

The Impact of Condom Advertisements on Young Adults' Perceptions of Condoms

By

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Thesis

Submitted to the Faculty of the
Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

MASTER OF ARTS

in

Sociology

August 9, 2019

Nashville, Tennessee

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Acknowledgements

First and foremost, I am endlessly grateful to my committee. To Dr. Laura Carpenter, my committee chair, for many hours spent focusing my ideas, perpetual patience, and enthusiasm for new angles on every issue; I cannot thank you enough for encouraging my growth as a scholar. And to Dr. Bianca Manago, for so enthusiastically embracing a student you barely knew, always answering late night emails, and putting up with endless unscheduled meetings; I am so thankful for all your guidance as I faced down a new methodology.

Second, this research would not have been possible without the support of the Small Research Grant from the Department of Sociology. I am grateful to the Graduate Program Committee for seeing the potential in this project. I am also grateful for the additional financial support on this project provided by Dr. Manago.

I am also grateful to my very talented and creative graphic designer Sarah Toher. Thank you for turning the very vague description I gave you into beautiful and useful advertisements, and embracing such a bizarre task so fully.

Finally, I am of course grateful to my family and friends. To my cohort, for too many brainstorming sessions to count and for always being there for a night off too. And to my parents – I can't imagine what I'd do without a family who was willing to listen to their child talk about sex and condoms all the time. You're the best.

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Introduction

Condoms, particularly external (male) condoms, have often been the focus of campaigns intended to encourage behaviors to prevent the spread of sexually transmitted infections. Unlike other forms of birth control traditionally used by female-identified people, like the Pill or an intra-uterine device (IUD), condoms alone prevent both pregnancy and sexually-transmitted infections (CDC 2016). This makes the condom of central importance for both females and males who have sex with males to protect themselves and lower the possibility of sexual risk. However, rates of sexually-transmitted infections have been on the rise in the US in recent years, and the Center for Disease Control have identified young adults (ages 15-24) as particularly at risk (CDC 2017a). This increase suggests that young adults are not taking appropriate steps to protect themselves, such as using condoms. But the question is why not?

One possible explanation for the increased prevalence of STIs could be the dearth of information on STIs and condoms provided in abstinence-only education. President Bill Clinton's Welfare Reform Act in 1996 codified abstinence-only sexuality education into the Social Security Act (Harris 2015). This act severely limited schools' access to federal funding for sexuality education based on adherence to very specific, abstinence-only-until-marriage guidelines (SSA 2015). Federal funding for abstinence-only-until-marriage programs reached its peak between 2000-2010, and although under President Barack Obama attempts were made to extend federal funding to comprehensive sexuality education programs, many federal dollars are still allotted to programs that promote abstinence (FoSE n.d.). A survey of young adults found that although some topics related to sexuality, like menstruation or personal hygiene, were as likely or more likely to be covered by parents than by high school, most topics related to abortion, STIs, and birth control were more likely to be covered by high school, making school-

based sexuality education the primary source of information on these topics for many young adults (Rutledge et al 2011).

A primary feature of abstinence-only programs is that abstinence is presented as the only 100% effective method to prevent unintended pregnancy and sexually-transmitted infections, and other forms of contraception are often not covered accurately if they're covered at all. Heavy emphasis, however, is often placed on the negative impacts of sexual activity outside of marriage, particularly for teenagers and young adults, usually by featuring worst-case scenario representations of sexually-transmitted infections (FoSE n.d.).

Most current US young adults were educated under this abstinence-only system, which may have given these young people a high sense of sexual risk, particularly about STIs. However, they have little information on how to protect themselves from these risks, and a high level of stigma around undertaking these preventative behaviors (Rutledge et al 2011). What's more, likely because condoms are not included in their early sexuality education experiences, condoms do not seem to be a common part of young adults' sexual scripts (Alvarez and Garcia-Marques 2008).

In order to increase condom use and by extension lower sexually-transmitted infection rates, it is important to understand how young adults most effectively receive messages about condoms and incorporate them into their sexual scripts, or the mental "instruction manual" that guides human action in a given situation (Simon and Gagnon 1984). The current study compares the impact of two types of advertisements, one similar to the pleasure-based ads typically used by condom production companies and one similar to the risk-based ads often used by anti-STI campaigns, in order to see how that different messaging impacts respondents' attitudes about condoms and whether the respondents subsequently imagine a condom in a vignette. Using an

online survey that collected both qualitative and quantitative data from a nationally representative pool of respondents, this study examines how these advertisements impact perceptions of condoms, which might in turn change where people fit condoms in their sexual scripts. The study also accounts for the factors that have previously been established to impact condom attitudes and use such as relationship status, while considering how media impacts sexual scripts in its own right.

Literature Review

Condom Use Factors

Previous studies, particularly those focused on heterosexual couples, have clearly demonstrated that improving attitudes about condoms is a significant factor in increasing their use rate. Caron et al (1993) found that women with less traditional attitudes toward the sexual double standard were more likely to provide and suggest using condoms, and that for women, more positive attitudes toward condoms increased the likelihood that they thought their partner wanted to use a condom and the likelihood that they would suggest and use condoms. Although men's attitudes toward the sexual double standard were not predictive of condom-related behaviors, more positive attitudes toward condoms still made them more likely to suggest, provide, and use condoms. Another study found that perceiving more advantages to condom use, as well as greater communication about condom use with partners and less perceived invulnerability to HIV also were predictive of more consistent condom use (Grossman et al 2008).

On the other hand, delayed consequences, those which will not become apparent until well after the immediate reward, and probabilistic consequences, risks that are large and highly likely

but not certain, as opposed to risks that are small but certain – impact condom use rates.

Individuals who are insensitive to either delayed consequences or probabilistic consequences report lower rates of condom use (Lawyer and Mahoney 2018).

Some research suggests that condom use is low in the US, particularly among heterosexual college students, because condoms do not seem to be a default part of their sexual scripts. Alvarez and Garcia-Marques (2008) found that college students were most likely to include condoms in sexual encounter narratives those students free-generated when their prompt explicitly included condoms; otherwise, it was highly unlikely that condoms would appear as part of the narrative. In real life, college students are also more likely to use condoms when they have engaged in condom-related protective behavioral strategies such as buying condoms, discussing condom use with their partner, and mentally planning to use a condom (Lewis et al 2010).

Combined, these studies suggest that for heterosexual individuals, positive attitudes around condoms are important for encouraging young adults (and everyone else) to use them, and that part of this attitude must include perceiving condoms as a normal and vital part of the sexual script. The research also indicates that although heterosexual young people are sometimes insensitive to the risks of condom nonuse, when they do perceive vulnerability to STIs, this can increase condom use. This suggests that both awareness of risk and positive attitudes can impact condom use behavior. How, then, is one to develop these more positive attitudes while effectively conveying risk? What is impacting young adults' perceptions of condoms?

Condom Use and Demographics

Although there is some difficulty in accurately measuring condom use due to response bias and misestimation by respondents (Cecil et al 2005), condom use does appear to vary according to various demographic characteristics. According to a Center for Disease Control (Copen 2017) report, 20.8% of Black/African-American respondents reported using a condom “every time” during sexual intercourse in the last year, compared with only 14.9% of Hispanic/Latinx respondents and 13.3% of White respondents. Fifteen percent of all women reported condom use every time compared with 19% of all men. Broken down by age, for women, use was highest among 15-19 year-olds, with 35.6% saying they used condoms every time in the last year. Ages 20-24 dropped down to 17.9%, 25-34 year-olds to 12.8%, and 35-44 year-olds to 10.9%. For men, 53.5% of 15-19 year-olds, 29.5% of 20-24 year-olds, 16.2% of 25-34 year-olds, and 9.4% of 35-44 year-olds reported condom use at every sexual intercourse. Some of this variation may be explained by the difference in partner type by age – that is, the older one is, the more likely one is to be married and therefore not using condoms – but this is not addressed in this study.

This study focuses on the external condom as it is used between heterosexual young adults in sexual encounters, as there also may be variation in condom use based on sexual orientation, both due to differences in STI and pregnancy risk and different semiotic understandings on condoms for heterosexual and lesbian, gay, bisexual, and other (LGB+) individuals. Among HIV-negative men who have sex with men (MSM), condoms were not used in the last 12 months in 8.4% of all encounters with a female partner, and 71.7% with a male partner. For HIV-positive men, condoms were not used in 5.5% of encounters with female partners and 71.8% of encounters with male partners (CDC 2017b). Gay and bisexual men may opt out of condom use as a way of “proving” they are not HIV-positive to a partner (Adam et al 2005). This real-life pattern is reversed in gay adult films, which use condoms with higher frequency than straight

adult films as a mechanism to prove that their actors are safe and conscientious about risk (Schieber 2017). This suggest factors in condom use for MSM are different from heterosexual individuals, and merit separate study, consideration, and public health efforts. Additionally, lesbian sexual encounters are not discussed here, because using an internal (female) condom is different from a male condom in effectiveness and popularity among heterosexual couples, making it a weak point of comparison, and because using an external (male) condom on a sex toy is protective from different risks than when used on a penis.

Relationship Status

The impact of relationship status on condom use has been contested in the literature. Harvey et al (2016) finds that shorter duration of relationship is significantly associated with citing disease prevention or dual prevention (disease and pregnancy) rather than just pregnancy prevention as reasons for condom use. Lehmillier et al (2014) found that “friends with benefits” – a recurring sexual partner, with whom one is not in a serious monogamous relationship – practiced safe sex more frequently than romantic partners, and another study found that among male adolescents, longer relationships were related to reduced odds of condom use (Manlove et al 2008). Another study found a decrease in condom use after the freshman year, that is even more pronounced when partners attend the same college, suggesting an environmental impact on established couples (Bearak 2014). On the other hand, Holland and French (2012) found no variation in condom use based on relationship type, and Edwards and Barber (2010) found that in both romantic and casual relationships, young adults wanted to use condoms more often than they perceived their partners did. Endorsement of the Relational Ideal – the notion that sex should take place primarily within the context of a serious relationship, especially for women –

was associated with less positive attitudes toward condoms and lower likelihood of condom use (Hynie et al 1998). It is worth noting that these studies primarily focus on young adults, particularly college students, which erases the variation by age in condom use and impact of relationship status.

Sexual Scripts

Sexual scripts are the mental guidelines that individuals follow when engaging in sexual activity. According to Simon and Gagnon (1984:53) these scripts are composed of three levels: cultural scenarios – collective instructional guides for behavior; interpersonal scripts – the process of changing from merely an actor to a writer who shapes cultural material into scripts for behavior in particular contexts; and intrapsychic scripting – the symbolic reorganization of reality to more effectively achieve an actor’s multilayered desires in a specific circumstance. Cultural factors generate basic understandings of the meaning of various actions, words, and other interactive events, which the individual actor then uses to interpret a situation in which they find themselves, and determine their behavior in response. Sexual scripts are impacted by various cultural influences including experiences of the individual and their peers, explicit instruction by authorities like religious figures and educators, and both social and mass media (Markle 2008). Understanding the media directed at young adults, then, can provide crucial insight into the sexual scripts they are enacting and how to encourage the incorporation of safe sex into these sexual scripts.

Sexual Behavior, Condoms, and the Media

It has been established that both social media, like Instagram, and mass media, like television or magazines, can impact sexual scripts, and this in turn can impact sexual behavior. One study found that exposure to sexual content in movies and television accelerates white adolescents' sexual activity and increases their risk of engaging in early sexual intercourse, although this media exposure had less impact on black adolescents (Brown et al 2006). Another finds a link between exposure to sexual content on television and experiencing pregnancy before age 20 (Chandra et al 2008), and still another finds that watching sex on TV predicts and may hasten adolescent sexual initiation (Collins et al 2004).

Undoubtedly, if media influence other forms of sexual behavior, media also influence both attitudes about condoms and condom-related behaviors. Garcia-Retamero and Cokely (2015) tested infographics which presented (1) either condom success rates or condom failure rates in (2) either numerical or visual formats. They found that those infographics that focused on numerically-presented condom success rates increased condom use, while those featuring numerically-presented condom failure rates did not. However, both success and failure rates presented as images were equally and highly effective for promoting condom use, which suggests the importance of image-based media to impacting condom attitudes and behaviors.

Similarly, mass media health communication research suggests that passive exposure to health-related materials in places that reach large audiences, like television, posters, and magazines, can have impact on health behaviors (Hornik and Yanovitzky 2003). Specifically for sexual health behaviors, studies suggest that mass media campaigns aimed at reducing HIV infection rates through increased condom use are fairly effective (Wakefield et al 2014). Safer sex media campaigns – both advertisements and as part of existing entertainment media (such as television shows and films for which sexual encounters are prominent story lines) – are

positively associated with increased condom use with casual partners (Keller and Brown 2002). This is true of both “small media,” which includes forms like the Internet, and “mass media,” which includes forms like television. A more direct route, like viewing a safer sex film, also creates positive changes in attitudes towards condoms, although it was only associated with increased reported willingness to use condoms in women, not men (Kyes 1990). Even when the television show “Friends” showed an incidence of condom failure, young adults still learned something about condoms and were more likely to talk to an adult about condoms (Collins et al 2003). Thus exposure to materials promoting safer sex, especially when connected to material which young adults can relate to like television shows they are likely to watch, also seems to significantly impact attitudes about condoms and subsequent use. Finally, similar to the current study, safer-sex public service announcements with humor appeals generated more attention, measured in views, comments, and ratings, than humorous condom advertisements, which suggests that consumers expect these two forms of pro-condom media to present themselves differently (Stevens 2018). Condom advertisements are intended to increase sales, which is a separate phenomenon from actually using the purchased condoms, although as discussed above, simply having already bought condoms can increase likelihood of use (Lewis et al 2010).

Current Study

The current study takes up this question of how people use media around condoms to influence the presence of condoms in the scripts for sexual encounters. Studies have tested the presence of condoms in sexual scripts, as well as the impact of positive messaging on condom use, both reported in advance of sexual intercourse and after sexual intercourse may have happened following exposure to the messaging. Many of these studies conclude with the

recommendation that young adults be exposed to positive messages in order to increase condom use, as well as to increase the likelihood that condoms are part of their sexual scripts. They have not, however, considered the mechanism by which these positive messages are most likely to stick. I directly test how advertisements impact perceptions of condoms. In particular, the present study compares whether pleasure-based messaging, such as that used by condom advertisements to promote their products as increasing pleasure and improving sex lives, makes young adults more likely to expect condom use as part of a sexual script than does risk-based messaging such as the rhetoric that is typically used in anti-STI campaigns. Respondents were shown either the pleasure-based or risk-based advertisement, then were given a brief vignette featuring a young couple in a sexual scenario and asked to predict condom use in the scenario, as well as questions about the couple's relationship and the couple's sexual experiences overall. Because more positive attitudes about condoms are associated with increased likelihood of use, I predicted:

H₁: Respondents who view a pleasure-based condom message will be more likely to predict use of a condom in a subsequently-presented sexual scenario than those who see a risk-based message.

For women, condoms seem associated with more positive sexual experiences with a casual partner (Armstrong et al 2012), while men often use reduced sensitivity (and therefore pleasure) as a condom resistance tactic (Davis et al 2014), suggesting gender differences. Contraception follows a gendered division of labor, and primary responsibility falls within the women's "sphere" (Fennell 2011), because the impact of contraceptive use (or lack thereof), in particular pregnancy, should have a greater effect on women than men. These effects are often more pronounced for women because the risks are seen as greater and pose greater threat of disruption to their lives, as they can become pregnant in addition to contracting an STI. Women who are not

experiencing anxiety about these risks may be able to relax more, and therefore have a more pleasurable and positive sexual experience (Nagoski 2015). This might suggest that we should find effects on pleasure and positivity of the sexual encounter in opposite directions for the male in the vignette than for the female. However, awareness of risk also impacts likelihood of condom use and respondents have just been exposed to advertising reminding them of possible risk (even in the pleasure-based ad). For this reason, I expect that the desire to feel protected may be stronger, and correspondingly, the relaxing effect of feeling protected provided by a condom will be stronger. Thus, I hypothesized:

H₂: Condom use will be associated with respondents reporting higher levels of pleasure (2a) and positivity (2b) for the couple in the vignette, regardless of which ad the respondent saw.

H₃: Condom use will be associated with respondents reporting lower levels of regret for the couple in the vignette, regardless of which ad the respondent saw.

H₄: Respondents will report higher levels of pleasure (4a) and positivity (4b), and lower levels of regret (4c) for man in the vignette than they will for the woman.

Although the effect of relationship status is disputed in the literature, I did not anticipate that it will have a significant effect on the primary variables of interest here. However, as it has sometimes been found to have an effect, I controlled for it in the models I constructed. As this effectively constitutes a null hypothesis, no expected relationship will be detailed here. I also controlled for significant demographic variables, both status characteristics such as age and race, and variables such as religion and political party, that may represent particular belief or value systems.

Methods

Procedure

This study seeks to understand how different messaging about condoms can impact young adults' perception of condoms. To do so, I used an experimental design in which each respondent was randomly shown one of two advertisements. The first advertisement (Figure 1) is

intended to represent the kinds of scare tactics used by anti-STI campaigns, which emphasize the risks of contracting sexually transmitted infections through unprotected intercourse. The second advertisement (Figure 2)



Figure 1: Risk-Based Advertisement



Figure 2: Pleasure-Based Advertisement

represents advertisements created by condom manufacturers to sell their products as something sexy, desirable, and enhancing to one's sex life. These advertisements were designed specifically for this study and used a made-up brand to avoid respondents having pre-conceived notions of a brand or image that might impact the study. Two versions of each type of ad (pleasure-based and risk-based) were created, using the same specifications about image size and amount of text that would be required for the advertisement to be used on a website like Facebook. The ads were tested with a focus group to see which ones most clearly conveyed the desired message. After viewing the advertisements, respondents answered open-ended questions about what they thought the main message of the advertisement was and who they thought the intended audience was. They were also later asked the same questions in a closed-ended format, as well as asked to verify which advertisement they saw, to ensure that the ad had made an impact as they completed the rest of the survey.

The second part of the study presented respondents with the following vignette:

[Emily/Ashley] (20), a female college sophomore, and [Michael/Jacob], a male college sophomore (20), have gone out together tonight on a date. Neither has consumed any alcohol, and they decide to return to their on-campus housing to have sex. Upon arriving at the residence hall, they discuss safe sex options before they begin any sexual activity.

Respondents were then asked questions, both open-ended and closed, about how likely they thought the couple was to use a condom, what they thought the relationship between the couple was (hookup, long term relationship, etc), how positive and pleasurable the experience was for each participant, and how much they each regretted the encounter. They were also asked to finish the scene. Finally, they responded to demographic questions, as well as questions about their sexuality education experiences and the kinds of media they most commonly consumed in adolescence.

The experimental method allowed me to test differential responses to two kinds of advertisements that many people encounter fairly regularly, and to trace these responses to perceptions immediately after exposure, creating a direct connection between the advertisement and the perception. The vignette style avoids having people report their own expected (or actual) sexual behaviors, which can avoid a desirability bias as well as make respondents more comfortable with the material. Using advertisements created specifically for this study with a fake condom company and no specific health organization avoided possible biases a respondent might have due to previous exposure to an existing advertisement or about a particular brand or organization. The vignette was also constructed specifically to exclude alcohol because heavy drinking is clearly related to sexual risk behaviors (Gilmore et al 2013), and alcohol's role as a sexual disinhibitor means it is frequently present in romantic and sexual encounters for college students (LaBrie et al 2005). Additionally, alcohol can have different effects on likelihood of condom use for men and women (e.g. Neilson et al 2017; Walsh et al 2014), and blurs the lines

of consent by most legal definitions. For these reasons, it was important to control for alcohol's presence to avoid biasing the results based on assumed alcohol use or issues of consent. While this runs the risk of making the scenario seem unrealistic or the couple seem exceptionally responsible and therefore more likely to use condoms anyway, these risks seemed smaller than the aforementioned risks of allowing alcohol to potentially appear in the scenario. The couple's sobriety was not mentioned frequently in the qualitative data about why the couple did or did not use, so it did not appear to have a significant impact on how respondents perceived the couple.

Data

Participants were recruited using the Amazon Mechanical Turk platform for recruiting survey respondents. All English-speaking US citizens 18 years or older who had an active Amazon Mechanical Turk account were eligible to participate. The theoretical scope of this study includes the perceptions of condoms among US citizens aged between 18 and 30, who speak English fluently, making mTurk an appropriate method to recruit respondents. Although mTurk participants are largely white men and this does create some bias, it still provides more possibility to reach a wider variety of respondents than a college sample typically does, and surveys can be limited to certain groups to allow for oversampling on the less-represented groups. Coding on the survey was used to exclude anyone over the age of 30 from completing the survey. Respondents were evenly divided among the two advertisements (see Procedure); however after data cleaning, about 48% of the sample saw the pleasure-based advertisement, while 52% saw the risk-based advertisement. Using mTurk allowed me to gather a broader sample than college students, which is the group with whom most condom research is done. My sample moreover includes a slightly larger age range and a wide range of educational

achievement, which can allow for a greater diversity of perspectives in the survey. These diverse perspectives are important for capturing a range of experiences, as information about condoms as well as condoms themselves can be much more accessible on a college campus than outside of one.

The sample (Table 1) was 70% male and 30% female; 76% White, 8% Black, 5.6% Latinx, 5% Asian/Pacific Islander, and 5% other races or multiracial; and although the survey was open from 18-30 year olds, the age range was 20-30 with a mean of 27. This makes the sample significantly more male than the US population, likely due to the higher percentage of mTurk respondents that are male and the possibility that men may be more likely to take a survey about condoms. The sample has about the same percent of White and Asian people as the general population, a slight underrepresentation of Black and Latinx, and a slight overrepresentation of multiracial individuals. About 50% of the sample identified as Democrats, 25% as Independent, and 21% as Republican, making the sample more Democratic and less Independent than the US population, although around the same percent Republican. Thirty percent identified as Agnostic, 35% identified with a Christian denomination or non-denominational Christian, and the other 35% identified as other religions or no religious preference, making the sample half as Christian as the general US population, and slightly more agnostic, other religion, or no preference. Four-year college graduates made up 41% of the sample, some college or two-year degrees made up 39% of the sample, high school graduates made up 17%, and advanced degrees made up 3%, making the sample more educated on average than the US population (NCES 2018). Finally, 86% of the sample identified as straight, and 14% identified as gay/lesbian/bisexual, with one asexual respondent.

Measures

Condom use served as the primary dependent variable for the study, although it also served as an independent variable in the pleasure, positivity, and regret models. Respondents were asked both a binary measure of condom use (“did they use a condom?”) and a continuous measure (“how likely do you think they are to use a condom?” from extremely unlikely to extremely likely). This continuous variable was then recoded into a binary variable as well (“extremely unlikely,” “moderately unlikely,” “slightly unlikely,” and “neither likely nor unlikely” coded as 0, and “slightly likely,” “moderately likely,” and “extremely likely” coded as 1).

The dependent variables pleasure, positivity of the sexual experience, and regret were measured separately for the man and woman in the vignette, using scales from 0-10. Pleasure and positivity were both asked as “Overall, how [pleasurable/positive] was the experience for [him/her]? 0 being not at all, and 10 being very [positive/pleasurable]”; regret was asked as “do you think [he/she] regrets the sexual encounter? 0 being definitely not, and 10 being definitely yes.”

The dependent variable for relationship status was collected through an open-ended question which said “Describe the relationship between these two individuals.” Responses were then qualitatively coded as either “friends with benefits,” “casually dating/early relationship,” “hookup,” “friends,” “in a serious long term relationship,” or “acquaintances/classmates.” These codes were inductively developed based on the concepts or phrases that seemed emerged most commonly in the answers, as well as what points of distinction seemed most important to

Table 1. Demographics (N=161)

	Mean/%	Range
Sex		
<i>Male</i>	70.2%	
<i>Female</i>	29.8%	
Race		
<i>White</i>	76.4%	
<i>Black</i>	8.1%	
<i>Latinx</i>	5.6%	
<i>Asian/Pacific Islander</i>	5.0%	
<i>American Indian/Alaskan Native</i>	0.6%	
<i>Two or More Races</i>	4.4%	
Sexual Orientation		
<i>Straight</i>	85.7%	
<i>Gay/Lesbian</i>	3.1%	
<i>Bisexual</i>	10.6%	
<i>Asexual</i>	0.6%	
Age (years)	27	20-30
Political Party		
<i>Republican</i>	20.5%	
<i>Democrat</i>	49.7%	
<i>Independent</i>	24.8%	
<i>Other/No Preference</i>	5.0%	
Religion		
<i>Catholic</i>	18.0%	
<i>Protestant/Other Christian</i>	17.4%	
<i>Agnostic</i>	29.8%	
<i>Muslim</i>	2.5%	
<i>Jewish</i>	3.1%	
<i>Other/No Preference</i>	29.2%	
Education*		
<i>High School Diploma/GED</i>	17.4%	
<i>Some College</i>	22.4%	
<i>2 Year Degree</i>	16.8%	
<i>4 Year Degree</i>	41.0%	
<i>Master's Degree</i>	2.5%	

*Although up through doctorate or professional degree was asked, Master's was highest reported.

respondents – for example, the difference between “friends,” a pair of people who randomly decided to sleep together one time after hanging out together, and “friends with benefits,” a committed but non-exclusive arrangement that revolves primarily around sex. These categories were further divided into a binary of either committed relationships (“friends,” “casually dating/early relationship,” or “in a serious long term relationship”) or casual interactions (“Hookups,” “friends with benefits,” or “acquaintances/classmates”).

Table 2. Summary Statistics (N=161)

	Mean/%	Standard Deviation	Range/Notes
Independent Variables			
Advertisement			
<i>Pleasure-Based</i>	48.45%		<i>Pleasure-Based = 1,</i>
<i>Risk-Based</i>	51.55%		<i>Risk-Based = 2</i>
Relationship Categories			
<i>Friends With Benefits</i>	3.73%		<i>Friends With Benefits=1</i>
<i>Casually Dating</i>	43.48%		<i>Casually Dating=2</i>
<i>Hook-up</i>	12.42%		<i>Hook-up=3</i>
<i>Friends</i>	8.07%		<i>Friends=4</i>
<i>Serious Long-Term Relationship</i>	8.07%		<i>Serious Relationship=5</i>
<i>Acquaintances/Classmates</i>	17.39%		<i>Acquaintances/Classmates=6</i>
Pleasure			
<i>Vignette Female</i>	7	1.88	1-10
<i>Vignette Male</i>	8	1.57	10=Very Pleasurable
Positivity			
<i>Vignette Female</i>	7	1.65	1-10
<i>Vignette Male</i>	8	1.53	10=Very Positive
Regret			
<i>Vignette Female</i>	2	2.50	1-10
<i>Vignette Male</i>	1	2.32	10=Definitely Regrets
Dependent Variables			
Odds of Condom Use - Binary			
<i>Unlikely</i>	4.35%		<i>Unlikely = 0, Likely = 1</i>
<i>Yes</i>	95.65%		
Odds of Condom Use - Ordinal			
	5.04	1.05	1 - 6
			6 = Extremely Likely

Note: Positivity and Pleasure are skewed left and Regret is skewed right; median is reported

Analytic Strategy

Data were analyzed using StataIC statistical analysis software. Variables related to the likelihood of condom use were analyzed using the binary form of the variable in chi-squares and logistic regression models, which controlled for meaningful demographic characteristics as well as sexuality education experiences. Variables related to pleasure, positivity, and regret were analyzed primarily using linear regression with and without demographic controls, with gender differences analyzed through t-tests. Because pleasure and positivity were negatively skewed, they were transformed for analysis using a Box-Cox transformation, and regret was corrected for negative skew using a logarithmic transformation. In the case of positivity for the female in the vignette, robust standard errors were used to correct for heteroskedasticity.

Table 3. Chi-Square Analysis of Condom Use and Advertisement Seen (N=161)

	Unlikely To Use A Condom <i>N=7</i>		Likely to Use a Condom <i>N=154</i>		X ²
	N	%	N	%	
Advertisement Seen					
<i>Pleasure-Based</i>	6	3.7	72	44.6	4.07*
<i>Risk-Based</i>	1	0.6	82	50.9	

*p<0.05 ** p<0.01 *** p<0.001, two-tailed tests

Results

Likelihood of Condom Use

Although there was a significant relationship between which advertisement respondents saw and their predictions of the vignette couple’s likelihood of using a condom (Table 3: $X^2=4.07$, $p<.05$), it was in the opposite direction hypothesized (Hypothesis 1). Both groups were more likely to say that the couple had used a condom than that they had not. However, individuals who saw the pleasure-based advertisement were more likely than those who saw the risk-based advertisement to report that the couple was unlikely to use a condom, when controlling for other characteristics (Table 4, Model 3: $b=2.06$, $p<.05$) . Qualitative coding of an open-ended question asking why the respondent believed the couple did or did not use a condom revealed that simply because the couple was presented as discussing safe sex, many respondents felt they would

Table 4. Logistic Regression Analysis of Predictors of Condom Use Binary (N=161)

<i>Predictor Variables</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Advertisement (<i>Pleasure-based is omitted category</i>)	1.92* (1.09)	1.90* (1.09)	2.06* (1.14)
Sex (<i>Male is omitted category</i>)		0.02 (0.87)	0.15 (0.89)
Race Binary (<i>White is the omitted category</i>)		0.52 (1.11)	0.83 (1.13)
Church Attendance			-0.22 (0.26)
Education			-0.44 (0.39)
Political Beliefs (<i>I is extremely liberal</i>)			0.28 (0.27)
Constant	2.48***	2.38**	2.93*
R ²	0.08	0.08	0.13

Notes: (1) * $p<.05$, ** $p<.01$, *** $p<.001$; (2) standard errors are in parentheses; (3) two-tailed tests

follow through on the discussion. One respondent said “since they discussed safe sex options beforehand, I would assume that they ended up using a condom,” while another noted “people who don't want to use protection generally don't talk about it before having sex because they don't care about the risks.”

Table 5. Regression Analysis of Predictors of Pleasure, Positivity, and Regret – Vignette Female (N=161)

<i>Predictor Variables</i>	<i>Regression 1 Pleasure</i>	<i>Regression 2 Positivity</i>	<i>Regression 3 Regret</i>
Advertisement	-0.21 (1.44)	-0.72 (0.76)	0.12 (0.07)
Odds of Condom Use	1.54* (0.69)	0.97** (0.33)	-0.18*** (0.03)
Constant	13.29**	9.94***	2.28***
R ²	0.03	0.05	0.16

Notes: (1) *p<.05, **p<.01, ***p<.001; (2) standard errors are in parentheses; (3) two-tailed tests; (4) Pleasure and Positivity were transformed with a Box-Cox transformation and Regret was transformed with a logistic transformation. Coefficients are not back-transformed.

Pleasure and Positivity

Overall, regardless of which advertisement the respondent saw, the more likely they thought the couple was to use a condom, the more pleasurable they reported the sexual encounter to be for both of the people involved (Table 5: female: b=1.54, p<.05; Table 6: male: b=11.32, p<.01). For the female in the vignette couple, pleasure went up an average of 2.07 points for every one unit increase in likelihood of condom use; for the male, pleasure increased 3.58 points on average as likelihood of condom use increased one unit. They also saw the encounter as more positive for both parties (Table 5: female: b=.97, p<.01; Table 6: male: b=20.37, p<.001). For the female in the vignette couple, reported positivity increased an average of 1.81 points for every one unit increase in likelihood of condom use; for the male, positivity increased an average of

4.08 point for each one unit increase in likelihood of condom use. Thus, hypotheses 2a and 2b are supported.

Regret

Regardless of which advertisement they saw, the more likely the respondent reported the couple to be to use a condom, the less they thought either party would regret the sexual encounter (Table 5: female: $b = -.18$, $p < .001$; Table 6: male: $b = -.35$, $p < .001$), so I find support for hypothesis 3. For the vignette female, a one unit increase in odds of using a condom lead to a 19.7% decrease in reported regret; for the vignette male, it was a 41.9% decrease.

Table 6. Regression Analysis of Predictors of Pleasure, Positivity, and Regret – Vignette Male (N=161)

<i>Predictor Variables</i>	<i>Regression 1 Pleasure</i>	<i>Regression 2 Positivity</i>	<i>Regression 3 Regret</i>
Advertisement	1.12 (7.79)	4.80 (11.62)	-0.02 (0.21)
Odds of Condom Use	11.32** (3.71)	20.37*** (5.54)	-0.35*** (0.10)
Constant	53.59*	55.53	1.74**
R ²	0.06	0.08	0.08

Notes: (1) * $p < .05$, ** $p < .01$, *** $p < .001$; (2) standard errors are in parentheses; (3) two-tailed tests; (4) Pleasure and Positivity were transformed with a Box-Cox transformation and Regret was transformed with a logistic transformation. Coefficients are not back-transformed.

Differences by Gender of Vignette Character

While respondents found the sexual encounter to be overall more pleasurable and positive than not, and to overall have less regret rather than more, there were significant differences in the average pleasure, positivity, and regret respondents reported for the man and woman in the vignette, regardless of which ad the respondents saw (Table 7). The vignette male was reported

on average to have 0.97 points higher pleasure in the experience than the female ($\mu_{\text{male}}=8.03$, $\mu_{\text{female}}=7.06$, $p<.001$), and 0.8 points higher positivity ($\mu_{\text{male}}=8.07$, $\mu_{\text{female}}=7.27$, $p<.001$). Perceptions of regret, however, were significantly higher for women, by 1.24 points on average ($\mu_{\text{male}}=1.82$, $\mu_{\text{female}}=3.06$, $p<.001$). This shows support for hypotheses 4a, 4b, and 4c.

Table 7. T-Tests for Differences in Positivity, Pleasure, and Regret by Vignette Character Gender

		Mean	SD	t-test
<i>Positivity</i>	<i>Male</i>	8.03	0.12	-5.02***
	<i>Female</i>	7.06	0.15	
<i>Pleasure</i>	<i>Male</i>	8.07	0.12	-4.52***
	<i>Female</i>	7.27	0.13	
<i>Regret</i>	<i>Male</i>	1.82	0.18	4.60***
	<i>Female</i>	3.06	0.20	

* $p<.05$, ** $p<.01$, *** $p<.001$, two-tailed test.

Differences by Respondent Gender

The sample demographics likely did have an impact on the results. Auxiliary analyses (available upon request) which were disaggregated by gender revealed that in regression models for pleasure, positivity, and regret, condom use was significant for male respondents for both the vignette male and female, but was not significant for female respondents for either vignette character, with one exception. Condom use was a significant predictor ($p<.05$) of regret for female respondents. The impact of condom use was fairly close for both male and female respondents, decreasing regret by about 11% for female respondents and around 18% for male

respondents. This suggests that condom use feels slightly more protective for men than it does for women.

Relationship Status

There was no significant relationship between which advertisement the respondent saw and what relationship they perceived the couple to have. However, perceptions of the couple's relationship status was associated with their predicted odds of using a condom, which is consistent with some of the previous literature, but varies from other studies. The most condom use was reported for those who were in the "casually dating/early relationship" category, and second highest for the "acquaintances/classmates" category ($X^2=20.85$, $p<.01$). This is possibly because trust is developing with these groups, whereas a hookup is more of a one-time thing that usually occurs more impulsively. This may lend itself to other impulsive decisions, such as failing to use a condom. When the binary odds of using a condom was analyzed relative to the binary measure of relationship status, the committed relationships were perceived as significantly more likely to use a condom than the casual interactions, contrary to what typically emerges in the literature ($X^2=6.44$, $p<.05$). This may be because people feel more comfortable communicating with someone they have some kind of relationship with and therefore insisting on condom use, whereas the lower level of trust and comfort in a casual interaction might lead to less communication that results in condom nonuse. Relationship status was not significantly associated with the perceptions of positivity, pleasure, or regret of the sexual encounter for either vignette character.

Discussion and Conclusion

Overall, although respondents were more likely to say that the couple used a condom than that they did not regardless of which advertisement they saw, the advertisements had the opposite of the hypothesized effect: respondents who saw the pleasure-based advertisement were more likely to say the couple did not use a condom than respondents who saw the risk-based advertisement. There are a few possible explanations for this. The first is that the inclusion of a safe sex discussion in the vignette served as a cue that condoms were used, making respondents overall more likely to report condom use, and thus masking the role of the advertisement in their response. This is an interesting finding, that respondents found discussion so closely tied to actual use, and one that supports previous research that better communication between partners increases likelihood of use. However, it is also a possible limitation, suggesting that the cue in the vignette may have masked the effect of the advertisement on its own. The second possible explanation is that, as Garcia-Retamero and Cokely (2015) found, any visual messaging around condoms is likely to have an impact on condom attitudes and use, regardless of tone and framework. The third possible explanation, of course, is that fear-based tactics are in fact more effective than pleasure-based messaging, but it is hard to say this with certainty because of the limitation described in the first proposed explanation.

Strong support was found for both parts of the second hypothesis, that the more likely the couple was to use a condom, the more pleasurable and positive respondents perceived the encounter to be, for both parties involved and regardless of which advertisement the respondent saw. This suggests that something about the use of a condom creates better feelings toward sexual encounters, perhaps due to feelings of safety or a lack of worry about the potential consequences, or that the condom itself may be representative of greater comfort and more

communication with the sexual partner. This seems contrary to some research suggesting men resist condoms due to lowered sensitivity and correspondingly lowered pleasure, and I see a few possible explanations. First, as suggested in the literature, greater risk awareness can increase odds of condom use, and it is possible that simply being confronted with any kind of condom advertisement increased risk awareness, which then increased desire to feel protected and therefore odds of using a condom, and this in turn increased the pleasure and positivity of the sexual encounter because the male respondents perceived the vignette male to feel protected and therefore more relaxed in the encounter. Second, it is also possible that because this common argument of lowered sensitivity has largely been documented among college males, the broader sample of this survey demonstrated a variation in that perception across different segments of the population, in which non-college males are more sensitive to the consequences of condom nonuse. I also found support for hypothesis 3, using a condom was significantly associated with lower feelings of regret for both genders and regardless of which advertisement the respondent saw. This reinforces the possibility that the protective nature of condoms provides relief from the fear of consequences, which typically emerge after the sexual encounter and could create regret. Regret about condom nonuse itself, in fact, may be a direct cause of regret about the overall sexual encounter.

Finally, I found support for all three parts of hypothesis 4, that there were significant differences in reported levels of pleasure, positivity, and regret for men and women. Specifically, respondents thought men would have higher levels of pleasure and positivity and lower levels of regret than their female counterparts. This suggests that a sexual double standard is still alive and well, following the sexual script that men are more likely to enjoy sexual encounters and less likely to regret them than women. Because my respondents were primarily male, it is also

possible, even likely, that they related more closely to the male in the vignette, and therefore were more sensitive to his risks and experience of the sexual encounter than they were to the female. Disaggregation of the regressions by sex suggests that this is possible, as significance vanishes for all models with only female respondents.

Although this study did not illuminate the impact of advertisements on sexual scripts as clearly as intended, it can still have clear implications for how condom messaging is used in media and in sex education. First, it suggests that, at least in the short term, image-based presentation of information can impact how the subject of the image is constructed by the viewers. Second, it stresses that regardless of tone, exposure to any kind of messaging around condoms make them more likely to be present in the sexual script, and that perhaps focusing on the risk prevalences – equally for both men and women – has better odds of encouraging condom use than the tactics used by companies who are trying to sell their products. These tactics increase the likelihood that condoms will be purchased but not necessarily used, although purchasing condoms is also a protective behavioral strategy which can increase the odds of condom use as well. Additionally, this study provides insight into perceptions of condoms by a broader group than just college students, and suggests some possible variations on dimensions like desire to use condoms and associated feelings of pleasure. This is incredibly significant because college students are, of course, not the only people having sex, and may be impacted very differently by the consequences of condom nonuse than non-college students. Finally, male respondents' tendency to rate the vignette female's pleasure and positivity lower and her regret higher than the vignette male's suggests the overall importance of emphasizing pleasure for both genders in sexuality education. The cultural narrative that men take greater pleasure in sex and that women experience more regret likely contributes to social problems like rape culture and

sexual inequality, and could become a self-fulfilling prophecy in which women's pleasure is deprioritized in sexual encounters. Breaking down this narrative through a focus on pleasure for all parties involved in a sexual encounter is an important step toward overall social equality between the sexes.

This study does have some limitations. As mentioned above, the inclusion of a discussion of safe sex in the vignette seems to have biased respondents toward thinking the couple used a condom. A future wave of this study will correct for this issue. There is also a limit to the generalizability due to the respondent characteristics; although mTurk is intended to provide access to a nationally representative group of possible respondents, those who actually took the survey were predominantly white and male, a group which is already established as less likely to perceive condom messaging in the media, even when they are being exposed to it at the same rate as other groups (Pardun and Forde 2002). It is also limited to those with access to computers. Finally, study is currently limited to heterosexual intercourse; however, studying STI prevention for LGBT+ individuals is also important, especially as they are far less likely to be the audience for mainstream condom advertisements than heterosexual couples.

Future research should go a few directions. First, as stated, how non-heterosexual individuals include safe sex behaviors in their sexual scripts should be considered as well. Second, research should be done that accounts for real-world exposure to condom advertisements as well as anti-STI and anti-pregnancy informational campaigns, as the experimental method artificially exposes respondents to material with which they may otherwise not be interacting. Finally, sexuality educational curricula should continue to be studied. Encouraging condoms as part of sexual scripts before young adults become sexually active can be an important step in encouraging condom use later in life. Studying how sexual risk and condom use information can

most effectively be conveyed to encourage lifelong safer sex behaviors can improve sexual outcomes for both men and women over the long term.

Although opinions about sexual behavior and sexuality education can differ widely, this study and others like it can show how campaigns to increase safer sex behaviors and lower the chances for negative sexual outcomes like sexually-transmitted infections and unwanted pregnancy can most effectively convey their messages, particularly to young adults who are high-risk for STIs and unwanted pregnancies. It can also demonstrate what will lead to more positive and pleasurable sex lives for men and women, which can contribute significantly to making a more equal society for all genders.

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