coded to reflect the positive wording of the items (1=Strongly Agree, 5=Strongly Disagree). A mean score was then calculated for each of the 6 dependent variables: overall rape myth acceptance scale, traditional gender norm scale and each of the four rape myth subscales. Descriptive statistics were run for the sample and simple bivariate analysis was done using *t* tests to assess the associations between dependent and independent variables and to look for significant differences in rape myth acceptance and traditional gender norms between groups. Pearson’s *r* was used to find correlations between overall RMA score, GN score and scores on each of the four RMA subscales. To determine the effect of sex education on rape

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myth acceptance and gender norms, ordinary least squared (OLS) regression was conducted for each dependent variable using the independent variables found to be significant in the bivariate analyses. Stage one of the OLS looked at the impact of the primary independent variable (type of sex education), on each dependent variable. Stages two, three and four controlled for demographic factors found to have strong effects on rape myth acceptance and traditional gender norm beliefs. Race, religion, and gender were added to the model one at a time to determine the individual effect for each. Consistent with previous research (McMahon & Farmer, 2011; McMahon, 2010; King & Roberts, 2011), gender had the strongest effect on all dependent variables.

Results

Sample

All students who completed the survey were enrolled in a section of SOCY 101 during the Spring 2017 semester. A total of 260 surveys were returned, of those 48 responses were removed during data cleaning – 36 responses were incomplete and 12 contained missing data – leaving a final total n of 212. The sample was 71% female, 25% male, and 3.8% identified as another gender. A majority of participants were white (50%) followed by Black (22%) and Asian (11%); and most of the participants were freshman (63%) between the ages of 18-19 years old (70%). The sample's age group is relevant to the study for two reasons: 1) the first year of college is considered the “red zone” where students are most susceptible to sexual assault (Cranney, 2015); and 2) this age group's proximity to high school, where many adolescents experience at least one sex education class (Martinez et al., 2010). The most prevalent religious affiliation was Christian (38%), with No Affiliation (22%) and Catholic (13%) following. Of

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those that identified as Christian, Baptist (35%) and Nondenominational (18.8%) were most common. Additionally, nearly all participants went to public high school (92%). Comprehensive sex education was most common among participants (42.5%), followed by Abstinence Plus (25.5%), Abstinence-Only-Until-Marriage (13.7%), Abstinence Only (12.7%), and finally No Sex Education (5.7%) (Table 1).

Characteristics	<i>n</i>	%
Gender		
Female	151	71.2
Male	53	25
Other Gender	8	3.8
Race		
White	106	50
Black	46	21.7
Asian	24	11.3
Other	36	17
Religion		
Christian	80	37.7
No Affiliation	46	21.7
Catholic	27	12.7
Other	59	27.8
Christian Denominations		
Baptist	28	35*
Nondenominational	15	18.8*
Other	37	46.5*
Age		
18-19	149	70.3
20-21	49	23.1
22+	14	6.6
Year in School		
Freshman	134	63.2
Sophomore	45	21.2
Junior+	33	15.6
Type of Sex Education		
Comprehensive	90	42.5
Abstinence Plus	54	25.5
Abstinence-Only-Until-Marriage	29	13.7
Abstinence-Only	27	12.7
No Sex Education	12	5.7

*Note: *% of those who identified as Christian*

The overall mean score on the RMA scale was 1.80 (SD = .62) and the mean scores on the subscales from highest to lowest were as follows: *He Didn't Mean To* (M = 2.07, SD = .74); *She Lied* (M = 2.00, SD = .91); *She Asked For It* (M = 1.71, SD = .76); and *It Wasn't Really Rape* (M = 1.37, SD = .58). The mean score for each item on the RMA scale ranged from 1.19 to

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2.46 indicating that the data was skewed toward lower rape myth acceptance (Table 2). The overall mean score on the GN scale was 1.55 (SD = .56) and the mean score for each item on the GN scale ranged from 1.32 to 2.23 (Table 3). These scores suggest an overall low acceptance of rape myths and traditional gender norms. Table 4 shows the RMA, GN and RMA subscale scores for each type of sex education. Participants who had Abstinence Plus sex education had the lowest scores across all scales except for the *She Lied* RMA subscale.

Table 2. Mean Scores for Each Rape Myth Item

<u>Item</u>	<u>Mean</u>	<u>SD</u>
When guys rape, it is usually because of their strong desire for sex. (MT)	2.46	1.23
Rape happens when a guy's sex drive gets out of control. (MT)	2.30	1.22
Guys don't usually intend to force sex on a girl, but sometimes they get too sexually carried away. (MT)	2.29	1.11
Girls who are caught cheating on their boyfriends sometimes claim that it was a rape. (SL)	2.23	1.15
If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex. (SA)	2.19	1.20
If a guy is drunk, he might rape someone unintentionally. (MT)	2.19	1.14
A lot of times, girls who say they were raped agreed to have sex and then regret it. (SL)	2.15	1.10
If a girl acts like a slut, eventually she is going to get into trouble. (SA)	2.13	1.26
Rape accusations are often used as a way of getting back at guys. (SL)	2.06	1.09
A lot of times, girls who say they were raped often led the guy on and then had regrets. (SL)	1.98	1.08
If a girl doesn't say "no" she can't claim rape. (NR)	1.72	0.98
If both people are drunk, it can't be rape. (MT)	1.71	0.96
When girls go to parties wearing slutty clothes, they are asking for trouble. (SA)	1.62	0.98
A lot of times, girls who claim they were raped just have emotional problems. (SL)	1.6	0.85
If a girl is raped while she is drunk, she is at least somewhat responsible for letting things get out of control. (SA)	1.53	0.96
It shouldn't be considered rape if a guy is drunk and didn't realize what he was doing. (MT)	1.47	0.75
When girls are raped, it's often because the way they said "no" was unclear. (SA)	1.40	0.78
If a girl doesn't physically resist sex - even if protesting verbal - it can't be considered rape. (NR)	1.40	0.86
If a girl goes to a room alone with a guy at a party, it I her own fault if she is raped. (SA)	1.34	0.70
IF a girl doesn't physically fight back, you can't really say it was rape. (NR)	1.32	0.70
A rape probably didn't happen if the girl has no bruises or marks. (NR)	1.23	0.58
If the accused "rapist" doesn't have a weapon, you really can't call it rape. (NR)	1.19	0.48

Note: These items were rated on a 5-point scale (1=strongly disagree; 5=strongly agree). The abbreviations represent the corresponding RMA subscale: SA = She asked for it; MT = He didn't mean to; NR = It wasn't really rape; SL = She lied.

Table 3. Mean Scores for Each Gender Norms Item

<u>Item</u>	<u>Mean</u>	<u>SD</u>
On a date, the boy should be expected to pay all expenses.	2.23	1.10
Most women can't be trusted	1.67	0.95
Girls are always trying to manipulation boys.	1.59	0.88
In general, the father should have greater authority than the mother in making family decisions.	1.51	0.88
If both husband and wife have jobs, the husband should do a share of the house-work such as washing dishes and doing the laundry.*	1.50	0.85
Swearing is worse for a girl than for a boy.	1.49	0.79
It is all right for a girl to ask a boy out on a date.*	1.49	0.71
In a heterosexual dating relationship the boy should be smarter than the girl.	1.42	0.74
In a heterosexual dating relationship, the boy and girl should have about equal power.*	1.42	0.71
It is more important for boys than girls to do well in school.	1.37	0.78
Girls should have the same freedom as boys.*	1.32	0.70

*Note: These items were rated on a 5-point scale (1=strongly disagree; 5=strongly agree); *items were reverse coded to reflect the positively-worded item (1=strongly agree, 5=strongly disagree).*

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Type	RMA	<i>She Asked For It</i>	<i>It Wasn't Really Rape</i>	<i>He Didn't Mean To</i>	<i>She Lied</i>	GN
Comprehensive	1.80 (.64)	1.78 (.76)	1.47 (.63)	2.11 (.74)	2.17 (.90)	1.64 (.60)
Abstinence Plus	1.64 (.50)	1.50 (.53)	1.21 (.37)	1.99 (.66)	1.80 (.84)	1.41 (.44)
Abstinence-Only-Until-Marriage (AOUM)	1.81 (.67)	1.83 (.91)	1.21 (.37)	2.07 (.84)	2.05 (1.05)	1.46 (.51)
Abstinence Only	1.86 (.67)	1.83 (.89)	1.48 (.65)	2.11 (.74)	1.96 (.83)	1.54 (.55)
No Sex Education	1.76 (.66)	1.71 (.85)	1.51 (.98)	2.06 (.68)	1.72 (.93)	1.67 (.76)
Total Scores for Sample	1.80 (.62)	1.72 (.76)	1.37 (.58)	2.07 (.74)	2.00 (.91)	1.55 (.58)

Note: Scores = Mean (SD)

Results of the *t* tests indicated sex education (Abstinence Plus and Comprehensive), race, gender and religious affiliation had significant affect on rape myth acceptance scores. As Table 5 illustrates, the groups found to have significantly greater acceptance of rape myths are those who identified as male, Asian or Christian. For the gender norm scale (Table 6), the groups who had significantly higher scores were those who identified as male, Black, or Christian. *t* tests showed those who had Abstinence Plus sex education had significantly lower rape myth acceptance when compared with other types of sex education ($p = .023$). Additionally Abstinence Plus was found to significantly lower scores for four of the other five dependent variables: traditional gender norms ($p = .038$); *She Asked For It* ($p = .015$), *It Wasn't Really Rape* ($p = .016$), and *She Lied* ($p = .050$).

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Table 5. Overall Rape Myth Acceptance Mean Scores by Demographic Characteristics

Characteristics	Mean	SD	t	df	p-value
Gender					
Female	1.74	.60	2.12	210	.035
Male	2.06	.62	-3.67	210	<.001
Other Gender	1.13	.13	3.18	210	.002
Race					
White	1.70	.57	2.40	210	.017
Black	1.91	.62	-1.30	210	.195
Asian	2.00	.75	-1.71	210	.089
Other	1.80	.62	-.302	210	.763
Religion					
Christian	1.92	.63	-2.14	210	.033
No Affiliation	1.67	.53	1.69	210	.093
Catholic	1.89	.68	-.772	210	.441
Other	1.71	.58	1.33	210	.183
Christian Denominations					
Baptist	1.83	.54	-.305	210	.761
Nondenominational	1.77	.58	.222	210	.825
Other	1.71	.60	1.33	210	.183
Age					
18-19	1.8	.63	.420	210	.967
20-21	1.79	.59	.161	210	.872
22+	1.86	.66	-.349	210	.727
Year in School					
Freshman	1.86	.66	-1.90	210	.058
Sophomore	1.59	.55	2.55	210	.011
Junior+	1.83	.48	-.325	210	.746

Table 6. Traditional Gender Norms Mean Scores by Demographic Characteristics

Characteristics	Mean	SD	t	df	p-value
Gender					
Female	1.47	.49	3.32	210	.001
Male	1.83	.67	-4.43	210	<.001
Other Gender	1.17	.31	1.96	210	.051
Race					
White	1.44	.47	2.86	210	.005
Black	1.77	.59	-3.15	210	.002
Asian	1.59	.74	-.447	210	.655
Other	1.55	.55	.015	210	.988
Religion					
Christian	1.71	.60	-3.43	210	.001
No Affiliation	1.46	.53	1.16	210	.247
Catholic	1.54	.54	.080	210	.936
Other	1.61	.47	2.53	210	.012
Christian Denominations					
Baptist	1.67	.48	-1.21	210	.227
Nondenominational	1.70	.59	-1.13	210	.261
Other	1.4	.47	2.53	210	.012
Age					
18-19	1.52	.55	1.18	210	.239
20-21	1.59	.55	-.592	210	.555
22+	1.71	.59	-1.165	210	.245
Year in School					
Freshman	1.57	.58	-.699	210	.486
Sophomore	1.41	.45	1.86	210	.064
Junior+	1.65	.56	-1.15	210	.247

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A strong positive correlation was found between RMA scores and GN scores and all four RMA subscales. Overall RMA and GN scores were significant, $r=.580$, $p<.001$; and GN scores and each subscale were all positively correlated and significant: *She asked for it* $r=.548$, *Not Rape* $r=.534$, *He didn't mean to* $r=.350$, and *She lied* $r=.509$. All p-values were significant at less than .001 (Table 7).

	Rape Myth Acceptance Subscales				
	<i>She Asked For It (SA)</i>	<i>Not Rape (NR)</i>	<i>He Didn't Mean To (MT)</i>	<i>She Lied (SL)</i>	<i>Gender Norms</i>
Overall RMA	.867	.723	.801	.890	.580
RMA Subscales					
SA		.576	.524	.721	.548
NR	.576		.434	.530	.534
MT	.524	.434		.628	.350
SL	.721	.530	.628		.509

Note: all p values were lower than .001

OLS Regression - RMA

For each of the OLS regressions I included only the independent variables that were found to be significant in the *t* tests. Tables 8, 9 and 10 show the regressions for three of the dependent variables (overall RMA scores, RMA subscale *It wasn't really rape*, and GN scores). Regressions were conducted for the subscales *Not rape* and *She lied*, however as explained below, sex education was not found to be significant for these models after controlling for demographic variables. No regression was conducted for the subscale *He Didn't Mean To* because none of the independent variables were found to be significant in the *t* tests. As the tables show, the baseline model (equation 1) looked at the primary independent variable (type of sex education). For RMA, sex education explained less than 1% of the variation and Abstinence Plus was the only type of sex education found to be significant ($b = -.178$, $p = .019$). This model was expanded to control for race (equation 2), religious affiliation (equation 3) and finally

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gender (equation 4). Consistent with previous research, results of the regression model indicate RMA is partially explained by these demographics.

When controlling for race, Abstinence Plus sex education still had a moderately significant lower RMA ($b = -.145, p = .057$) and Asian participants were found to have a significantly higher RMA than other races ($b = .148, p = .046$). When controlling for race, the model explained 2% of variation in RMA. To control for religious affiliation, all religions (Christian, Catholic, Other) were added to the model. Controlling for religion explained 3.5% of the variation, and Abstinence Plus was still found to be moderately significant ($b = -.146, p = .055$). In the final model, I controlled for gender, which rendered Abstinence Plus insignificant ($b = -.080, p = .276$). Consistent with the literature, males had a significantly higher RMA than other genders ($b = .262, p < .001$). Adding gender to the model increased the amount of variation explained to 11.9%.

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Table 8. OLS Regression Predicting Rape Myth Acceptance by Sex Education Type and Demographics

Variable	Equation 1		Equation 2		Equation 3		Equation 4	
	b	Beta	b	Beta	b	Beta	b	Beta
Type of Sex Education (a)								
Abstinence Plus	-.252* (.106)		-.207* (.108)		-.207* (.107)		-.114 (.105)	
No Sex Education	-.127 (.190)	-.178	-.174 (.193)	-.145	-.173 (.192)	-.146	-.132 (.184)	-.049
Abstinence Only	-.033 (.136)	-.047	-.012 (.135)	-.006	-.011 (.135)	-.006	.110 (.133)	.059
AOUM	-.082 (.132)	-.043	-.043 (.133)	-.024	-.088 (.134)	-.049	-.066 (.129)	-.037
Race (b)								
Black			.170 (.111)	.113	.064 (.123)	.042	.052 (.118)	.035
Asian			.289* (.144)	.148	.354* (.157)	.181	.310* (.151)	.159
Other Race			.119 (.119)	.072	.093 (.121)	.056	.065 (.116)	.040
Religious Affiliation (c)								
Christian					.200 (.108)	.156	.250* (.104)	.196
Catholic					.141 (.139)	.076	.203 (.135)	.109
Other Religion					-.142 (.162)	-.070	-.089 (.155)	-.044
Gender (d)								
Male							.374*** (.099)	.262
Other Gender							-.457* (.217)	-.141

Note: b=unstandardized regression coefficient (standard error); Beta = standardized regression coefficient. *p<.05; **p<.01; ***P<.001 (two-tailed tests). (a) Comprehensive sex education is omitted as the reference group; (b) Whites are the omitted reference group; (c) No affiliation is the omitted reference group; (d) Females are the omitted reference group

OLS Regression – RMA Subscales

I ran similar regressions for each subscale *She Asked For It*, *It Wasn't Really Rape*, and *She Lied*. Abstinence Plus was found to be significant in each of the first models (b = -.161, p = .032; b = -.196, p = .009; and b = -.179, p = .017 respectively). However, when controlling for race, religion and gender the significance level of Abstinence Plus went above the $\alpha = .05$ limit in both the *She Asked For It* and *She Lied* regressions. In the models for *It Wasn't Really Rape* both Abstinence Plus and AOUM were found to be significant, and AOUM was still significant after controlling for race, religion and gender (b = -.152, p = .040) suggesting that participants with

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AOUM had a significantly lower score on the *It Wasn't Really Rape* subscale compared to the other types of sex education. In this final model, AOUM explained 6.1% of variation.

Table 9. OLS Regression Predicting RMA Subscale *It Wasn't Really Rape* by Sex Education Type and Demographics

Variable	Equation 1		Equation 2		Equation 3		Equation 4	
	b	Beta	b	Beta	b	Beta	b	Beta
Type of Sex Education (a)								
Abstinence Plus	-.261** (.099)		-.243* (.101)	-.182	-.240* (.101)	-.180	-.191 (.101)	-.143
No Sex Education	.048 (.176)	.019	-.011 (.181)	.004	.009 (.180)	.003	.031 (.179)	.012
Abstinence Only	.013 (.126)	.007	.015 (.127)	.009	.019 (.127)	.011	.083 (.129)	.047
AOUM	-.255* (.123)	-.151	-.245* (.124)	-.144	-.270* (.126)	-.159	-.258* (.125)	-.152
Race (b)								
Black			.056 (.103)	.040	.002 (.115)	.002	-.004 (.115)	-.003
Asian			.163 (.135)	.089	.174 (.147)	.095	.151 (.147)	.082
Other Race			.145 (.111)	.093	.101 (.114)	.065	.113 (.113)	.056
Religious Affiliation (c)								
Christian					.118 (.101)	.098	.145 (.101)	.121
Catholic					.260* (.130)	.149	.293* (.131)	.168
Other Religion					-.042 (.152)	-.022	-.013 (.151)	-.007
Gender (d)								
Male							.199* (.096)	.148
Other Gender							-.246 (.211)	-.080

Note: b=unstandardized regression coefficient (standard error); Beta = standardized regression coefficient. *p<.05; **p<.01; ***P<.001 (two-tailed tests). (a) Comprehensive sex education is omitted as the reference group; (b) Whites are the omitted reference group; (c) No affiliation is the omitted reference group; (d) Females are the omitted reference group

OLS Regression – Gender Norms

The first model in the OLS regression for traditional gender norms again found Abstinence Plus sex education as the only type of sex education with a significant effect (b = -.182, p = .016). Sex education explained 1.5% of the variation in gender norms. The next model controlled for race and 4.5% variation was explained and none of the sex education types were

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found to be significant in this model. Blacks were found to hold significantly stronger traditional gender norms than other racial groups ($b = .220, p = .003$). Model 3 added a control for religion and found Abstinence Plus as significant, however less so than in Model 1 ($b = -.146, p = .051$). This model explained 6.4% of the variance. Again, Christians were found to have significantly higher gender norms beliefs ($b = .198, p = .018$). The final model controlled for gender, and had a nearly 10% increase in variation explained (from 6.4% to 16.2%). Similar to the RMA models, when gender is controlled for sex education is no longer significant.

Table 10. OLS Regression Predicting Gender Norms by Sex Education Type and Demographics

Variable	Equation 1		Equation 2		Equation 3		Equation 4	
	b	Beta	b	Beta	b	Beta	b	Beta
Type of Sex Education (a)								
Abstinence Plus	-.232*		-.181		-.186*		-.096	
	(.095)	.182	(.096)	-.142	(.095)	-.146	(.092)	-.075
No Sex Education	.024		.059		.057		.081	
	(.170)	.010	(.172)	.025	(.170)	.024	(.161)	.034
Abstinence Only	-.100		-.079		-.087		.045	
	(.121)	-.060	(.120)	-.047	(.120)	-.052	(.116)	.027
AOUM	-.185		-.137		-.188		-.152	
	(.118)	-.114	(.118)	-.084	(.119)	-.116	(.113)	-.094
Race (b)								
Black			.297**		.174		.182	
			(.098)	.220	(.109)	.129	(.104)	.135
Asian			.096		.142		.120	
			(.128)	.055	(.139)	.081	(.133)	.068
Other Race			.097		.075		.055	
			(.105)	.065	(.107)	.051	(.102)	.037
Religious Affiliation (c)								
Christian					.227*		.285**	
					(.095)	.198	(.091)	.249
Catholic					.073		.156	
					(.123)	.044	(.118)	.094
Other Religion					-.083		-.028	
					(.143)	-.045	(.136)	-.016
Gender (d)								
Male							.415***	
							(.086)	.323
Other Gender							-.169	
							(.191)	-.058

Note: b=unstandardized regression coefficient (standard error); Beta = standardized regression coefficient. *p<.05; **p<.01; ***P<.001 (two-tailed tests). (a) Comprehensive sex education is omitted as the reference group; (b) Whites are the omitted reference group; (c) No affiliation is the omitted reference group; (d) Females are the omitted reference group

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Additional Findings

Due to the exploratory nature of this study, I wanted to account for the possible misunderstanding of definitions provided for types sex education. As such, I included questions about lessons learned in sex education as well as asked participants to select whether or not they sought additional information about sexual health beyond their school-based sex education (see survey in Appendix A for examples). Bivariate analyses were also conducted for each item related to seeking out additional sexual health information and the types of lessons learned in participants' school-based sex education. *t* tests revealed significant differences in RMA scores for several of these factors including participants who sought sexual health information online and participants who did not seek any outside information about sexual health (Table 11.) Among all choices (friends, older siblings, parents/guardians, online websites, pornography websites, adults other than parents, and did not seek out information), two were found to be significant for RMA and gender norm scores. Those who looked for sexual health information online (n=68) had a significantly lower RMA ($p = .011$) and GN ($p = .010$) scores than those who did not look for information online. Similarly, those who said they did not seek any outside information about sexual health had higher RMA ($p = .017$) and GN scores, though the difference for the GN was not significant.

<u>Sources</u>	<i>n</i>	RMA		GN	
		Mean (SD)	p-value	Mean (SD)	p-value
Sought out sexual health info from other sources	182	1.76 (.60)	.017	1.52 (.56)	.126
Did not seek other sexual health info	30	2.05 (.71)		1.69 (.49)	
Used online websites to find sexual health info	68	1.64 (.56)	.011	1.40 (.57)	.010
Did not look for sexual health info online	144	1.88 (.64)		1.61 (.51)	

Note: Sources were coded yes=1, no=0

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Additional *t* tests were conducted looking at the types of lessons participants learned in sex education. Among those that were found to have significant effect on RMA and GN scores were: “boys’ sexual drive is fairly constant and is driven by testosterone,” “it is common for girls to masturbate,” “information about emergency contraception and abortion,” “the definition of sexual consent and how it plays into sexual decision making,” and “the location of the clitoris.” Table 12 shows the differences for RMA and GN scores; those found to have significantly higher RMA are participants that did not learn the definition of the consent (n=118; M=1.92; SD=.641); participants who learned the location of the clitoris (n=57; M=1.94; SD=.677); participants who received information about emergency contraceptives and abortion (n=57; M=1.94; SD=.643); participants who learned boys’ sexual drive is constant (n=81; M=1.93; SD=.662); and participants who learned it is common for girls to masturbate (n=24; M=2.23; SD=.605).

Table 12. Lessons Learned in School-Based Sex Education

Lessons	n	RMA		GN	
		Mean (SD)	p-value	Mean (SD)	p-value
Definition of sexual consent and how it plays into sexual decision making	118	1.92 (.64)	.002	1.62 (.55)	.039
No	94	1.65 (.56)		1.46 (.55)	
Location of clitoris	57	1.94 (.68)	.046	1.55 (.58)	.936
No	155	1.75 (.59)		1.54 (.55)	
Information about emergency contraception and abortion	57	1.94 (.64)	.043	1.64 (.56)	.135
No	155	1.75 (.61)		1.51 (.55)	
Boys' sexual drive is constant and is driven by testosterone	81	1.92 (.66)	.021	1.54 (.54)	.870
No	131	1.72 (.58)		1.55 (.57)	
It is common for girls to masturbate	24	2.23 (.54)	.000	1.80 (.66)	.020
No	188	1.75 (.60)		1.52 (.54)	

Note: Lessons were coded yes=1, no=0

Discussion

The aim of this exploratory study was to examine the possible impacts school-based sex education has on rape supportive attitudes among college students. Sex education was found to affect rape myth acceptance and traditional gender norms, however, not in the way I

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hypothesized. While those with abstinence only sex education did have the highest overall rape myth acceptance, participants with abstinence plus sex education had the lowest. This suggests that the different types of sex education programs do not present information about gender and sexual violence in significantly different ways. This might be because school-based sex education is merely reflecting larger societal sexual and gender norms, thus not having a positive or negative affect on rape supportive attitudes.

Even more indicative of this is the finding that participants who said they were taught more scientifically accurate and sex-positive information (including where the clitoris is located, that it is common for girls to masturbate, and types emergency contraceptives available) had higher rape myth acceptance and traditional gender norm beliefs. This was surprising to me as I would have expected participants with a more “progressive” sex education (e.g. comprehensive) to be less supportive of rape myths. These findings suggest that accurate information about sexual health does not necessarily translate into notions of gender equity and demonstrates the need for sex education programs to explicitly address gender and sexual norms. Participants who reported they were taught the definition of sexual consent in their sex education programs had significantly higher rape myth and gender norm scores than those who did not learn the definition of consent. These findings suggest that even learning the definition of consent may not help to reduce harmful ideas about rape. It should be noted that participants were not asked what the definition of consent is, so it may be possible that they answered they learned the definition but do not actually know what the correct definition is.

Furthermore, the two items on the RMA scale with the highest scores were “When guys rape, it is usually because of their strong desire for sex” and “Rape happens when a guy's sex drive gets out of control,” and the *He didn't mean to* subscale had the highest mean score overall, suggesting participants tend to dismiss the perpetrator as someone who couldn't help himself.

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Literature shows sex education programs teach that men's sex drive is constant and must be controlled by women—who are presented as sexual gatekeepers (Fine, 1988; Weiderman, 2005; Filipovic, 2008; Valenti, 2008). Indeed, nearly 40 percent of participants in this study said they learned in their sex education classes that “Boys’ sexual drive is constant and is driven by testosterone.” This further demonstrates the need for sex education programs to more accurately discuss sexuality, and stop presenting male sexuality as ever-present and uncontrollable.

Although abstinence plus and AOUM sex education were found to have significant effect in the RMA/GN and *It Wasn't Really Rape* regression models respectively, further analysis indicated sociocultural factors (specifically race, gender and religious affiliation) were stronger predictors of rape myth acceptance and traditional gender norm beliefs than the type of sex education. As hypothesized, gender was found to be the strongest predictor of rape supportive attitudes, with males having the highest mean scores across all scales. These findings align with prior literature (McMahon, 2010; McMahon & Farmer, 2011; King & Roberts, 2011) and further demonstrate the need for sex education to specifically address gender when discussing sexual violence as well as account for this gendered difference when designing lesson plans.

Race and religion were also strong predictors of rape myth acceptance and gender norm beliefs, although different races were stronger for each. Blacks had significantly higher traditional gender norm beliefs, while Asians had stronger acceptance of rape myths. This may be due to ideas shaping masculinity in the Black community and those shaping sexuality in the Asian community. Additionally, those who identified as Christian had higher rape myth acceptance and gender norm beliefs suggesting religious teachings endorse traditional gender norms and conservative ideas about sexuality (e.g. one should remain a virgin until marriage). These findings follow previous studies' findings that ideas about sexuality and sexual violence are embedded in the subculture of people from various backgrounds and that the reasons for rape

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supportive attitudes are complex and multidimensional (Johnson, Kuck, & Schander, 1997; Carmody & Washington, 2001; Nagel, McIntyre & Morrison, 2005).

My final hypothesis posited that, based on the literature looking at the use of online sexual health websites (Rideout et al, 2010; Ralph et al, 2011; Bess et al, 2009; Buhi et al., 2009), participants who sought information online would have less endorsement of rape myths than those who did not; this hypothesis was supported. This makes sense not only because those who are more interested in sexual health would take it upon themselves to seek out better information, and that information found from online sexual health websites like Scarleteen may have more accurate information than school-based sex education. Participants who have an interest in attaining accurate information would presumably adhere less to traditional gender norms. Thus, school-based sex education would benefit from providing similarly accurate information that students deem useful and relevant.

Limitations

Due to the exploratory nature of this study, it is unknown how the sex education definitions were perceived and understood by participants. It is possible that even with the definitions, participants were unsure of which type of sex education they received. Additionally, the study used three different categories for abstinence-based sex education; this may have made it more difficult for students to know which type they had. A separate qualitative study looking at the definitions with study participants may reveal better ways to distinguish types of sex education. Future research would benefit from further testing the sex education definitions to be sure participants select the correct type. Additionally, this study had a relatively small sample and females were overrepresented. This is important because females have consistently been found to have lower acceptance of rape myths (McMahon, 2010; McMahon & Farmer, 2011;

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King & Roberts, 2011). A larger and more balanced sample may produce less gender-biased results. Furthermore, sampling high school students may be more useful as adolescents may be better able to accurately reflect on their sex education experiences and presumably would have had less time between their sex education and participation in the study. Despite these limitations, findings from this study warrant future research looking into the effects sex education has on an individual's endorsement of rape myths and traditional gender norms.

Conclusion

Sex education presents itself as an ideal place to begin sexual assault and rape prevention efforts, given the importance of cultural narratives about sexuality to one's understanding of sexual violence. However, in order to do this, sex education programs must provide a research-supported counter narrative to traditional gender and sexual norms. If more progressive and evidence-based sex education programs were presenting concepts of gender, sexuality and sexual violence accurately, we would expect to see significantly lower endorsement of rape supportive attitudes. With the consistently high rates of sexual assault, we cannot afford to have sex education merely aim to lower rates of pregnancy and STIs, it must do a better job addressing harmful gender and sexual norms as well. As such, a closer look at the content of sex education programs and the role they play in participants' acceptance of rape myths and traditional gender norms is warranted.

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Appendix A

Survey Instrument

How old are you?	<input type="radio"/> 18-19 <input type="radio"/> 20-21 <input type="radio"/> 22-23 <input type="radio"/> 24+	reset
Which gender do you most closely identify with?	<input type="radio"/> Female <input type="radio"/> Male <input type="radio"/> Trans female/Trans woman <input type="radio"/> Trans male/Trans man <input type="radio"/> Genderqueer/Gender non-conforming <input type="radio"/> Not listed (please specify)	reset
Not listed (Please specify):	<input type="text"/>	
Which race most closely represents the race you identify with?	<input type="radio"/> Black/African-American <input type="radio"/> Latina/Latino/Hispanic <input type="radio"/> American Indian/Alaska Native/Indigenous/First Nations <input type="radio"/> Middle Eastern/Arab <input type="radio"/> Asian/Asian American <input type="radio"/> Multiracial/Biracial <input type="radio"/> Native Hawaiian/Pacific Islander <input type="radio"/> White/Caucasian/European American <input type="radio"/> Not listed (Please specify)	reset
Not listed (please specify)	<input type="text"/>	

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What is your religious affiliation?

- Agnostic
- Atheist
- Buddhist
- Christian
- Catholic
- Deist
- Hindu
- Jewish
- Muslim
- Pagan
- Secular
- Sikh
- Taoist
- Not listed (please specify)
- No religious affiliation

reset

Please choose your denomination:

* must provide value

- Assemblies of God
- Baptist
- Born Again
- Church of Christ
- Church of God
- Church of the Nazarene
- Disciples of Christ
- Episcopalian/Anglican
- Evangelical
- Fundamentalist
- Jehovah's Witness
- Lutheran
- Methodist
- Mormon/Latter-Day Saints
- Nondenominational
- Orthodox
- Pentecostal
- Presbyterian
- Protestant
- Quaker
- Seventh-Day Adventist
- United Church of Christ
- Not Listed

reset

Not listed (please specify)

What year in college are you?

- First year /Freshman
- Second year/Sophomore
- Third year/Junior
- Fourth year/Senior
- Fifth year +

reset

What type of high school did you attend?

- Public
- Private
- Charter school
- Homeschool
- Other (please specify)

reset

Other (please specify)

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Please use the below definitions of sex education programs as defined by Sexuality Information and Education Council of the United States (SEICUS) to answer the following question.

****No sex education in school:**

School does not discuss any aspects of sexual behavior and/or sexuality and does not promote abstinence.

****Abstinence-only Sex Education:**

Programs that emphasize abstinence from all sexual behaviors. These programs do not include information about contraception or disease-prevention methods.

****Abstinence-Only-Until-Marriage Sex Education**

Programs that emphasize abstinence from all sexual behaviors outside of marriage. If contraception or disease-prevention methods are discussed, these programs typically emphasize failure rates. In addition, they often present marriage as the only morally correct context for sexual activity.

****Abstinence-Plus Sex Education:**

Programs that emphasize the benefits of abstinence. These programs also include information about sexual behavior other than intercourse as well as contraception and disease-prevention methods.

****Comprehensive Sex Education:**

These programs include age-appropriate, medically accurate information on a broad set of topics related to sexuality including human development, relationships, decision-making, abstinence, contraception, and disease prevention.

Please choose the type of sex education you feel most accurately depicts what you were taught in school:

* must provide value

- No sex education
- Abstinence-Only
- Abstinence-Only-Until-Marriage
- Abstinence-Plus
- Comprehensive

reset

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If you received sex education (including information about puberty) at school, in what grades did you learn about it (mark all that apply):

- Kindergarten - 6th Grade (Elementary School)
- 7th - 8th Grade (Middle School)
- 9th - 12th Grade (High School)
- Did not receive sex education in school

Did your sex education in school teach any of the following (check all that apply):

- The proper way to use a condom
- Sex is only safe for adults in long term committed relationships
- The benefits and risks associated with various forms of contraceptives, including birth control, condoms and abstinence
- The definition of sexual consent and how it plays into sexual decision making
- Common symptoms of sexually transmitted infections including HIV
- The location of the clitoris
- Information about emergency contraception and abortion
- Characteristics of healthy and unhealthy romantic and/or sexual relationships
- Boys' sexual drive is constant and is driven by testosterone
- It is common for girls to masturbate
- Characteristics of behaviors that constitute bullying, sexual harassment, sexual abuse and sexual assault.
- Do not recall

Did you seek out information about sexuality from other sources? If so, please check all that apply:

- Friends
- Older siblings
- Parents/guardians
- Online websites like Scarleteen.com or Planned Parenthood
- Pornography websites
- Adults other than parents/guardians (pastor, youth leader, teachers, etc)
- Did not seek out information about sexuality

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Please indicate your level of agreement for the following statements:						
	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	
Most women can't be trusted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
In a heterosexual dating relationship the boy should be smarter than the girl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Girls are always trying to manipulate boys.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
In a heterosexual dating relationship, the boy and girl should have about equal power.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Swearing is worse for a girl than for a boy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
On a date, the boy should be expected to pay all expenses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
In general, the father should have greater authority than the mother in making family decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
It is all right for a girl to ask a boy out on a date.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
It is more important for boys than girls to do well in school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
If both husband and wife have jobs, the husband should do a share of the house-work such as washing dishes and doing the laundry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Girls should have the same freedom as boys.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset

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Please indicate your level of agreement for the following statements:

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
If a girl is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
When girls go to parties wearing slutty clothes, they are asking for trouble.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If a girl goes to a room alone with a guy at a party, it is her own fault if she is raped.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If a girl acts like a slut, eventually she is going to get into trouble.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
When girls are raped, it's often because the way they said "no" was unclear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
When guys rape, it is usually because of their strong desire for sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
Guys don't usually intend to force sex on a girl, but sometimes they get too sexually carried away.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
Rape happens when a guy's sex drive gets out of control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If a guy is drunk, he might rape someone unintentionally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
It shouldn't be considered rape if a guys is drunk and didn't realize what he was doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If both people are drunk, it can't be rape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If a girl doesn't physically resist sex - even if protesting verbally-it can't be considered rape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If a girl doesn't physically fight back, you can't really say it was rape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
A rape probably didn't happen if the girl has no bruises or marks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If the accused "rapist" doesn't have a weapon, you really can't call it a rape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
If a girl doesn't say "no" she can't claim rape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
A lot of times, girls who say they were raped agreed to have sex and then regret it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
Rape accusations are often used as a way of getting back at guys	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
A lot of times, girls who say they were raped often led the guy on and then had regrets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
A lot of times, girls who claim they were raped just have emotional problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset
Girls who are caught cheating on their boyfriends sometimes claim that it was a rape.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
					reset