

Condom communication in young adults' romantic relationships: Examining privacy's
effects on attitudes, norms, self-efficacy, and barriers

Grace Ellen Brannon

Abstract

Condoms are the most recommended method of preventing sexually transmitted infections (STIs), yet they are underutilized. Young adults are at substantially higher risk for contracting an STI than other populations, but do not perceive many sexual behaviors as risky. Research has documented the importance of individuals communicating about STIs and condom usage with romantic partners; unfortunately, these conversations do not occur as they should. This study investigates how young adults in romantic relationships manage privacy processes related to condom communication, using Communication Privacy Management as the theoretical lens. This study seeks to better understand how attitudes, norms, and self-efficacy for communicating about condom use, self-efficacy for buying and using condoms, barriers to condom use, willingness to communicate about health, and health protective sexual communication predict an individual's boundary permeability and boundary ownership. Both models showed some significant findings. Practical and theoretical implications are discussed.

Keywords: communication privacy management theory, young adults, romantic relationships, condoms, interpersonal communication

Condom communication in young adults' romantic relationships: Examining privacy's effects on attitudes, norms, self-efficacy, and barriers

Communication is understood as a vital component in romantic relationships, particularly in regard to relational satisfaction (Byers, 2005). Communication about sex, and communication during and after sexual activity, has been associated with many positive benefits which includes increased relational satisfaction (Brody, 2010; Muise, Giang, & Impett, 2014). However, disclosing sexual information, such as sexual health status (e.g., presence of a sexually transmitted infection [STI]) can be difficult. Many individuals shy from disclosing information on certain topics due to the risks of sharing the information, including stigma and potential relationship dissolution (Afifi, Olson, & Armstrong, 2005; Petronio, 2002). Among these topics is communication related to and about condoms.

Communication about condoms, particularly in young adults' relationships, has recently become more established as an important area of research, particularly when examining female condoms (Chatterjee, 2018; Noar, Carlyle, & Cole, 2006). Yet, little is known about how romantically involved young adults (ages 15-24) (Katz, 2014) communicate about and utilize condoms. One of the few established findings includes the fact that condoms are underutilized. For example, Elwood, Greene, and Carter (2003) reported rates of less than 50% of condom usage with new sexual partners despite nearly 90% of these individuals reporting intentions to use condoms. Inconsistent condom usage, meaning sporadic usage across multiple encounters with the same partner or even across multiple encounters with different individuals, has also been reported as a major issue (Cooke-Jackson, Orbe, Ricks, & Crosby, 2013). Therefore, it is important to examine further how young adults communicate about condoms, particularly in romantic relationships, as an individual's health status may rely upon these conversations.

Based on previous research indicating young adults' desire for privacy related to sexual topics (Fuzzell, Fedesco, Alexander, Fortenberry, & Shields, 2016; Hernandez, 2018), this study is guided by the theory that best describes the processes involved in private information management: Communication Privacy Management Theory (CPM), (Petronio, 1991; 2000). The primary goal of this study is to examine variables that may be affected by boundary permeability and boundary ownership, both privacy processes as described by CPM.

STIs and Condom Usage Among Young Adults

Nearly 20 million new STIs occur annually in the United States (Centers for Disease Control and Prevention, 2014). Of these, over half occur in young adults, generally understood as those between the ages of 18-24 (Centers for Disease Control and Prevention, 2013). As such, this rate of infection is acknowledged as a major public health issue, particularly because those between the ages of 20-24 have higher rates of human immunodeficiency virus (HIV) when compared with any other age group (Harvey, Washburn, Oakley, Warren, & Sanchez, 2017; Satcher, Hook, & Coleman, 2015). Untreated STIs can lead to a host of health issues, but not limited to reproductive health issues, such as chronic pain and infertility, and even death (Harvey et al., 2017). These health issues may also be associated with high treatment costs (Harvey et al., 2017). One of the primary recommendations for preventing STIs is to use condoms in any sexual encounter yet there is ample evidence demonstrating these recommendations often are not adhered to (Potard, Caballero, & Courtois, 2017).

Previous research has demonstrated that young adults do not use condoms consistently across multiple sexual encounters with the same partner or even across multiple encounters with multiple partners (Cooper, Agocha, & Powers, 1999). The National Survey of Family Growth, as reported by Chandra, Martinez, Mosher, Abma, and Jones (2005) reported that merely 39% of

unmarried, sexually active women used condoms at all, with less than 30% reporting consistent (e.g., used during each episode of sex) condom usage. This inconsistent use greatly increases their risk of obtaining an STI or accidentally become pregnant. Young adults who believe they are in monogamous relationships are less likely to use condoms consistently than those in non-monogamous relationships (Afifi & Weiner, 2006; Cooper et al., 1999). While individuals often perceive themselves to be in monogamous relationships, one partner may engage in other romantic relationships simultaneously, often with the other partner none the wiser (Warren, Harvey, & Agnew, 2012). Yet, studies in this area often neglect men in their samples, as many studies examining condom usage typically investigate women's perceptions of condom usage specifically related to pregnancy prevention (Harvey et al., 2017). Therefore, this study will attempt to expand this acknowledged gap in research by 1) examining condom usage in an STI-specific context (rather than pregnancy), and 2) including men in the sample. The latter is particularly important as understanding how both men and women perceive their privacy related to communication about condoms is needed to improve health outcomes.

Communication About Sex

For young adults, topics related to sex are of great concern. Disclosure of private information is a central communicative act for individuals in romantic relationships (Altman & Taylor, 1973). However, discussions related to STIs do not occur as often, nor at a high-quality level, as practitioners think they should. Subsequently, researchers have begun examining how mediated means (e.g., through text messaging or mobile applications) may assist young adults in engaging in these difficult conversations (Broaddus & Dickson-Gomez, 2013; Fehr, Vidourek, & King, 2015). Subsequently, measures (e.g., condoms) protecting individuals from STIs are underutilized. One common recommendation for preventing STIs is disclosing information about

STI status, sexual partners, etc. to one's potential sexual partner. However, Horan (2016) cites extensive research indicating deception in disclosures about previous sexual partners appears more often than honesty, thereby not allowing individuals full control over their health, particularly if a partner is dishonest. In their meta-analysis, Fehr et al. (2015) state that three main issues are consistently reported by college students regarding safe sex: multiple partners, lack of conversations on safe sex practices, and not using condoms consistently. When these issues are left unaddressed, health outcomes suffer. Further, if communication about safe sex practices, in particular, does not occur, actions cannot be taken to mitigate the other issues. Therefore, understanding more about an individual's willingness to communicate about health is important.

Willingness to communicate about health. It is established that interpersonal communication between relational partners is a significant predictor of behavior (Mehra, Östergren, Ekman, & Agardh, 2014). However, health issues are often not discussed between partners due to fear of stigma (Wright, Frey, & Sopory, 2014). Willingness to communicate about health, or WTCH, is defined as how likely an individual is to engage in communication with others (McCroskey & Richmond, 1998). Research shows that people often feel more comfortable disclosing general health information to others, rather than specific health information such as STIs (Derlega, Anderson, Winstead, & Greene, 2011). Being willing to communicate about health to others can enable an individual to seek social support, manage uncertainty, and even seek health information. It makes sense that an individual wanting to discuss a potentially stigmatized topic, like sex or condom usage, might not do so unless she is more generally predisposed to communicating about health in general. Understanding more

about young adults' WCH is therefore important in examining their communication about condoms, as it could influence their actions.

Three factors have been well-established as predictors of actions (such as consistent condom usage) in communication literature: attitudes, norms, and self-efficacy. Consistent condom usage, for example, is shown at high levels only when attitudes towards condom usage is high, norms are positive, and self-efficacy is present (Shih et al., 2011; Williams et al., 2008). Conversely, inconsistent condom use is predicted by low condom self-efficacy and the perception that one's partner does not desire to use a condom (Mehra, Östergren, Ekman, & Agardh, 2014; Shih et al., 2011). Individual factors such as norms, attitudes, and self-efficacy are recommended to be examined while taking into account social factors (Mehra, Östergren, Ekman, & Agardh, 2014). Therefore attitudes, norms, and self-efficacy is discussed within the context of communication about condoms.

Attitudes. Studies have repeatedly shown that young adults, while at a higher risk for contracting an STI than other populations, do not use condoms regularly in sexual encounters (Harvey et al., 2017). Attitude is defined as how an individual evaluates something with favor or disfavor (Eagly & Chaiken, 1998). The degree to which an individual views condom usage as favorable, are one of the top predictors of consistent condom usage (Ajzen, 1991; Williams et al., 2008). Attitudes towards condom usage tend to affect whether an individual will choose to use condoms in a sexual encounter (Kanda & Mash, 2018). Yet, gender differences in attitudes towards communication about STIs are also well-established in literature, with females at a higher risk for both inconsistent and incorrect condom use (Morris et al., 2014). Further, one study found that intentions to use condoms are more influenced by attitudes in females, while males tend to be influenced more by social norms (Mehra, Östergren, Ekman, & Agardh, 2014).

While males are more likely to engage in sexual activity than females, Yang and Pittman (2017) found females are more likely than males to disclose possible HPV diagnoses to both healthcare practitioners and to partners, to experience shame related to an HPV diagnosis, and to indicate an intention to receive a free vaccine for HPV soon. Males are less likely than females to engage in preventive efforts, such as the HPV vaccine, as they believe that HPV cannot infect males and that only women can be vaccinated, resulting in vaccination rates far lower than females' (Pitts, Stanley, & Kim, 2017). In this study, attitudes regarding a young adult's perception of what young adults should do regarding condoms in sexual encounters will be examined.

Norms. Research has demonstrated how close friends, in particular, can affect an individual's perceptions of condoms (Boer & Mushamba, 2005; Rittenour & Booth-Butterfield, 2006). Two types of norms are widely acknowledged in communication literature. First, subjective norms explain how beliefs about what relevant others think is appropriate is a key predictor of intentions to perform a specific behavior (e.g., use a condom). Second, descriptive norms are the beliefs about what other people actually do. These two norms have been demonstrated to work both congruently and incongruently (Ajzen, 1991; Frank et al., 2012). Rittenour & Booth-Butterfield (2006) indicate that those who feel comfortable discussing STIs and condoms with peers may feel less embarrassed about using condoms in sexual encounters. This finding has been established in non-Western cultures as well (Le & Kato, 2006). For the purposes of this study, only participants' subjective norms is utilized, a practice utilized previously (Frank et al., 2012).

Self-efficacy. Self-efficacy refers to one's belief that they can accomplish a specific task (e.g., use a condom correctly in a sexual encounter) (Bandura, 1977). Harvey et al. (2017) found that self-efficacy is one of several factors that significantly impact an individual's motivation for

choosing to use condoms. Communication in this process is key. Guan et al. (2016) found that communication behavior regarding condom negotiation (essentially, communication self-efficacy about condoms) was significantly associated with intent to use condoms consistently, while condom use self-efficacy was not. This is exemplified in Morris et al.'s (2014) study, where women often feel that they are unable to properly negotiate the usage of a condom since the common idea is that condom usage is up to the man, as he is the one who (typically) wears the condom. Further, it's been shown that women's condom negotiation self-efficacy doesn't always influence a partner's condom usage (Jones et al., 2016). As the usage of the condom in a sexual encounter cannot occur without communication about condoms, particularly if the female feels that she must persuade the male (in heterosexual relationships) to use a condom, both condom communication efficacy and self-efficacy in buying and using condoms is important (Guan et al., 2016).

In the past, buying condoms has been considered the job of the male in sexual encounters (Logie, Lys, Okumu, & Fujioka, 2019). As a result, many females often feel less efficacious in buying condoms. Even with the rise in female condom availability, females are thought to have lower self-efficacy in buying condoms than males, as 1) female condoms are less discussed and available, and 2) it is still the common thought than males (in heterosexual relationships) should be the purchasers of condoms (French & Holland, 2013). Therefore, in this study, both condom communication self-efficacy and condom use self-efficacy will be examined in an attempt to expand on their findings.

Barriers. Several barriers to using condoms have been identified in previous studies, including reduced pleasure, limited intimacy, knowing a partner's sexual history, low perceptions of risk (however misguided), and gender roles, among others (Fehr, Vidourek, King,

& Nabors, 2017; Fehr et al., 2015; Poggia Mileti, Mellini, Sulstarova, Villani, & Singy, 2019). Several interventions targeting young adults, and specifically college students, have been recommended, particularly in the area of acknowledging one's own STI risk. Because of privacy concerns, however, many individuals are hesitant to discuss stigmatized topics, such as condoms or STIs. Specifically, Brüll, Kessels, Repetto, Dirkson, and Ruiter (2019) discuss how communicating about condoms can create the perception of inherent flaws within the individual, thereby increasing the defensive communicative behavior of concealment. In this study, barriers will be examined as a potential influencer on how individuals manage their health information.

Health protective sexual communication.

Communication about STIs, birth control, and HIV are all included in the conversation category of health protective sexual communication (HPSC) (Cleary, Barhman, MacCormack, & Herold, 2002). HPSC research has established that the majority of sexual health discussions occur after the first sexual encounter between individuals, rather than prior to (Edgar, 1992). Most believe this occurs because of potential negative implications to the relationship, including threatening the relationship and ruining spontaneity (Hocking, Turk, & Ellinger, 1999). Understanding more about how young adults manage their HPSC is important for both their own health as well as their partners'. Because this communication is so important, yet often stigmatized and concealed, the theory of Communication Privacy Management will be used to examine variable relationships in this study.

Communication Privacy Management Theory

Understanding how individuals, particularly those in romantic partnerships, view private information as something to be managed through communication is an important and well-established construct in communication literature (Brummett & Steuber, 2015; Hernandez,

2018). The theory that best exemplifies this process is Communication Privacy Management Theory (Petronio, 1991; 2000). In their attempts to minimize potential risks, individuals control the information through utilizing metaphorical privacy boundaries (Petronio, 1991). Afifi and Steuber (2009) found that those in trusting relationships (e.g., romantic relationships) disclose more than those not in trusting relationships, thereby having more porous boundaries. This is particularly important when considering communication about condoms, as sex-related information is often considered private and often difficult to discuss (Lefkowitz, Boone, & Shearer, 2004). Yet, the permeability of a privacy boundary might impact the frequency and quantity of condom-related communication. For example, Hernandez (2018) found that among sorority sisters, established closeness and trust was “ideal” (p. 1347) for communication about condom use.

Boundary Permeability

Petronio (1991) defines boundary permeability as the management of information via metaphorical boundaries, using rules established by the individuals in the communicative process, and how easily the information flows through the boundary. Previous research has indicated that the context of the relationship affects how much information people share, and that one component of determining boundary permeability is based upon the potential risk of an individual revealing the private information (Denes, Afifi, & Granger, 2017). Specifically, boundary permeability could impact how an individual thinks or feels about condom usage, an understanding of norms about condom usage, as well as self-efficacy for communicating about condoms, self-efficacy for buying and using condoms, and could likely impact how an individual perceives potential barriers to using condoms in a given encounter. For example, individuals who are generally open when discussing general health may be more likely to discuss condoms, yet

another who feels that all health information is private would be less likely to disclose information about STI status or condoms. While boundary permeability has been studied in health contexts previously, specifically, mens' decisions to undergo a vasectomy (Rauscher & Durham, 2015), less is known about how young adults in romantic relationships manage their privacy boundaries around other health topics. This gap in the current literature therefore leads to the following hypotheses:

H1: a) Attitudes about condom use, b) norms about condom use, c) self-efficacy for communicating about condom use, d) self-efficacy for buying and using condoms, and e) willingness to communicate about health, will each positively predict boundary permeability, while f) barriers to condom use and g) health protective sexual communication will negatively predict boundary permeability.

Boundary Ownership

Another element of CPM is that individuals feel that they own their own private information, and that they can control that information. Specifically, an individual who feels ownership over a boundary also feels that they have a right to control if information is disclosed and to whom that information is disclosed (Petronio, 2004). Yet, once that information is shared, the new co-owner of the information now has control over how the information is shared – not solely the original owner. Often, information owners attempt to manage control over their own information (whether prior to disclosure or after) by developing privacy rules and coordinating boundaries with the new owner(s) (Petronio, 2002).

Boundary ownership (and indeed, boundary permeability) can change depending upon the nature of the relationship. Previous communication research examining boundary ownership has focused in sibling and friend relationships (Brockhage & Phillips, 2016; Kennedy-Lightsey,

Martin, Thompson, Himes, & Clingerman, 2012). Boundary ownership in romantic relationships is less understood, however; therefore, this study will attempt to expand our current understanding of how boundary ownership, particularly in the context of private health information, is understood and enacted between romantic partners. Therefore, this study will also attempt to bridge the current gap in literature by posing the second hypothesis:

H2: a) Attitudes about condom use, b) norms about condom use, c) self-efficacy for communicating about condom use, d) self-efficacy for buying and using condoms, and e) willingness to communicate about health, will each negatively predict boundary ownership, while f) barriers to condom use and g) health protective sexual communication will positively predict boundary ownership.

While it may make sense that longer-term relationships should be associated with higher permeability and decreased ownership, it is possible that this may not be the case. Therefore, in addition to typical demographic information, questions seeking to understand the potential impacts of relationship status and length of their relationship will be asked as well, as increased flexibility with boundary ownership and higher permeability may not necessarily correlate with longer-term relationships. This will be accomplished by asking participants to report each.

Method

Participants

The majority of participants (N = 374) were females (N = 297) and the other 77 identified as males, who ranged in age from 18 to 24 years (M = 20.44, SD = 1.11). A majority of participants were Caucasian (68.7%) with 21.4% self-identifying as Hispanic, 4.3% as Asian/Pacific Islander, 3.9% as African American, .3% as Middle Eastern, and 2.4% as other. The majority of participants indicated their year in school as a junior (40.9%), with 30.7% self-

identifying as a sophomore, 26.7% as a senior, and 1.6% as a freshman. The majority of participants indicated they had not been tested for an STI in the last six months (75.7%) with the remaining 24.3% indicating they had been tested. Most participants indicated their sexual preference as heterosexual (93.6%) with 4% self-identifying as bisexual and 2.4% as gay, lesbian, or other. Almost half of participants reported they had never been married and were currently seriously dating (46.5%), with 32.6% reporting they had never been married and were not currently dating, 17.4% as never been married and casually dating, 6% as engaged, and 1.9% other. Participants currently in a relationship also reported the length of time in the current relationship, with 4.2% reporting less than three months, 9.6% as 3-6 months, 13.9% as 6-12 months, 39.2% as 1-2 years, 23.5% as 3-4 years, 6.6% 5-6 years, 3% as 7-8 years.

Procedures

Upon receiving institutional review board approval from a large southern university, participants were recruited via an in-person announcement from the researcher from several undergraduate communication courses. Participation criteria included being between the ages of 18-24 and currently in a romantic relationship or having been in a relationship in the past. Minimal extra credit incentive was provided upon completion of the study. Only the responses of participants who indicated they had a conversation about STIs with a previous or current partner are included in this analysis. Responses were kept anonymous. Sex was coded as 1 (male) or 2 (female), and ethnicity as 1 (African American), 2 (Middle Eastern), 3 (Caucasian), 4 (Hispanic), 5 (Native American), 6 (Asian/Pacific Islander), and 7 (Other).

Measures

All participants answered questions on the following scales: boundary permeability, boundary ownership, attitudes about condom use, norms about condom use, self-efficacy for

communicating about condom use, self-efficacy for buying and using condoms, and barriers to condom use.

Boundary permeability. Boundary permeability was adapted from Child, Pearson, and Petronio (2009). Boundary permeability is composed of a 4-item scale, with all items measured on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale based on how much the participants agreed with the statements when thinking of their current or past romantic relationship. A higher score is indicative of more disclosure and less privacy. Questions included “I often tell intimate, personal things to my partner without hesitation.” The reliability estimate for permeability ($\alpha = .88$) was acceptable.

Boundary ownership. Boundary ownership was adapted from Child, Pearson, and Petronio (2009). Boundary ownership is composed of a 5-item scale, with all items measured on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale based on how much the participants agreed with the statements. A higher score is indicative of less disclosure and more privacy. Questions included “I have limited the personal information shared with my romantic partner.” One item was deleted from the analysis as it did not load. The reliability estimates for the remaining four variables ($\alpha = .74$) was acceptable.

Condoms. Participants completed an adapted version of Basen-Engquist et al.'s 22-item Sexual Risk Behavior Beliefs and Self-Efficacy (1998) scales measuring psychosocial variables that affect sexual risk-taking and protective behavior. Five of the subscales were used for the purposes of this study, each with 3 items per subscale. Items were measured on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale. A higher score reflects stronger attitudes and norms towards supporting condoms and higher condom use self-efficacy; for condom use barriers, lower scores are indicative of increased perception of barriers to condom use. Questions

included “I believe condoms should always be used if a person my age has sex” and “I would feel uncomfortable carrying condoms with me.” Reliability estimates for each of the subscales were: attitudes about condom use ($\alpha = .93$), norms about condom use ($\alpha = .92$), self-efficacy for communicating about condom use ($\alpha = .78$), self-efficacy for buying and using condoms ($\alpha = .73$), and barriers to condom use ($\alpha = .84$).

Willingness to communicate about health. Willingness to communicate about health was measured using the 10-item Willingness to Communicate about Health scale (Wright, Frey, & Sopory, 2007). Three items were deleted from the final scale due to loading issues. All items are scored on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale, with a higher score indicating more communication. Examples of an item includes “I frequently talk about health issues.” Reliability was acceptable, ($\alpha = .76$).

Health protective sexual communication. To measure how often participants discussed private health topics related to sex and contraception, the expanded 10-item Health Protective Sexual Communication scale was used (Catania, 1998; Fisher, Davis, Yarber, & Davis, 2010). Each item is scored on a 1 (never) to 4 (always) scale. Items include “Told a new romantic partner that you won’t have sex unless a condom is used” and “Asked a new romantic partner about how he/she felt about using condoms before you had intercourse.” Reliability was acceptable, ($\alpha = .88$).

Results

Descriptive Statistics

Before running the statistical models to test the hypotheses, the relationships between several potential control variables and the communication about STIs variables were

investigated. To test for differences due to age a series of bivariate correlations was run. There was one significant correlation between boundary permeability and age, ($r(373) = -.17, p < .01$).

An independent samples t-test was then conducted to test for sex differences. There were significant differences for boundary permeability and sex, with women ($M = 6.03$) scoring higher than men (5.52), ($t(371) = -3.81, p < .01$); boundary ownership and sex, with women ($M = 4.76$) scoring higher than men ($M = 4.20$), ($t(371) = -3.34, p < .01$); self-efficacy for communicating about condoms and sex, with women ($M = 6.09$) scoring higher than men ($M = 5.58$), ($t(371) = -3.71, p < .001$); self-efficacy for buying and using condoms and sex, with men ($M = 5.93$) scoring higher than women ($M = 5.59$), ($t(371) = 2.12, p < .05$); and barriers to condom use and sex with women ($M = 4.79$) scoring higher than men ($M = 3.79$), ($t(371) = -3.98, p < .001$).

An independent samples t-test was also conducted to test for differences due to STI test status. There were significant differences for the relationship between attitudes about condom use and STI test status, with those not having been tested for an STI in the last 6 months ($M = 5.51$) scoring higher than those who had ($M = 4.93$), ($t(371) = -3.34, p < .001$), the relationship between norms about condom use and STI test status, with those not having been tested for an STI in the last 6 months ($M = 4.79$) scoring higher than those who had ($M = 4.38$), ($t(371) = -2.18, p < .05$), and the relationship between self-efficacy for communicating about condoms and STI test status, with those not having been tested for an STI in the last 6 months ($M = 6.06$) scoring higher than those who had ($M = 5.77$), ($t(371) = -2.26, p < .05$).

Several ANOVAs were then run to test for differences in ethnicity, relationship status, and education levels, for boundary permeability and boundary ownership. There were significant effects of ethnicity on boundary permeability, [$F(5, 367) = 3.881, p < .01$], boundary ownership,

[$F(5, 367) = 3.512, p < .01$], attitudes about condom use, [$F(5, 367) = 2.337, p < .05$], and HPSC, [$F(5, 367) = 2.259, p < .05$]. There were significant effects of relationship status on boundary permeability, [$F(4, 368) = 6.702, p < .001$], boundary ownership, [$F(4, 368) = 7.158, p < .001$], attitudes about condom use, [$F(4, 368) = 4.685, p < .01$], norms about condom use, [$F(4, 368) = 4.439, p < .01$], self-efficacy for communicating about condoms, [$F(4, 368) = 3.907, p < .01$], barriers to condom usage, [$F(4, 368) = 4.405, p < .01$], and HPSC, [$F(4, 368) = 3.507, p < .01$]. There were not no significant effects between education levels and any of the variables. Correlations for all variables appear in Table 1.

Hypotheses

H1 examined the relationship between attitudes about condom use, norms about condom use, self-efficacy for communicating about condom use, self-efficacy for buying and using condoms, barriers to condom use, WTCH, HPSC, and boundary permeability. To test the hypothesis, one multiple regression model was run. Age, sex, STI test status, ethnicity, and relationship status were each added to the model due to the significant relationships with the variables. H2 examined the relationship between attitudes about condom use, norms about condom use, self-efficacy for communicating about condom use, self-efficacy for buying and using condoms, barriers to condom use, WTCH, HPS, and boundary ownership. To test the hypothesis, one multiple regression model was run. Sex, STI test status, ethnicity, and relationship status were each added to the model due to the significant relationships with the variables. All β values are reported standardized.

Boundary permeability. The first hypothesis predicted that attitudes about condom use, norms about condom use, self-efficacy for communicating about condom use, self-efficacy for buying and using condoms and willingness to communicate about health would positively

predict boundary permeability, while barriers to condom use and health protective sexual communication would negatively predict boundary permeability. A significant regression equation was found ($F(12, 360) = 12.314, p < .001$), with an adjusted R^2 of .29. The analysis shows that age did significantly predict boundary permeability ($\beta = -.167, t = -3.718, p < .001$), as did sex ($\beta = .109, t = 2.263, p < .05$), relationship status ($\beta = -.147, t = -3.207, p < .01$), self-efficacy for communicating about condoms ($\beta = .225, t = 4.116, p < .001$), self-efficacy for buying and using condoms ($\beta = .155, t = 2.920, p < .01$), and willingness to communicate about health ($\beta = .164, t = 3.389, p < .01$). See Table 2 for predictor statistics. Therefore, hypothesis 1 was partly supported.

Boundary ownership. The second hypothesis predicted that attitudes about condom use, norms about condom use, self-efficacy for communicating about condom use, self-efficacy for buying and using condoms, and willingness to communicate about health would positively predict boundary ownership, while barriers to condom use and health protective sexual communication would negatively predict boundary permeability. A significant regression equation was found ($F(11, 361) = 5.779, p < .001$), with an adjusted R^2 of .12. The analysis showed that sex did significantly predict boundary ownership ($\beta = .184, t = 3.490, p < .01$), as did relationship status ($\beta = -.204, t = -4.064, p < .001$), barriers to condom use ($\beta = -.157, t = -2.885, p < .01$), willingness to communicate about health ($\beta = .111, t = 2.101, p < .05$), and health protective sexual communication ($\beta = -.126, t = -2.449, p < .05$). See Table 3 for predictor statistics. Therefore, hypothesis 2 was marginally supported.

Discussion

The goals of this study were 1) to investigate how attitudes about condom use, norms about condom use, self-efficacy for communicating about condom use, self-efficacy for buying

and using condoms, barriers to condom use, willingness to communicate about health, and health protective sexual communication predicted boundary permeability and 2) to examine how the same aforementioned variables predicted boundary ownership. Communication Privacy Management Theory (CPM) was chosen as the guiding theory because communication can influence how an individual perceives his/her privacy, thereby potentially affecting behaviors, on sex-related topics (specifically, condoms).

This study confirms previous literature discussing how individuals manage privacy in relationships where difficult topics may be discussed. First, findings showed that higher levels of self-efficacy (in both communicating about and buying and using condoms) and willingness to communicate about health positively predicted boundary permeability. Each of these makes sense, as previous research has also demonstrated that 1) increased levels of self-efficacy in communicating about condoms, 2) increased levels of self-efficacy in buying and using condoms, and 3) a higher level of willingness to communicate about health in general, should be related with being more open (Jones et al., 2016; Morris et al., 2014). Previous research has noted the importance of condom use self-efficacy for young adults, particularly as it has been associated with resilience and safer sex (Logie, Lys, Okumu, & Fujioka, 2019).

In this study, willingness to communicate about health also positively predicted boundary ownership, meaning those willing to communicate about general health were more likely to have decreased levels of ownership over private information. Further, barriers to condom use and health protective sexual communication negatively predicted boundary ownership, meaning those feeling higher perceptions of barriers to using condoms and higher levels of using protective communication about sex were more likely to feel increased levels of ownership over privacy boundaries. This is a reassuring finding as having tight ownership over one's own

information such as an STI status, or perhaps being unwilling to communicate about general health, to a romantic partner, can have serious (and potentially negative and harmful) outcomes for the partner (CDC, 2014).

This study also adds to previously established research on privacy and condom-related communication. First, this is among the first studies to look at how young adults manage sexual health information with their romantic partner through the lens of privacy management issues (Fehr et al., 2015). Using CPM allows for a unique look at how young adults perceive their boundaries around potentially difficult conversations. Future studies should continue to examine the potential wealth of relationships between condom communication and privacy variables.

The lack of findings regarding attitudes and norms was quite surprising, however. Previously, Boudewyns and Paquin (2011) found that norms, attitudes, and self-efficacy were all indicative of leading towards intentions to get tested for STIs. Yet, in this study, attitudes and norms did not significantly predict boundary permeability whatsoever. As norms are inherently influenced by others, the specificity of partners in a sexual relationship may not be able to be accurately conceptualized. For example, Rauscher and Durham (2015) discussed how men undergoing family planning decision making processes were often less deep in levels of disclosure with friends than that of a romantic partner. Yet, we know that norms, often developed in conjunction with close friends' beliefs, can impact an individual's sexual health decisions (Rittenour & Booth-Butterfield, 2006). Boudewyns and Paquin (2011) also found that men tend to have less favorable attitudes and weaker subjective norms towards STI testing, which was not found to be the case in this study. Future studies should more clearly examine both subjective and descriptive norms, as the two models testing norms in this study were not significant.

Sex was a significant predictor in the model testing boundary ownership, with women having decreased levels of feelings of ownership, but not a significant predictor for boundary permeability. Previous research has shown that women may feel that they do not own certain types of information due to the patriarchal nature of a culture (Kanda & Mash, 2018). Further, women often feel less efficacious in negotiating whether condom use should occur (Morris et al., 2014) as well as whether condoms are actually used (Kanda & Mash, 2018).

Of interest is the gender differences for self-efficacy and barriers to condom use. Many of studies (even as recent as 2015) tend to recommend the usage of male condoms, rather than including female condoms as a potential STI preventive, which helps to explain why men tend to report higher levels of condom usage (Sacco, Rickman, Thompson, Levine, & Reed, 1993). Further, the act of using a male condom requires the male's participation (Otto-Salaj et al., 2010). Therefore, it is not groundbreaking news that men scored higher than women in self-efficacy regarding male condom usage, and that the women perceived more barriers to using condoms. Yet, of interest is that women had higher self-efficacy in communicating about condoms. Li and colleagues (2018) discuss that interventions to teach women sexual assertiveness skills have been successful, yet we also know that college women often perceive themselves as confident in sexual health decision-making matters while simultaneously being less informed than noncollege women (Rouner & Lindsey, 2006). Therefore, future studies should continue examining how women in particular manage the potential issues difficult conversations about STIs and condom usage while in romantic partnerships.

Theoretical Implications

One of the strengths of this study is the usage of Communication Privacy Management theory to investigate how young adults in romantic relationships manage their privacy

boundaries around important health topics. Currently, little is known about the interpersonal processes of how young adults manage their privacy boundaries, particularly in romantic partnerships, as the majority of the current communication research examining STIs and condom usage is focused on health message designs (e.g., Jain, Hoffman, Beam, & Shan, 2017). Therefore, this study's findings thus extend our current understanding of this at-risk population. Specifically, this research did so by focusing on how an individual's privacy influences important sexual health decisions that potentially have an impact not only on oneself but on others. These findings provide data that extends previous research while using a new lens to describe how an individual's privacy impacts other communicative processes, such as attitudes, norms, and self-efficacy. Yet, these findings also demonstrate cultural gaps, particularly in the lack of research examining female condoms (Bowling et al., 2017; Li et al., 2018). Future studies should examine privacy issues specifically related to conversations about male and female condoms between romantic partners. Further, these conversations should not be limited to researchers by heterosexual couples, another norm that appeared often in previous literature. Privacy management therefore might inform us in several areas of understudied romantic partner communication patterns.

Practical Implications

The results of this study can inform practical applications for ensuring condom usage among romantic partners. First, increased efforts should be made to improve women's self-efficacy in buying and using condoms. Some research (e.g., Chatterjee & Markham Shaw, 2012) has made note of the importance of positioning the female condom as important, accessible, and useful. Yet, as this study demonstrates, women still have much lower self-efficacy in buying and using condoms than do men. Therefore, health practitioners could make a concentrated effort to

inform young adult females about female condoms to increase that self-efficacy and usage. Further, informing females of the uses of both female and male condoms could be helpful for decreasing some negative health outcomes. Future studies should then continue to examine measures of self-efficacy as female condoms become more mainstream.

Second, we know that openness and increased levels of boundary permeability may allow for better and more frequent conversations about STIs and condom usage (Noar, Carlyle, & Cole, 2006). Previous recommended interventions include informing individuals of language usage and power redistribution, reducing stigma related to condoms, and education of risks (Fehr et al., 2015; Li et al., 2018). Indeed, a continued focus on each of these, while not novel, interventions could go far in obtaining increased levels of self-efficacy in both communicating about and buying/using condoms, more positive norms, and more positive attitudes, thereby, potentially influencing actions.

Limitations and Recommendations for Future Research

As with any study, particularly those that are cross-sectional, there are some limitations that must be acknowledged. Yet, these limitations allow for further, and more targeted, research in an important area of research: young adults' communication about condoms. First, while this study did purposefully include men as a part of the sample, the majority of participants were 1) heterosexual, and 2) Caucasian females. Purposefully expanding even further the participant pool would be useful in identifying precisely how individuals in non-heterosexual relationships discuss condoms with their romantic partners. Further, diversifying the participant population in regard to race would also be of great importance, as the Centers for Disease Control and Prevention (2015) have indicated that Caucasian women are at far less risk for contracting an STI than African-American or Hispanic/Latina women.

Second, the survey measures in this study did not specifically differentiate or state examples of condoms at any point in the survey. This was done so that participants could use their own knowledge base, yet this participant-specific knowledge was not measured. Female condoms, for example, have only recently become a focal point of some health campaigns. As such, some participants may not fully understand the options that are available to them, thereby potentially limiting self-efficacy or other constructs we attempted to measure. A future study could differentiate between male and female condoms in the survey instrument to allow for further detail in analysis.

References

- Afifi, T. D., Olson, L., & Armstrong, C. (2005). The chilling effect and family secrets: Examining the role of self protection, other protection, and communication efficacy. *Human Communication Research, 31*, 564–598. doi: 10.1111=j.1468-2958.2005.tb00883.x
- Afifi, T., & Steuber, K. (2009). The Revelation Risk Model (RRM): Factors that predict the revelation of secrets and the strategies used to reveal them. *Communication Monographs, 76*(2), 144-176. doi:10.1080/03637750902828412
- Afifi, W. A., & Weiner, J. L. (2006). Seeking information about sexual health: Applying the Theory of Motivated Information Management. *Human Communication Research, 32*(1), 35-57. doi:10.1111/j.1468-2958.2006.00002.x
- Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York: Irvington.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179–211. doi:10.1016/0749-5978 (91)90020-t
- Bandura A, (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2):191–215.
- Basen-Engquist, K., Masse, L. C., Coyle, K., Kirby, D., Parcel, G., Banspach, S., & Nodora, J. (1998). Sexual risk behavior beliefs and self-efficacy scales. In C. M. Davis, W. L. Yarber, R. Bauserman, G. Schreer, & S. L. Davis (Eds.), *Handbook of sexuality-related measures* (pp. 541–544). Thousand Oaks, CA: Sage.
- Boer, H., & Mashamba, M. T. (2005). Psychosocial correlates of HIV protection motivation

- among black adolescents in Venda, South Africa. *AIDS Education and Prevention*, 17, 590–602.
- Bowling, J., Dodge, B., Bindra, N., Dave, B., Sharma, R., Sundarraman, V., ... Herbenick, D. (2018). Female condom acceptability in urban India: Examining the role of sexual pleasure. *Journal of Health Psychology*, 23(2), 218–228. <https://doi-org.srv-proxy2.library.tamu.edu/10.1177/1359105317745963>
- Boudewyns, V., & Paquin, R. S. (2011). Intentions and beliefs about getting tested for STDs: Implications for communication interventions. *Health Communication*, 26(8), 701–711. doi:10.1080/10410236.2011.563353
- Broadus, M. R., & Dickson-Gomez, J. (2013). Text messaging for sexual communication and safety among African American young adults. *Qualitative Health Research*, 23(10), 1344–1353. doi:10.1177/1049732313505712
- Brockhage, K., & Phillips, K. E. (2016). (Re)Negotiating our relationship: How contradictions emerge in sibling privacy boundaries. *Southern Communication Journal*, 81(2), 79–91. doi:10.1080/1041794X.2015.1095231
- Brody, S. (2010). The relative health benefits of different sexual activities. *The Journal of Sexual Medicine*, 7, 1336–1361. doi:10.1111/j.1743-6109.2009.01677.x
- Brüll, P., Kessels, L. T. E., Repetto, L., Dirkson, A., & Ruiter, R. A. C. (2019). ERPs reveal disengagement processes related to condom use embarrassment in intention-behavior inconsistent young adults. *Archives of Sexual Behavior*, 48(2), 521–532. <https://doi-org.srv-proxy2.library.tamu.edu/10.1007/s10508-018-1217-4>
- Brummett, E. A., & Steuber, K. R. (2015). To reveal or conceal?: Privacy management processes

- among interracial romantic partners. *Western Journal Of Communication*, 79(1), 22-44.
doi:10.1080/10570314.2014.943417
- Byers, E. S. (2005). Relationship satisfaction and sexual satisfaction: A longitudinal study of individuals in long-term relationships. *Journal of Sex Research*, 42, 113–118.
doi:10.1080/00224490509552264
- Catania, J. A. (1998). Health protective sexual communication scale. In Davis C, Yarber W, Bauserman R, Davis S, (Eds.) *Handbook of Sexuality Measures*. Thousand Oaks, CA: Sage Publications, Inc. 544-547.
- Centers for Disease Control and Prevention. (2015). HIV among African Americans. Retrieved from <http://www.cdc.gov/hiv/group/raciaethnic/africanamericans/>:
- Centers for Disease Control and Prevention. (2014, December). CDC fact sheet: Reported STDs in the United States. Retrieved from <http://www.cdc.gov/nchhstp/newsroom/docs/std-trends-508.pdf>
- Centers for Disease Control and Prevention. (2013). Sexually Transmitted Disease Surveillance 2012. Atlanta, GA: US Department of Health and Human Services.
- Chandra, A., Martinez, G. M., Mosher, W. D., Abma, J. C., & Jones, J. (2005). Fertility, family planning, and reproductive health of U.S. women: Data from the 2002 National Survey of Family Growth. *Vital Health Statistics*, 23(25):1–160.
- Chatterjee, K. (2018). What can we learn about the female condom online? An analysis of visual representations of the female condom on the Internet. *Atlantic Journal Of Communication*, 26(3), 149-163. doi:10.1080/15456870.2018.1474217
- Chatterjee, K., & Markham Shaw, C. (2012). Media portrayals of the female condom. *Journal Of Health Communication*, 17(10), 1138-1150. doi:10.1080/10810730.2012.665423

- Child, J. T., Pearson, J. C. and Petronio, S. (2009). Blogging, communication, and privacy management: Development of the Blogging Privacy Management Measure. *J. Am. Soc. Inf. Sci.*, *60*: 2079–2094. doi:10.1002/asi.21122
- Cooke-Jackson, A. F., Orbe, M. P., Ricks, J., & Crosby, R. A. (2013). Relational, pleasure, and fear-associated aspects of condom use for disease prevention: A qualitative study of high risk African-American men. *Qualitative Research Reports in Communication*, *14*, 62–68. doi:10.1080/17459435.2013.835343
- Cooper, M. L., Agocha, V. B., & Powers, A. M. (1999). Motivations for condom use: Do pregnancy prevention goals undermine disease prevention among heterosexual young adults? *Health Psychology*, *18*(5), 464-474. doi:10.1037/0278-6133.18.5.464
- Denes, A., Afifi, T. D., & Granger, D. A. (2017). Physiology and pillow talk. *Journal Of Social & Personal Relationships*, *34*(3), 281-308. doi:10.1177/0265407516634470
- Eagly, A., & Chaiken, S. (1998). Attitude structure and function. Handbook of social psychology. Boston: McGraw Company.
- Edgar, T., (1992). A compliance-based approach to the study of condom use. In T. Edgar, M. A. Fitzpatrick, & V. A. Freimuth, (Eds.), *AIDS: A Communication Perspective* (pp. 47-67). Hillsdale, NJ: Lawrence Erlbaum.
- Elwood, W. N., Greene, K., & Carter, K. K. (2003). Gentleman don't speak: Communication norms and condom use in bathhouses. *Journal of Applied Communication Research*, *31*, 277–297. doi:10.1080/1369681032000132564
- Fehr, S. K., Vidourek, R. A., King, K. A., & Nabors, L. A. (2017). Perceived barriers and benefits of condom use among college students. *American Journal Of Health Studies*, *32*(4), 219-233.

- Fehr, S., Vidourek, R., & King, K. (2015). Intra- and inter-personal barriers to condom use among college students: A review of the literature. *Sexuality & Culture, 19*(1), 103-121. doi:10.1007/s12119-014-9249-y
- Fisher, T. D., Davis, C. M., Yarber, W. L., & Davis, S. L. (2010). *Handbook of Sexuality-Related Measures*. New York: Routledge.
- Frank, L. B., Chatterjee, J. S., Chaudhuri, S. T., Lapsansky, C., Bhanot, A., & Murphy, S. T. (2012). Conversation and compliance: Role of interpersonal discussion and social norms in public communication campaigns. *Journal Of Health Communication, 17*(9), 1050-1067. doi:10.1080/10810730.2012.665426
- French, S., & Holland, K. (2013). Condom negotiation strategies as a mediator of the relationship between self-efficacy and condom use. *Journal of Sex Research, 50*(1), 48–59. <https://doi-org.srv-proxy2.library.tamu.edu/10.1080/00224499.2011.626907>
- Fuzzell, L., Fedesco, H. N., Alexander, S. C., Fortenberry, J. D., & Shields, C. G. (2016). “I just think that doctors need to ask more questions”: Sexual minority and majority adolescents’ experiences talking about sexuality with healthcare providers. *Patient Education & Counseling, 99*(9), 1467–1472. <https://doi-org.srv-proxy1.library.tamu.edu/10.1016/j.pec.2016.06.004>
- Guan, M., Coles, V. B., Samp, J. A., Sales, J. M., DiClemente, R. J., & Monahan, J. L. (2016). Incorporating communication into the Theory of Planned Behavior to predict condom use among African American women. *Journal Of Health Communication, 21*(9), 1046-1054. doi:10.1080/10810730.2016.1204383
- Harvey, S. M., Washburn, I., Oakley, L., Warren, J., & Sanchez, D. (2017). Competing

- priorities: Partner-specific relationship characteristics and motives for condom use among at-risk young adults. *Journal Of Sex Research*, 54665-676.
doi:10.1080/00224499.2016.1182961
- Hernandez, R. (2018). Understanding sorority women's privacy management about condom use. *Qualitative Health Research*, 28(8), 1342-1353. doi:10.1177/1049732318766506
- Hocking, J., Turk, D., & Ellinger, A. (1999). The effects of partner insistence of condom usage on perceptions of the partner, the relationship, and the experience. *Journal of Adolescence*, 22, 355-367.
- Horan, S. M. (2016). Further understanding sexual communication: Honesty, deception, safety, and risk. *Journal of Social and Personal Relationships*, 33, 449-468.
doi:10.1177/0265407515578821
- Jain, P., Hoffman, E., Beam, M., & Shan (Susan), X. (2017). Effect of message format and content on attitude accessibility regarding sexually transmitted infections. *Health Communication*, 32(11), 1376-1384. doi:10.1080/10410236.2016.1222561
- Jones, K. A., Cornelius, M. D., Silverman, J. G., Tancredi, D. J., Decker, M. R., Haggerty, C. L., ... Miller, E. (2016). Abusive experiences and young women's sexual health outcomes: Is condom negotiation self-efficacy a mediator? *Perspectives on Sexual & Reproductive Health*, 48(2), 57-64. <https://doi-org.srv-proxy2.library.tamu.edu/10.1363/48e8616>
- Kanda, L., & Mash, R. (2018). Reasons for inconsistent condom use by young adults in Mahalapye, Botswana. *African Journal of Primary Health Care & Family Medicine*, 10(1). doi: 10.4102/phcfm.v10i1.1492
- Katz, A. R. (2014). Insights in public health: The hidden epidemic: Sexually transmitted diseases in 2014. *Hawai'i Journal of Medicine & Public Health*, 73(8), 265-267.

- Kennedy-Lightsey, C. D., Martin, M. M., Thompson, M., Himes, K. L., & Clingerman, B. Z. (2012). Communication Privacy Management Theory: Exploring coordination and ownership between friends. *Communication Quarterly, 60*(5), 665-680. doi:10.1080/01463373.2012.725004
- Le, T. N., & Kato, T. (2006). The role of peer, parent, and culture in risky sexual behavior for Cambodian and Lao/Mien adolescents. *Journal of Adolescent Health, 38*, 288–96.
- Lefkowitz, E., Boone, T. L., & Shearer, L. (2004). Communication with best friends about sex-related topics during emerging adulthood. *Journal of Youth and Adolescence, 33*, 339–351. doi:10.1023/B: JOYO.0000032642.27242.c1
- Li, H., Xue, L., Tucker, J. D., Wei, C., Durvasula, M., Hu, W., ... Ma, W. (2017). Condom use peer norms and self-efficacy as mediators between community engagement and condom use among Chinese men who have sex with men. *BMC Public Health, 17*, 1–8. <https://doi-org.srv-proxy2.library.tamu.edu/10.1186/s12889-017-4662-4>
- Logie, C. H., Lys, C. L., Okumu, M., & Fujioka, J. (2019). Exploring factors associated with condom use self-efficacy and condom use among Northern and Indigenous adolescent peer leaders in Northern Canada. *Vulnerable Children & Youth Studies, 14*(1), 50–62. <https://doi-org.srv-proxy2.library.tamu.edu/10.1080/17450128.2018.1554277>
- Mehra, D., Östergren, O., Ekman, B., & Agardh, A. (2014). Inconsistent condom use among Ugandan university students from a gender perspective: A cross-sectional study. *Global Health Action, 7*. doi: 10.3402/gha.v7.22942
- Muise, A., Giang, E., & Impett, E. A. (2014). Post sex affectionate exchanges promote sexual and relationship satisfaction. *Archives of Sexual Behavior, 43*, 1391–1402. doi:10.1007/s10508-014-0305-3

- Morris, L., Kouya, F., Kwalar, R., Pilapil, M., Saito, K., Palmer, N., Posada, R., Tih, P. M., Welty, T., & Jao, J. (2014). Factors associated with inconsistent condom use in adolescents with negative or unknown HIV status in Northwest Cameroon. *AIDS Care*, 26(11), 1440-1445. <http://dx.doi.org/10.1080/09540121.2014.920948>
- Noar, S. M., Carlyle, K., & Cole, C. (2006). Why communication is crucial: A meta-analysis of the relationship between safer sexual communication and condom use. *Journal of Health Communication*, 11, 365-390. doi:10.1080/10810730600671862
- Otto-Salaj, L. L., Traxel, N., Brondino, M. J., Reed, B., Gore-Felton, C., Kelly, J. A., & Stevenson, L. Y. (2010). Reactions of heterosexual African American men to women's condom negotiation strategies. *Journal of Sex Research*, 47(6), 539-551. doi:10.1080/00224490903216763
- Petronio, S. (1991). Communication boundary management: A theoretical model of managing disclosure of private information between married couples. *Communication Theory*, 1, 311-335. doi: 10.1111=j.1468-2885.1991.tb00023.x
- Petronio, S. (2000). *Balancing the secrets of private disclosures*. Mahwah, NJ: Erlbaum.
- Petronio, S. (2002). *Boundaries of privacy: Dialectics of disclosure*. Albany: State University of New York Press.
- Petronio, S. (2004). Road to developing Communication Privacy Management Theory: Narrative in progress, please stand by. *Journal of Family Communication*, 4, 193-207. doi: 10.1080= 15267431.2004.9670131
- Pitts, M. J., Stanley, S. J., & Kim, S. (2017). College males' enduring and novel health beliefs about the HPV vaccine. *Health Communication*, 32(8), 995-1003. doi:10.1080/10410236.2016.1196421

- Poglia Mileti, F., Mellini, L., Sulstarova, B., Villani, M., & Singy, P. (2019). Exploring barriers consistent condom use among sub-Saharan African young immigrants in Switzerland. *AIDS Care, 31*(1), 113–116. <https://doi-org.srv-proxy2.library.tamu.edu/10.1080/09540121.2018.1526371>
- Potard, C., Caballero, E., & Courtois, R. (2017). Determinants of condom use among adults: The role of preparatory behavioral strategies in the Theory of Planned Behavior. *Behavioral Psychology / Psicología Conductual, 25*(1), 111-128.
- Rauscher, E. A., & Durham, W. T. (2015). “As long as you're sure you don't want any more children”: Men's collective boundary coordination of information about their affirmative vasectomy decision. *Communication Studies, 66*(2), 186-203.
doi:10.1080/10510974.2014.930917
- Rittenour, C. E., & Booth-Butterfield, M. (2006). College students' sexual health: Investigating the role of peer communication. *Qualitative Research Reports In Communication, 7*(1), 57-65.
- Rouner, D., & Lindsey, R. (2006). Female adolescent communication about Sexually Transmitted Diseases. *Health Communication, 19*(1), 29-38.
- Sacco, W. P., Rickman, R. L., Thompson, K., Levine, B., & Reed, D. L. (1993). Gender differences in AIDS relevant condom attitudes and condom use. *AIDS Education Prevention, 5*, 311-326.
- Satcher, D., Hook, E. W., & Coleman, E. (2015). Sexual health in America: Improving patient care and public health. *Journal of the American Medical Association, 314*, 765–766. doi:10.1001/jama.2015.6831
- Shih, S. L., Kebodeaux, C. A., Secura, G. M., Allsworth, J. E., Madden, T., & Peipert, J. F.

- (2011). Baseline correlates of inconsistent and incorrect condom use among sexually active women in the Contraceptive CHOICE Project. *Sex Transm Dis*, 38(11), 1012-1019. doi: 10.1097/OLQ.0b013e318225f8c3
- Warren, J. T., Harvey, S. M., & Agnew, C. R. (2012). One love: Explicit monogamy agreements among heterosexual young adult couples at increased risk of sexually transmitted infections. *Journal of Sex Research*, 49(2-3), 282-289.
doi:10.1080/00224499.2010.541952
- Williams, M., Bowen, A., Ross, M., Timpson, S., Pallonen, U., & Amos, C. (2008). An investigation of a personal norm of condom-use responsibility among African American crack cocaine smokers. *AIDS Care*, 20(2), 218– 227. doi:10.1080/09540120701561288
- Wright, K. B., Frey, L., & Sopory, F. (2007). Willingness to communicate about health as an underlying trait of patient self-advocacy: The development of the willingness to communicate about health (WTCH) measure. *Communication Studies*, 58(1), 35–51.
doi:10.1080/10510970601168673
- Yang, J. Z., & Pittman, M. M. (2017). The silver lining of shame: Framing HPV to influence vaccination intentions. *Journal of Health Communication*, 32(8), 987-994.
doi:10.1080/10410236.2016.1196420

Table 1

Descriptive Statistics and Intercorrelations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. ACU	5.36	1.46	--								
2. NCU	4.69	1.55	.40***	--							
3. SECM	5.99	1.08	.39***	.25***	--						
4. SECU	5.66	1.26	.17***	.14**	.40***	--					
5. BCU	4.58	1.99	.15**	.09	-.02	-.32***	--				
6. BP	5.93	1.07	.21***	.11*	.40***	.28***	.03	--			
7. BO	4.65	1.33	-.05	-.09	.08	.07	-.16**	.34***	--		
8. WTCH	4.70	.97	.10	.14**	.26**	.23**	-.17**	.27**	.14**	--	
9. HPSC	2.45	.80	.19***	.09	.20***	.21***	-.02	.22***	-.06	.20***	--

Note: ACU = attitudes about condom use; NCU = norms about condom use; SECM = self-efficacy for communicating about condom use; SECU = self-efficacy for buying and using condoms; BCU = barriers to condom use; BP = boundary permeability; BO = boundary ownership; WTCH = willingness to communicate about health; HPSC = health protective sexual communication

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2

Summary of Regression Analysis for H1

Boundary Permeability

Variable	<i>B</i>	SE <i>B</i>	β	<i>t</i>
Age	-.002	.00	-.17***	-3.718
Sex	.29	.13	.11*	2.263
STI Test Status	-.04	.12	-.02	-.359
Ethnicity	.08	.05	.07	1.538
Current Relationship Status	-.16	.05	-.15**	-3.207
ACU	.02	.04	.03	.609
NCU	-.03	.03	-.04	-.766
SECM	.22	.05	.23***	4.116
SECU	.13	.05	.16**	2.920
BCU	.04	.03	.08	1.655
WTCH	.18	.05	.16**	3.389
HPSC	.11	.06	.08	1.707

Note: ACU = attitudes about condom use; NCU = norms about condom use; SECM = self-efficacy for communicating about condom use; SECU = self-efficacy for buying and using condoms; BCU = barriers to condom use; WTCH = willingness to communicate about health; HPSC = health protective sexual communication

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3

Summary of Regression Analysis for H2

Boundary Ownership

Variable	<i>B</i>	SE <i>B</i>	β	<i>t</i>
Sex	.61	.17	.18**	3.490
STI Test Status	.26	.16	.08	1.647
Ethnicity	.11	.07	.08	1.570
Current Relationship Status	-.28	.07	-.20***	-4.064
ACU	-.04	.05	-.05	-.798
NCU	-.08	.05	-.09	-1.688
SECM	.01	.07	.01	.152
SECU	.05	.06	.05	.837
BCU	-.11	.04	-.16**	-2.885
WTCH	.15	.07	.11*	2.101
HPSC	-.21	.09	-.13*	-2.449

Note: ACU = attitudes about condom use; NCU = norms about condom use; SECM = self-efficacy for communicating about condom use; SECU = self-efficacy for buying and using condoms; BCU = barriers to condom use; WTCH = willingness to communicate about health; HPSC = health protective sexual communication

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.