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Incorporating Communication into the Theory of Planned Behavior to Predict Condom Use Among African American Women

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Abstract

The present research extends the Theory of Planned Behavior (TPB) to investigate how communication-related variables influence condom use intention and behavior among African American women. According to the TPB, attitudes, subjective norms, and self-efficacy are associated with behavioral intent, which predicts behavior. For women, it was argued that condom *negotiation* self-efficacy was more important than condom *use* self-efficacy in predicting consistent condom use. Moreover, an important environmental factor that affects condom use for African American women is fear or worry when negotiating condom use because the sex partners might leave, threaten, or abuse them. Fears associated with negotiating condom use were predicted to be negatively associated with attitudes, subjective norms, and self-efficacy. African American women ($N = 560$; $M age = 20.58$) completed assessments of TPB variables at baseline and condom use three months later. Condom negotiation self-efficacy was a significant indicator of behavioral intent while condom use self-efficacy was not. Fear of condom negotiation was negatively associated with all TPB components, which was in turn significantly associated with behavioral intent and condom use. Implications for the TPB, safer sex literature, and STI prevention intervention design are discussed.

African American women continue to be disproportionately affected by sexually transmitted diseases. In the US, the most recent updates from the Centers for Disease Control and Prevention (CDC, 2015) reported that the proportion of African American women with HIV infections was 20 times that of white women and almost five times that of Hispanic/Latina women. Similarly, the rate of reported case of chlamydia, gonorrhea, and syphilis among African American women were 5.8, 12, and 15 times the rate among white women respectively (CDC, 2013). Notably, one of the risky activities that are associated with both HIV and STIs is having sex without a condom, and one of the effective approaches for HIV and STI prevention is to use condoms consistently and correctly (CDC, 2014). Several prevention interventions have been developed to counteract the relatively higher STI/HIV rates among African American women (e.g., Choi et al., 2008; DiClemente et al., 2009;

Jemmott, Jemmott, & O'Leary, 2007). Key elements in these STI/HIV prevention interventions included promoting positive attitudes toward condom use, increasing condom use self-efficacy, reducing barriers to condom use, improving condom use skills, and enhancing condom use intentions. Thus, many concepts emphasized in sexual risk reduction interventions are found in the theory of planned behavior (TPB).

The TPB identifies attitudes, subjective norms, and perceived behavioral control (or self-efficacy) as three indicators of behavioral intention which, in turn, predicts behavior (Ajzen, 1991, 2002). The theory has been used to study condom use across a wide array of populations (e.g., Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Protogerou, Flisher, Wild, & Aarø, 2013). While attitudes and subjective norms are typically positive indicators of condom use, findings for perceived behavioral control have been mixed. Perceived behavioral control is typically measured as individuals' perceived ease or difficulty of using a condom (i.e., condom *use* self-efficacy). Yet, we shall argue that for women it is better conceived of as condom *negotiation* self-efficacy, as the actualization of male condom use requires a male partner's consent. Thus, the first goal of this paper is to provide a rationale for measuring perceived behavioral control as a communication-based self-efficacy, and the second goal is to then compare two TPB models with different self-efficacy measures (condom use vs. condom negotiation).

The TPB assumes that attitude, subjective norms, and self-efficacy predict behavioral intentions and, thus, that other demographic and/or environmental factors operate via attitudes, subjective norms, and self-efficacy. An important environmental factor that influences condom use for African American women is fear or worry when negotiating condom use because the sex partners might leave, threaten, or abuse them (Salazar et al., 2004). While anticipated negative reactions from a partner may inhibit one's willingness to negotiate condom use, such fears may be especially relevant for African American women given there are fewer male partners available (Newsome & Airhihenbuwa, 2012), resulting in power differentials that affect sexual decision-making (Amaro & Raj, 2000; Wingood & DiClemente, 2000). While such fears are not typically examined with the TPB, we propose that fears associated with condom negotiation will be negatively associated with attitudes, subjective norms, and self-efficacy. Figure 1 presents the hypothesized model.

The Theory of Planned Behavior Approach to Condom Use

From a cognitive self-regulation perspective, the TPB proposes that the intention to engage in a behavior predicts the likelihood of its performance (Ajzen, 1991). Attitudes toward the behavior, subjective norms, and perceived behavioral control or self-efficacy are three indicators influencing the formation of behavioral intention, which is in turn assumed to be the antecedent of behavior (Ajzen, 1991, 2002).

Within the context of condom use, attitude refers to the degree to which an individual has a favorable evaluation of using condoms. Prior research has indicated that African American women's positive attitude toward condoms is a significant indicator of condom use intention (Williams et al., 2008) and greater consistency of condom use (Robinson, Scheltema, & Cherry, 2005). Subjective norms pertain to the perceived social pressure to use or not to use

condoms. Positive subjective norms are associated with greater intention to use condoms among African American women, with important referents including friends (Wise, Goggin, Gerkovich, Metcalf, & Kennedy, 2006), sexual partners, and parents (Williams et al., 2008; Wise et al., 2006).

Perceived behavioral control is a significant indicator for situations where a behavior is under volitional control (Ajzen & Madden, 1986). In the context of condom use, it refers to an individual's perception of the ease or difficulty of using condoms, and is often conceptualized consistent with Bandura's (1977) concept of perceived self-efficacy. The literature for self-efficacy predicting condom use is mixed. Several studies observed a positive association (e.g., Burns & Dillon, 2005; Williams et al., 2008), whereas others did not find a significant relationship (e.g., Crosby et al., 2013; Sales et al., 2012).

Part of the problem may be a lack of clarity on what is measured for perceived behavioral control or self-efficacy, with some studies measuring probability and difficulty of using condoms (e.g., Protopogerou et al., 2013; Reinecke, Schmidt, & Ajzen, 1996) and others measuring the power to negotiate condom use (e.g., Burns & Dillon, 2005; Wise et al., 2006). The TPB suggests that condom *use* self-efficacy is the appropriate measure of perceived behavioral control as the target behavior is to use condoms (Ajzen & Madden, 1986). An emphasis on condom use self-efficacy makes sense to the degree that using condoms is under one's personal control, a situation typically true for men. However, for women, using a male condom requires the consent of a male partner. In particular, Ajzen and Madden (1986) noted that both internal (i.e., skills at performing the behavior) and external (i.e., opportunities) aspects of perceived control interfered with behavioral intention. An important external aspect is "dependence of the behavior on the cooperation of other people" (p. 456). As condom use is a dyadic rather than an individual behavior and the actual communication plays a vital role in this context, women's condom use self-efficacy captures only part of the TPB—the perceptions of internal control—whereas the ability to negotiate condom use captures the perceptions of external control. Moreover, given that a woman must persuade a male partner to use a condom if he is not initially inclined to do so, it is likely that an assessment of external control (i.e., negotiating condoms) may be more relevant to behavioral intent than internal control (i.e., using condoms) for women.

Support for this argument can be found in non-TPB research which found condom *negotiation* self-efficacy was a significant indicator for consistent use of condoms among high-risk young African American women, but condom *use* self-efficacy was non-significant (Crosby et al., 2013). For example, although an HIV prevention intervention increased self-efficacy to use condoms for African American women, condom use self-efficacy was not significantly associated with condom use post-intervention (Crosby et al., 2013; Sales et al., 2012). In addition, a meta-analysis observed that communication about condom use (i.e., discussion about condom use with a sexual partner, $r = .46$) had a larger effect size for condom use than condom use self-efficacy (i.e., confidence in one's ability to use a condom during sex, $r = .25$; (Sheeran, Abraham, & Orbell, 1999).

In summary, a woman's desire to use condoms means she must negotiate its use with a male partner; thus, we hypothesize condom negotiation self-efficacy is a better indicator of

behavioral intention than condom use self-efficacy. To test this prediction, we compare models of the TPB and first test the model with condom *use* self-efficacy (see Figure 2):

H1: African American women's attitudes toward condom use (H1a), subjective norms about condom use (H1b), and condom use self-efficacy (H1c) are positively associated with condom use intention.

As behavior intent should predict subsequent behavior:

H2: Condom use intention positively predicts subsequent consistent condom use.

The model proposed in H1 is compared with a model where condom negotiation self-efficacy serves as the indicator (see Figure 3):

H3: Condom negotiation self-efficacy is positively associated with condom use intention.

H4: A TPB model with condom *negotiation* self-efficacy will better fit the data than a TPB model with condom *use* self-efficacy.

Fears Associated with Condom Negotiation

The anticipated reactions from one's partner may influence one's willingness to use condoms. Fears associated with condom negotiation describes the frequency in which one feels fear or worry when negotiating the use of condoms as the sex partner might leave the woman, threaten, or abuse her (Salazar et al., 2004). Fishbein (2000) argued that understanding the factors that are specific to the behavior within an investigated population is important, as demographic and individual difference variables may be associated with behaviors indirectly through theoretical constructs in the TPB model. Indeed, creating interventions to encourage safer sex practices among African American women requires the understanding of cultural, relational, and gender-specific factors that influenced their sexual decision-making process (Wingood & DiClemente, 1998a).

Wingood and DiClemente (1998a) successfully employed the theory of gender and power (Connell, 1987) to explicate African American women's sexual decision-making. The theory of gender and power consists of three integrated structures. First, *sexual division of labor* indicates that when women are economically constrained, they tend to tolerate risky sexual behavior imposed by their male partners, and consequently have a high probability of not using condoms. Second, *sexual division of power* indicates that when women are involved in a power-imbalanced relationship where male wields the power while female lacks it due to imbalanced sex ratios, they have little self-control over condom use and tend to not use condoms (Ferguson, Quinn, Eng, & Sandelowski, 2006). Third, *the structure of cathexis* indicates that social norms govern women's sexual behaviors. Notably, women who believe negotiating safer sex implies unfaithfulness of either partner and undermines the trust and intimacy in their relationships tend to fail to negotiate safer sex (Wingood, Hunter-Gamble, & DiClemente, 1993).

Overall, the theory of gender and power indicates that women who choose to not use condoms may be more dependent financially, psychologically, and/or socially on a male

partner and thus are afraid of losing their partners or ending the relationships. In addition, dependence on a relationship is greater when an individual perceives lack of alternatives (Rusbult, Martz, & Agnew, 1998), which may be especially true for African American women where there are typically fewer male partners available (Newsome & Airhihenbuwa, 2012). Individuals low in dependence power are more likely to discount a partner's problematic behaviors and avoid discussing the partner's actions (Samp, 2001; Samp & Solomon, 1998). In other words, African American women in power-imbalanced relationships may fear negotiating condom use and thus tolerate high-risk sexual behaviors. Research supporting the theory of gender and power finds, for example, that African American women in physically abusive relationships are less likely to negotiate condom use or use condoms (Wingood & DiClemente, 1997).

Prior research observed a negative relationship between fear of condom negotiation and condom use intention for African American women (Crosby et al., 2013). Moreover, fear of negotiating condom use was correlated with infrequent communication, which was, in turn, significantly associated with lower proportion of condom use (Crosby et al., 2002). However, prior research has not examined the role of fear of condom negotiation in the TPB; we propose such fear undermines the three indicators of condom use intention.

Attitudes are not static as attitudes depend on contextual and situational influences (Petty & Cacioppo, 1996). When women are afraid of talking about condom use with their sexual partners due to the worry that their partners may leave the relationship, it suggests they believe maintaining the relationship with the current partner overweighs using a condom during sexual intercourse. In this case, a situation of cognitive dissonance (i.e., between maintaining the relationship and using condoms) may occur. A way to reduce such dissonance is to justify the behavior by disparaging or denying the information that counters to the existing behavior (Festinger, 1957). Therefore, women who prefer maintaining the relationship may be more likely to have a negative attitude towards using condoms during intercourse or adjust their attitude as a function of their fear of losing a partner: for example, it may be acceptable to have unprotected sex without using a condom as long as the partner is not leaving.

H5a: Higher level of fear of condom negotiation is associated with negative attitudes toward condom use.

In addition, emotion theories suggest that fear motivates people to protect themselves from a threat (Frijda, 1986; Lazarus, 1991). The threat can be dealt with by two coping approaches (Lazarus & Folkman, 1984). One approach is problem-focused coping whereby individuals engage in adaptive behaviors such as taking protective actions to mitigate fear. The other approach is emotion-focused coping whereby individuals engage in maladaptive behaviors through a defensive mechanism such as reframing or denial. In the case of fear of negotiating condom use with sexual partners, African American women may engage in emotion-focused coping to avoid fear, as the problem-focused coping may result in relationship termination. Therefore, through a defensive mechanism, to reduce fear one may be more likely to interact with women who have similar fear or consider using condoms as unnecessary, and less likely to talk with women who support using condoms. Through such

selective exposure and interaction with similar others, a biased perception that the peers do not think using condoms are necessary may be potentially formed.

H5b: Higher level of fear of condom negotiation is associated with less likelihood of perceiving subjective norms as having sex with condoms.

Finally, when individuals are afraid of talking about condom use, we suggest they may perceive more difficulties and challenges when negotiating condom use with sexual partners. Thus, the following hypotheses are proposed:

H5c: Higher level of fear of condom negotiation is associated with lower level of condom negotiation self-efficacy.

Method

This paper is an analysis of a primary dataset, as part of a comparative efficacy trial of an intervention to reduce alcohol-related sexual risk among young, African American women¹. All measures were assessed at baseline with the exception of the dependent measure, consistent condom use, which was measured three months post baseline.

Participants

Participants ($N = 560$) were African American women, aged 18 to 24 years old ($M = 20.58$, $SD = 1.89$), recruited from various social locations throughout the Atlanta, GA area (e.g., malls, clubs, bars), work placement programs, and by referral from study participants. Criteria for inclusions were: self-identified as a Black or African American female, consumed three or more alcoholic drinks in the past 90 days, not currently pregnant or married, and had unprotected vaginal or anal sex with a male within the past 90 days. Participants received monetary compensation for completing assessments at baseline and at three months post baseline.

Procedures

Participants were recruited from March 2012 to February 2014. Participants completed an audio computer assisted self-interview (ACASI) survey providing information on demographics, alcohol and drug use, personality and sexual risk behavior. The ACASI survey, scheduled at a local Atlanta university, on average took participants 90 minutes to complete. The TPB measures, fears associated with condom negotiation and covariates were assessed at baseline. Three months later participants returned to the same facility and completed the ACASI measures again; condom use was assessed at this time.

Measures

Attitudes toward condom use—St. Lawrence and colleagues' (1994) 3-item condom attitude scale was used to measure attitudes toward condom use. Responses ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). A sample item is "A condom is not necessary if you know your partners." (reverse-coded; $M = 4.25$, $SD = 1.46$, $\alpha = .81$).

¹Information about the NLITEN intervention can be found in Kollar et al. (in press).

Subjective norms about condom use—Subjective norms were assessed from a self-developed scale, which examines peer norms for a variety of risky sexual behaviors. Peers are important referents in supporting or opposing condom use, as studies have shown that peer influences exert a particularly strong influence over sexual activity among African Americans (Romer et al., 1994; Stanton et al., 2002). Two items in the scale (“How many of your friends think that: It’s okay to have vaginal or anal sex without a condom?” and “How many of your friends think that: You don’t have to use a condom with someone you know well?”) specifically tap into condom use. However, the two items did not correlate highly ($\alpha = .59$). Thus, as the measure of subjective norms, we kept the first, more general assessment. Responses were on a 5-point scale (*none* to *all*, reverse-coded; $M = 3.92$, $SD = 1.11$).

Condom use self-efficacy—Wingood and DiClemente’s (1998b) 9-item scale of condom use skills was used to measure condom use self-efficacy. Responses ranged from 1 (*none*) to 5 (*a lot*). An example item is “How much of a problem would it be for you to unroll a condom down correctly on first try?” (reverse-coded; $M = 4.20$, $SD = .83$, $\alpha = .87$).

Condom negotiation self-efficacy—Three items from Wingood and DiClemente’s (1998b) partner communication self-efficacy scale assessed condom negotiation self-efficacy. The original 6-item scale measures self-efficacy of communicating about sex in general; however, three of the items specifically focus on the negotiation self-efficacy about condom use. Responses ranged from 1 (*very hard*) to 4 (*very easy*). A sample item is “How hard is it for you to ask if he would use a condom?” ($M = 3.23$, $SD = .82$, $\alpha = .87$).

Fears associated with condom negotiation—Wingood and DiClemente’s (1997) 7-item scale measured fear of condom negotiation. Responses ranged from 1 (*never*) to 5 (*always*). An example item is “I have been worried that if I talked about using condoms with my boyfriend or sex partner he would threaten to leave me.” ($M = 1.29$, $SD = .63$, $\alpha = .90$).

Condom use intention—Bryan, Rocheleau, Robbins, and Hutchison’s (2005) safer sex intention scale was used to measure condom use intention. Responses ranged from 1 (*will not happen*) to 4 (*will definitely happen*). A sample item is “How likely is it that you will use a condom every time you have sexual intercourse in the next three months?” ($M = 2.75$, $SD = .90$, $\alpha = .84$).

Proportion of condom use—Proportion of condom-protected sex acts was measured three months later and was calculated as the number of times a condom was used during intercourse in the past three months divided by the total number of intercourse occasions. The range is from 0% (never used a condom during intercourse) to 100% (used a condom each time during intercourse; $M = .56$, $SD = .40$).

Covariates—Participants’ age, education level (8th grade or less = 5, some high school = 172, graduated high school = 229, some college = 127, graduated college = 11, other = 16), and whether or not the participants had sex with a risky partner in the past three months (No = 456; Yes = 104) were included as covariates. As condom use was assessed post-intervention, intervention condition was dummy-coded and included as a covariate.

Results

Testing Two Versions of the TPB

Table 1 presents the bivariate relationships. The hypothesized models were tested using *Mplus* version 7.0 (Muthén & Muthén, 1998–2012) with maximum likelihood estimation. The SEM models were tested controlling for the covariates; the only significant covariate was intervention condition.

For the condom *use* self-efficacy model found in Figure 2, results indicated a good model fit, $\chi^2(11) = 18.81, p = .06$; CFI = .97; RMSEA = .04, (.00, .06); SRMR = .02. Condom use intention was significantly associated with attitudes ($\beta = .40, p < .001$) and subjective norms ($\beta = .15, p < .01$), but not with condom use self-efficacy ($\beta = .07, p = .18$). Thus, H1a and H1b were supported while H1c was not. Supporting H2, proportion of condom use three months later was positively predicted by condom use intention at baseline ($\beta = .34, p < .001$).

In Figure 3, the same model was tested, this time substituting condom negotiation self-efficacy for condom use self-efficacy. Results indicated a good model fit, $\chi^2(11) = 10.48, p = .49$; CFI = 1.00; RMSEA = .00, (.00, .04); SRMR = .02. Condom use intention was significantly associated with attitudes toward condom use ($\beta = .35, p < .001$), and subjective norms supporting condom use ($\beta = .14, p < .01$). Notably, condom negotiation self-efficacy was also positively associated with behavioral intent ($\beta = .18, p < .001$), supporting H3. H4 predicts that the TPB model with condom *negotiation* self-efficacy would outperform the condom *use* self-efficacy model. Fit indices for both models reflect good model fit, evidence suggesting neither model is significantly better at fitting the data; yet, only the model with condom negotiation self-efficacy had a significant path from self-efficacy to behavioral intention.

Testing the Effect of Fear of Condom Negotiation

To investigate the role of fear of condom negotiation in the TPB, the model in Figure 4 was tested. Results indicated a good model fit, $\chi^2(15) = 12.73, p = .62$; CFI = 1.00; RMSEA = .00, (.00, .03); SRMR = .02. Fear of condom negotiation was negatively associated with attitudes toward condom use ($\beta = -.24, p < .001$), subjective norms supporting condom use ($\beta = -.19, p < .001$), and condom negotiation self-efficacy ($\beta = -.54, p < .001$). Thus, H5a-c were supported².

Discussion

Extant research employing the theory of planned behavior (TPB) to explain condom use has yielded mixed results for perceived behavioral control as an indicator of condom use intention and condom use. This research sought to shed light on the role of communication in facilitating or inhibiting individuals' condom use among African American women. Consistent with the argument that communication should be a more important and relevant

²Fear of condom negotiation was also a significant predictor of condom *use* self-efficacy ($\beta = -.34, p < .001$) when testing the TPB model using condom use self-efficacy rather than condom negotiation self-efficacy.

determinant of condom use for women, self-efficacy of the communication behavior (i.e., condom negotiation) was significant associated with behavioral intent, whereas self-efficacy of the performance behavior (i.e., condom use) was not. In addition, fear associated with negotiating condom use was significantly associated with all three indicators of behavioral intent in the TPB, which in turn predicted condom use three months later. Thus, results provide important evidence for the effect of communication on women's condom use within the TPB.

Condom Negotiation Self-Efficacy

By incorporating communicative factors into the model, findings expand the scope of the TPB. Health protective behaviors sometimes require the aid or consent of another person, hence emphasizing the need for effective communication. For women, condom use is an example of a health protective behavior that is likely to require strong communication self-efficacy, since women must gain the male's consent if she is the person who wants to use a condom during sex. A meta-analysis of the relationship between sexual communication and condom use suggests that theories that do not take into account the dyadic aspect may be missing an important determinant of safer sexual behavior (Noar, Carlyle, & Cole, 2006). Given this, condom use research employing the TPB may not fully investigate the underlying mechanism of why some people consistently use condoms while other do not, unless communication-related variables are taken into account. In support of this argument, in a test of the TPB model predicting consistent use of condoms, condom *negotiation* self-efficacy was a significant indicator while condom *use* self-efficacy was not associated with behavioral intent. From the female perspective, communication is an essential process for initiating the behavior of using condoms, as it is males, rather than females, that actually wear these condoms. Thus, it may be that condom use self-efficacy is the more important indicator for men while condom negotiation self-efficacy is more crucial for women. Future research might test this argument with a mixed-gender sample.

Fear associated with Condom Negotiation

While prior research has employed the TPB to examine condom use, underlying factors that may influence indicators of condom use (i.e., attitude, subjective norms, self-efficacy) have rarely been studied while testing the full TPB. Drawing on the theory of gender and power, fears associated with condom negotiation were expected to be an important factor affecting these indicators of behavioral intent for African American women. In support of this argument, fear associated with condom negotiation was negatively associated with attitudes towards using condoms during sex, perceived peer subjective norms, condom negotiation self-efficacy (and also condom use self-efficacy, see Endnote 2).

These findings suggest that it is important that we explore root causes or underlying factors—such as fears associated with negotiating condom use with partners—that influence attitudes, subjective norms and perceptions of behavioral control. Prior work has shown that many African American women are either financially or psychologically dependent on their male partners due in part to sex ratio imbalances, such that they are afraid of losing their partners as a result of negotiating condom use with them (El-Bassel, Caldeira, Ruglass, & Gilbert, 2008; Mize, Robinson, Bocking, & Scheltema, 2002). In other words, the fear of

negotiating condom use for many African American women indicates that maintaining the current relationship overweigh using a condom during sexual intercourse.

Condom use involves the appraisal of anticipated outcomes (e.g. rejection, threat, or abuse) when bringing up the topic, such that the valence of anticipated consequences may influence individuals' willingness to talk about condom use with their sexual partners. More importantly, past behavioral experience may influence the present behavioral intention, as behavioral responses are the product of reinforcement (Kazdin, 2008). As suggested by the notion of reinforcement, a particular behavior increases when an aversive event is removed (i.e., negative reinforcement) or a desirable event is presented (i.e., positive reinforcement; Flora, 2004). As such, for women who were previously threatened, abused, or had negative experiences as a result of negotiating condom use with sexual partners, they may acquiesce to have sex without condoms so that they could avoid further threat or abuse and assure relationship maintenance.

Implications for Intervention Design

Apart from the theoretical implications mentioned above, the findings of present research lead to important practical implications for STI/HIV prevention interventions. First, the results for condom negotiation self-efficacy suggest that it may be important to include male partners in STI/HIV prevention intervention. Some scholars have argued that engaging couples in educational sessions in HIV prevention would equip both women and men with essential information about mutually protecting each other (El-Bassel et al., 2008), and relieve pressures on women to demand or persuade their partners to wear condoms (El-Bassel et al., 2005). Having couples collaboratively acquire knowledge on prevention against STI/HIV may increase relationship quality (e.g., trust, intimacy, and commitment), reduce gender and power imbalance, enhance communication skills, and provide safe opportunities for mutual disclosure about the past experiences in STIs and the current needs of using condoms (Mintz, 1994).

Second, future studies that examine different factors that cause fear would be insightful. Childhood sexual abuse, posttraumatic stress disorder, or substance abuse may impair individuals' decisions about condom negotiation and condom use, and increase the likelihood of engaging in risky sexual behaviors (Cohen et al., 2000; Plotzker, Metzger, & Holmes, 2007). Assessing individuals' past sexual, physical, and psychological experiences would help health communication intervention scholars craft interventions that are relevant to the concerns of a target population.

Finally, the negative association between fear of condom negotiation and condom use intention indicators suggests a need for interventions to incorporate self-esteem building, as research has shown that self-esteem can at least partially mitigate such fears. For example, African American female adolescents who were higher in self-esteem were less fearful of negotiating condom use, more likely to hold positive condom attitudes, and felt more efficacious in negotiating condom use (Salazar et al., 2005). As self-esteem may play a critical role in sexual risk reduction, interventions may include programs designed to enhance self-esteem and ultimately increase competencies related to safer sex among

African American women and more confidence in negotiating condom use (Salazar et al., 2005).

Limitations

The present research has several limitations. First, the sample only included African American women from Atlanta, Georgia and thus findings may not replicate with samples from other geographical locations or other racial communities. Second, while compensation for participation would encourage responses, it may potentially affect the reporting. Third, although African American women are disproportionately affected by STIs and HIV infections, it would be fruitful to investigate their sexual partners in terms of the issues of condom use attitudes, subjective norms, and negotiation self-efficacy as well as issues of gender inequalities and power imbalances. As articulated earlier that condom use is a dyadic and communicative behavior, the other half of the picture and the voices from African American men would provide scholars with more comprehensive understanding of the motivator or inhibitor of safer sex behaviors.

Fourth, while this study showed interesting finding regarding condom negotiation and condom use self-efficacy, we are not able to make any statistical comparison of the first two models as the two indicators are qualitatively different variables. Finally, not all measures were ideal. Specifically, only two items were available to measure subjective norms about condom use, and as these items did not correlate highly, a single-item predictor was used. Moreover, while past research found the influence of parents and sexual partners are not as strong as that of peers (e.g., Stanton et al., 2002), future research might include various referents and compare the potentially different impacts on African American women's condom use intention.

Conclusion

The present research investigated the role of communication in the TPB to influence condom use intention and subsequent behavior. Findings provided good evidence for the influence of communication variables on women's condom use. First, condom negotiation self-efficacy, rather than condom use self-efficacy, was a strong indicator. Second, fear associated with condom negotiation was negatively associated with condom use intention indicators. The findings might have important implications for the TPB, safer sex literature, as well as STI/HIV prevention intervention design.

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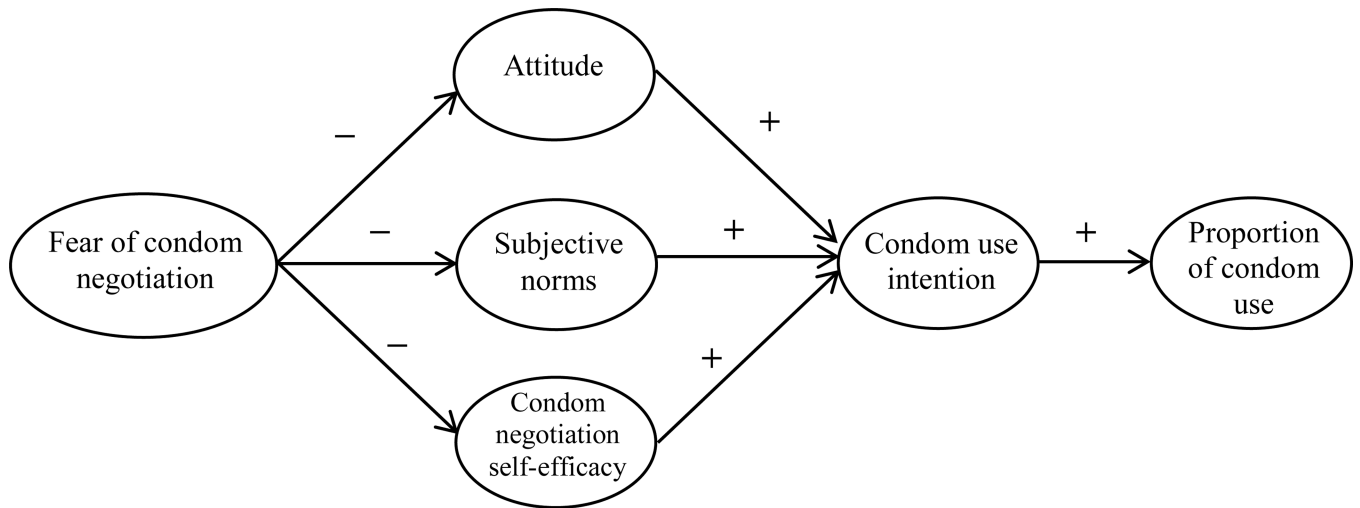


Figure 1.
Hypothesized model.

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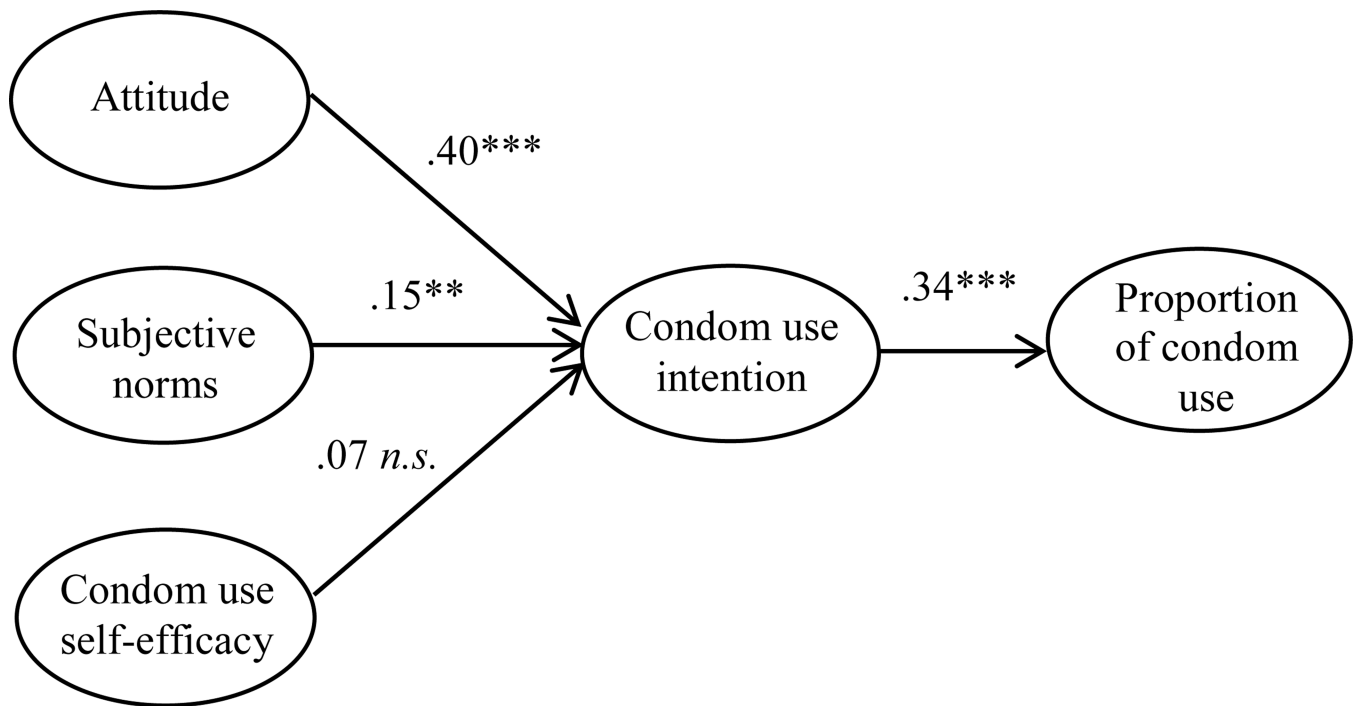


Figure 2. The original TPB model. $\chi^2(11) = 18.81, p = .06$; CFI = .97; RMSEA = .04, (.00, .06); SRMR = .02. * $p < .05$, ** $p < .01$, *** $p < .001$. Proportion of condom use was measured 3 months later.

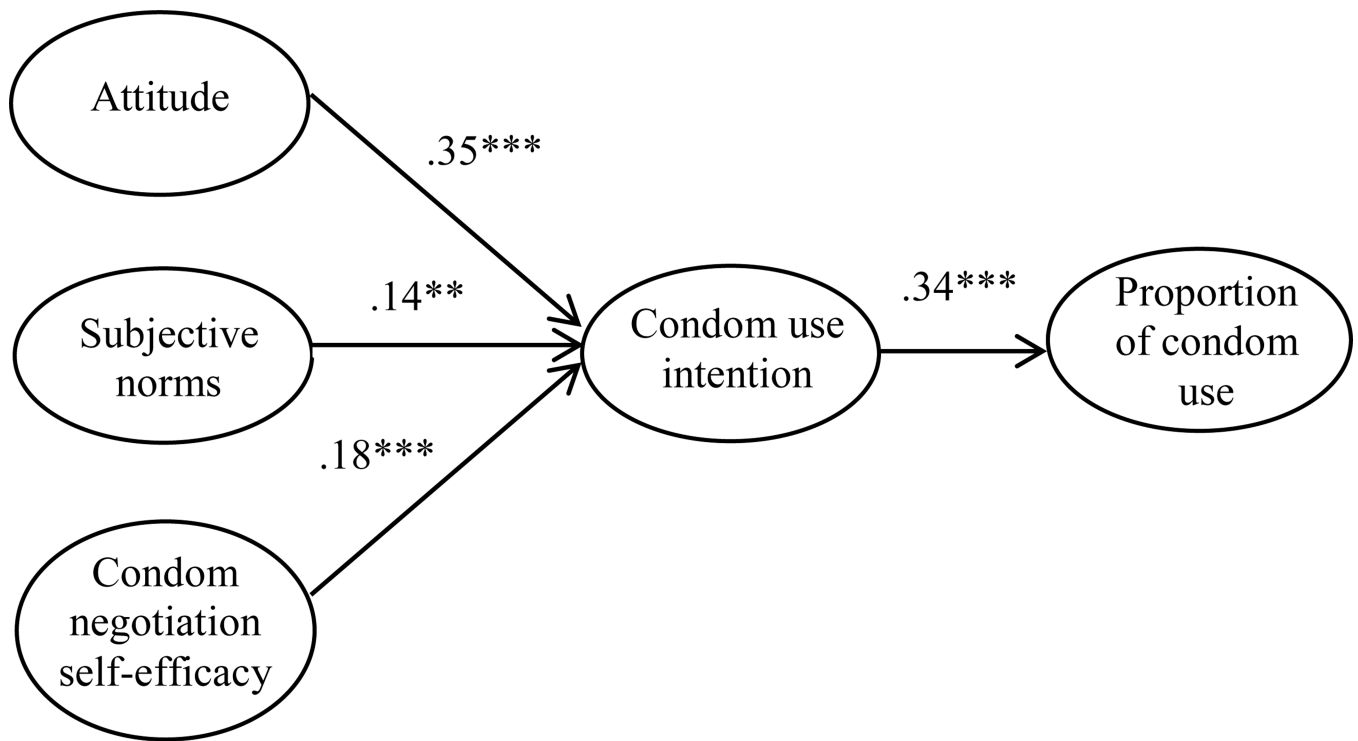


Figure 3. The revised TPB model. $\chi^2 (11) = 10.48, p = .49$; CFI = 1.00; RMSEA = .00, (.00, .04); SRMR = .02. * $p < .05$, ** $p < .01$, *** $p < .001$. Proportion of condom use was measured 3 months later.

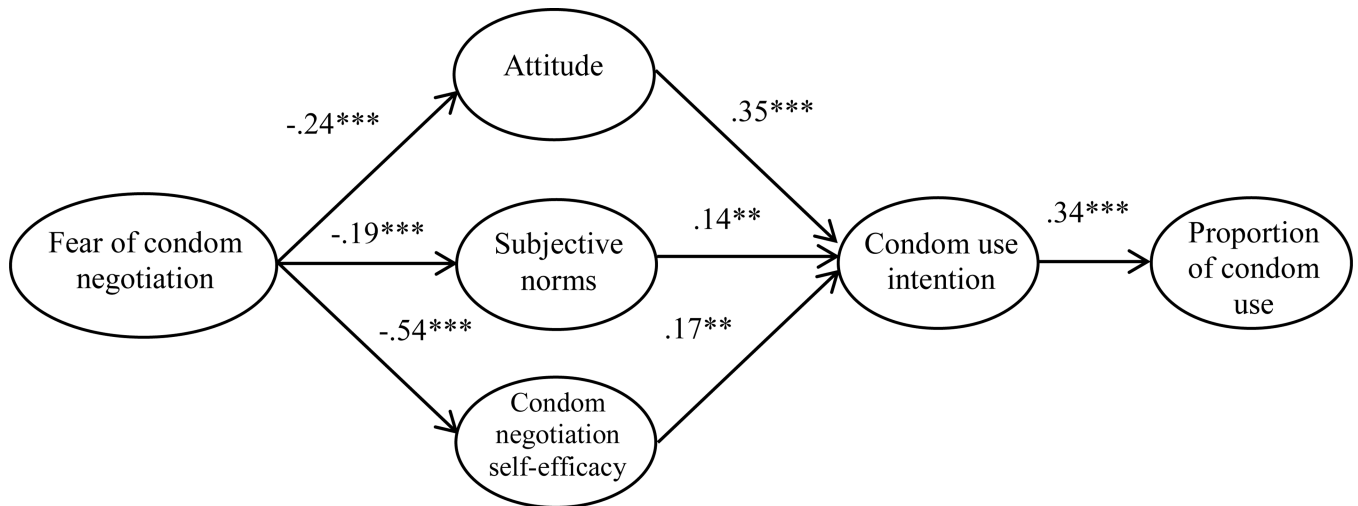


Figure 4.

Fear of Condom Negotiation predicting the revised TPB. $\chi^2 (15) = 12.73, p = .62$; CFI = 1.00; RMSEA = .00, (.00, .03); SRMR = .02. * $p < .05$, ** $p < .01$, *** $p < .001$. Proportion of condom use was measured 3 months later.

Table 1

Summary of Zero-Order Correlations Between Variables

	1	2	3	4	5	6
1. Fear of condom negotiation	—					
2. Attitudes toward condom use	-.26**	—				
3. Subjective norms about condom use	-.23**	.22**	—			
4. Condom use self-efficacy	-.30**	.22**	.18**	—		
5. Condom negotiation self-efficacy	-.49**	.33**	.23**	.27**	—	
6. Condom use intention	-.16**	.37**	.24**	.18**	.29**	—

Note.

**
 $p < .01$