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INTERPERSONAL RELATIONAL CHARACTERISTICS AND STAGES OF CONSISTENT CONDOM USE IN SEXUALLY ACTIVE ADOLESCENT FEMALES

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INTERPERSONAL RELATIONAL CHARACTERISTICS AND STAGES OF CONSISTENT CONDOM USE IN SEXUALLY ACTIVE ADOLESCENT FEMALES

BY

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ABSTRACT

Sexually Transmitted Infections (STI's) continue to negatively affect young people in the United States, ages 15-24 years old, specifically impacting young woman at a disproportionately high rate. STI infection rates among young Black females are significantly higher than among their white counterparts, and this group continues to be identified as an at-risk population. Condom use has been assessed and encouraged as a prevention strategy for both STI's and unintended pregnancies. Previous research has identified a number of factors that influence condom use in adolescent females, however not enough research has focused on the impact of relational factors on condom use. The aim of this study was to assess interpersonal relational factors and their influence on consistent condom use among sexually active adolescent females. Additionally, this study can begin to fill a gap in research regarding the relational experiences of urban, adolescent females and their condom use behavior. This study assessed how relational factors: relationship duration, sexual relationship duration, relationship status, and perceived power and control were related to consistent condom use. The sample included 831 sexually active, adolescent females, ages 14-17 years old. Results suggest that both relationship duration and sexual relation duration have a significant association with stage of condom use. Relationship status (steady/not) did not show a significant association with stage of condom use, in this sample. Perceived relational power/control over condom use was significantly associated with stage of condom use. These results are consistent with the literature in suggesting that as relationship duration increases, the perceived risk for STI prevention may decrease,

explaining the increase in risky sex associated with longer relationships. Further research is needed to continue to assess the dynamics of adolescent relationships along with the influence of interpersonal relational characteristics on consistent condom use within this population.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Adolescence has been identified as a unique time period in which health risk behaviors are often initiated and increased. Such risk behaviors include tobacco use, drug use, alcohol consumption, and engaging in a range of sexual behaviors, including intercourse (Kogan et al., 2008, Gardner and Steinberg, 2005, James et al., 2013). Sexually transmitted infections (STIs) cause various health and community problems, and they threaten the health and wellbeing of adolescents at disproportionately high rates. In 2011 nearly half of new STI infections occurred among adolescents and young adults, aged 15-24 (CDC, 2011). While adolescents and young adults have the highest STI rates, young women in particular seem to be affected the most by this epidemic. Once infected, young women are at a heightened risk for other STI and HIV infection, and face more long-term health consequences such as infertility. African American adolescent females have been especially negatively affected as they bear a disproportionate burden of STI infection. In 2008, 48% of Black teenaged girls aged 13-17 years old had an STI (CDC, 2008). In 2011, Black adolescent females ages 15-19 held a chlamydia rate close to six times higher than their white counterparts (CDC, 2011). In that same year, gonorrhea rates were 16 times higher, and syphilis rates were 30 times higher in Black adolescent females compared to their white counterparts (CDC, 2011).

The purpose of this study was to increase our understanding of the relationship between consistent condom use and interpersonal relationship characteristics in an existing sample of sexually active adolescent females recruited in family planning clinics. The decision to use condoms or engage in risky sexual behavior is often negotiated between sex partners. Research efforts to better characterize and understand relational factors that influence adolescent condom use, attitudes, and behaviors can inform safer sex and STI prevention programs.

Adolescent females' readiness to engage in consistent condom use is likely influenced by relational and dyadic characteristics. Some research has focused primarily on the importance of partner communication and ways to improve it as a way to increase consistent condom use in adolescent females (Noar, Morokoff, & Redding, 2002). Other characteristics include perceived exclusivity and trust in relationships. Research has found that females in exclusive relationships with a main partner express lower intentions to use condoms consistently compared to females who do not identify one main partner (Matson, Adler, Millstein, Tschann, & Ellen, 2011). Consistent with this finding, females who express more investment and identify that they are in an established relationship are less likely to discuss condom use with partners (Saul et al., 2000). Another interpersonal characteristic is power, specifically perceptions of relational power and its influence to improve a female's ability to engage in safer sex practices (Gutierrez, Oh, & Gillmore, 2000). Relational power and control regarding condom use as a preventive strategy against STI's is heavily influenced by a women's self-efficacy for condom negotiation. Self-efficacy for condom negotiation is potentially threatened if a woman does not have or share

relational power, increasing her risk for STIs. Closeness is another relational aspect of a female's decision to engage in risky sexual behavior. As relationship closeness increases, so do security and intimacy (Remple, Holmes, & Zanna, 1985), which may reduce a female's perceived need, desire and/or willingness to use condoms. These relational characteristics: partner communication, relationship status, perceived power and control, condom assertiveness, and closeness, are all factors that have been shown to influence consistent condom use in females. This study will further explore the associations between these interpersonal relationship characteristics and condom use attitudes and behaviors in sexually active adolescent females.

CHAPTER 2

REVIEW OF LITERATURE

Research has identified some psychosocial factors such as, earlier age of sexual debut, more sexual partners, and more accepting attitudes towards sexual intercourse at younger ages, that put African American adolescent females at a greater risk for contracting STI's (Hipwell, Keenan, Loeber, & Battista, 2010). Some cultural factors can also heighten STI risk for this group. In one study with inner-city African American female teenagers, more frequent intercourse was associated with less cultural pride (Locke & Newcomb, 2008). Other factors such as sexual abuse also put adolescent females at a greater risk. The fact that African American adolescent females report higher rates of "non-voluntary first intercourse," compared to other racial groups, places them at higher risk for STI's (CDC, 2000). Furthermore, higher rates of poverty among African Americans pose specific barriers to accessing education and health care. This economic disadvantage influences sexual behavior, sexual health outcomes, increases STI risk, and makes it harder to attain optimal sexual health (Collins, 2005). In examining racial disparities in HIV infections, Adimora and colleagues (2009) identified sexual networks and concurrent sexual partnerships as factors that contribute to the transmission of HIV within this group at disproportionately high rates (Adimora, Schoenbach, & Floris-Moore, 2009).

Consistent condom use has been identified as an effective prevention strategy against STIs and continues to be assessed and intervened upon as a prevention tool

(Crosby et al., 2013, Sales et al. 2012, Bull et al., 2012). While there has been a long-standing concern regarding the reliability of adolescents' self-reported sexual behavior, research has found that most adolescents provide reliable reports. Vanable and colleagues (2009) found moderate to high levels of reliability for age of sexual debut, number of sexual partners, and occurrence of oral and vaginal sex. Furthermore, this research found a moderate level of reliability (.62) for condom use at most recent occurrence of vaginal sex, and a lower but satisfactory reliability (.47) for non-condom use for vaginal sex in last 3 months (Vanable et al., 2009). In other research with adolescents reporting having sex in the past year, only 47% of males and 28% of females reported using a condom consistently (Abma et al., 2004). Developmental changes in adolescent females may also influence their condom use, such that generally as adolescent girls mature, their condom use declines (Matson et al., 2011). Research has suggested that this decline in condom use is partly due to the concurrent changes in these young women's sexual relationships. Over time, adolescents' sexual relationships may shift from casual and/or multiple sex partners to a pattern better characterized as serial monogamy (Fergus et al., 2007).

Inconsistent condom use puts females at increased risk for STI and HIV infection. Most adult and adolescent research and prevention strategies have been focused at the individual level. However, relational and dyadic characteristics have an important influence on consistent condom use in adults and adolescents as well (Karney et al., 2010). Perhaps surprisingly, relational factors have not received much research attention until recently, especially among adolescent females. Previous research has shown that relational factors such as lack of relationship control, fear of

condom use negotiation, and length of relationship, are all associated with the likelihood of engaging in risky sexual behavior (Crosby et al.,2000; Fortenberry et al., 2002; Sionean et al., 2002). Other relational characteristics associated with STI risk behaviors are less frequent partner communication about sexual topics (Noar et al, 2001), lower levels of sexual assertiveness (Grimley et al., 1993; Morokoff et al., 2009), lower levels of relationship power (Teitelman et al., 2008), and lower levels of partner support for condom use (Weisman et al., 1991). These relational and dyadic characteristics can prevent a sexually active adolescent female from using condoms consistently. Sexual partners influence each other mutually and an adolescent female's decision to use condoms is influenced by relational factors. These relational factors include communication between partners, characteristics of the relationship (length, perceived control, frequency of intercourse, perceived monogamy) and condom assertiveness.

There are several theoretical models of behavior and behavior change that have been used to explain condom use behavior. This secondary data analysis will integrate constructs from the Transtheoretical Model (Prochaska &Velicer, 1997; Prochaska, Redding & Evers, 2008), the Multifaceted Model of HIV Risk (Harlow et al., 1993; Morokoff et al., 2009) and the Theory of Gender and Power (Connell, 1987) to examine how relational characteristics are associated with condom use attitudes and behaviors in a sample of sexually active adolescent females recruited in family planning clinic settings. This study will focus on urban, mostly Black adolescent females given their heightened risk for STI and HIV infection. The interpersonal and relational characteristics this study will focus on are: relational power, perceptions of

closeness, length of relationship, perceived exclusivity, initiation of sexual intercourse in current relationship, condom use communication, condom assertiveness, and perceived partner support for condom use. These interpersonal factors will be examined to see which of these is most highly associated with condom use attitudes and behaviors within this sample.

The Transtheoretical model (TTM) is a comprehensive model of behavior change that has been used to explore and understand the readiness to engage in health related behaviors (Prochaska &Velicer, 1997; Prochaska, Redding, & Evers, 2008). The TTM describes behavior change with a five stage model that reflect a continuum of change, ranging from an individual not wanting to make a change, to an individual who has maintained adoption of a new health behavior. The five stages reflecting an individual's readiness to change are: Precontemplation (not intending to change behavior in the next six months), Contemplation (intending to change in the next 6 months), Preparation (planning to take action in the immediate future), Action (having changed behavior within the past 6 months) and Maintenance (maintaining the behavior change and preventing relapse). Progress across the stages of change is mediated by various psychosocial processes. Two TTM constructs are especially useful in studying condom use: decisional balance and self-efficacy. The decisional balance construct reflects individuals' positive and negative attitudes towards consistent condom use. An individual's assessment of the pros and cons of a behavior change has been systematically related to their stage of change across a range of health behaviors, including condom use (Hall & Rossi, 2008). Self-efficacy reflects the individual's belief that they can use condoms across a range of challenging situations.

Increased consistent condom use has been associated with higher levels of self-efficacy (Redding & Rossi, 1999; Sagerstano et al., 2005). Additionally, the TTM is especially important in research pertaining to women's sexual risk and population health. The TTM provides both a framework and specific constructs that support the notion that women have the ability to protect themselves from infection via condom use. The Transtheoretical model has also been the foundation for population-based TTM-tailored expert system interventions that can be widely disseminated and have been demonstrated effective across a range of behaviors, including condom use (Peipert et al., 2008; Redding et al., in press). The Transtheoretical model measures were used to assess stage of consistent condom use, decisional balance, efficacy, condom assertiveness, condom communication and partner support for condom use.

The Multifaceted Model of HIV Risk (MMOHR) is a comprehensive model developed to predict sexual risk behaviors in women, specifically HIV-related risky behavior (Harlow et al., 1993; Morokoff et al., 2009). The MMOHR proposes that relational experiences influence a woman's ability to protect herself from sexual risks. Additionally, the model has been used to predict sexual risk by assessing multiple factors including interpersonal risk factors (Harlow et al., 1993; Morokoff et al., 2009). Such interpersonal factors include: anticipated partner reaction to condom use and sexual assertiveness. The MMOHR is an important framework in sexual risk behavior research, as it includes social and environmental influences on women's sexual choices, as well as advocating for women's ability to effectively assert and protect themselves. While the MMOHR proposes that there are many facets in better understanding HIV risk, "interpersonal and behavioral factors appear to be the most

central" (Harlow et al., 1993). Last, the MMOHR can aid in research efforts by improving our understanding of the effect of women's social status and power on risk reduction, especially considering that condom use is a male-controlled behavior.

Along similar lines of reasoning, the Theory of Gender and Power (Connell, 1987) proposes that relationship power differentials that advantage men simultaneously pose health risks for women. According to this theory, a woman's disadvantaged power position in relation to her partner may prevent her from exercising condom assertiveness or engaging in condom use communication (Wingood & DiClemente, 2000). In one study examining relationship power in sexual negotiation, results indicated that 17% of adolescent females felt as though they never had the right to make their own decisions about birth control, regardless of their partner's wishes (Rickert, Sanghvi, &Wiemann, 2002). These results also indicated that 9% of young women felt as though they never had the right to make their own decisions about sexual activity, and 15% reported feeling as though they never had the right to ask their partner if he had been tested for STD's (Rickert, Sanghvi, &Wiemann, 2002). In another study assessing relationship power, sexual assertiveness, and condom negotiation, Wingood and colleagues found that Black adolescent females with a history of dating violence were more likely to fear both talking to their partner about pregnancy prevention, and the consequences of condom negotiation (Wingood, DiClement, McCree, Harrington, & Davies 2001). The Theory of Gender and Power provides an important framework for the current study by highlighting disadvantaged power positions of women in our society and how that parallels their power disadvantages in sexual relationships, increasing their sexual risk.

Integrating across these theories, this study will examine specific relationship perceptions and factors in a sample of urban adolescent females, to examine how relationship factors are associated with healthier condom attitudes and behaviors.

Hypotheses:

Hypothesis 1*: Those who report being in longer relationships with current partner, consistent with having a steady partner, will be earlier in the stages of consistent condom use (Crosby et al.,2000;Fortenberry et al., 2002).*

Hypothesis 2: *Those who report higher perceptions of relational power will be more likely to be further along in the stages of consistent condom use (Gutierrez et al, 2000).*

CHAPTER 3

METHODOLOGY

Procedures:

Participants were recruited into a larger longitudinal study from four family planning clinics in Philadelphia serving inner-city, at-risk youth. Eligibility criteria included being: between 14-17 years old, not pregnant, English-speaking, and willing to participate in the study. Written informed assent was obtained from each adolescent, with parental consent waived to maintain clinic confidentiality. Participants received small incentives for completion of study time points. This study will examine baseline information from study participants. The IRB at the University of Rhode Island approved all study procedures for human subjects protections.

At baseline, participants were asked to complete a 30 minute survey about demographic information, sexual history, current relationship, condom use behavior, assertiveness, and efficacy.

Measures:

Sociodemographic and sexual history variables:

Participants reported age, year in high school, age of first sex, STI history, and pregnancy history. Recent sexual activity was measured through questions about sexual activity in the last 30-90 days.

Contraceptive Use:

Current use of contraception was assessed through a series of items about use of various methods. Participants were asked if they used these contraceptive methods in the last 30-90 days. Contraceptive methods included barrier methods, oral contraceptives, Depo-Provera, Norplant, and intrauterine device.

Condom Use Efficacy:

Participants rated their level of confidence that they could use condoms across five challenging situations. Confidence ratings ranged from 1- not at all confident to 5-very confident and psychometric properties of this 10-item measure were good with an alpha=0.95 (Redding et al., 1996a, 1999). Items asked participants to rate their confidence that they would use condoms even when, for example: My partner pressures me to take a chance this time; or I am upset.

Pros and Cons of Condom Use:

Participants rated the importance of 12 items reflecting the benefits (Pros) and costs (Cons) of using condoms consistently. Importance ratings ranged from 1-not at all to 5-very important and psychometric properties of both 6-item subscales were good with alpha=0.81 for Pros and alpha=0.89 for Cons (Redding et al., 1996a, 1999). Participants rated each item's level of importance to their own decisions about using or not using condoms. Sample items reflecting the Pros of condom use include: I would feel more responsible; and Condoms would protect both of us. Sample items reflecting the Cons of condom use include: Sex would feel less natural; and Asking my partner to use condoms would be too embarrassing.

Condom Communication:

Participants were asked 3 items about condom use communication with current partner in the past 30 days. Frequency ratings ranged from 1- not at all to 5-frequently and the 3-item alpha=0.75 (Redding et al., 1996b; Noar et al., 2001). Items included: I talk about condom use with my partner; and My partner listens to me when I want to talk about using condoms; and My partner and I talk about using condoms together.

Condom Assertiveness:

Participants were asked 3 items about condom use assertiveness with current partner in the past 30 days. Frequency ratings ranged from 1- not at all to 5-frequently and the 3-item alpha=0.81 (Redding et al., 1996b; Noar et al., 2001). Items included: I refuse to have sex if condoms aren't available; If a partner does not want to use condoms, I insist that we do; and I insist on condom use with a partner before I will have sex.

Partner Support for Condom Use:

Participants were asked 3 items about partner support for condom use in the past 30 days. Frequency ratings ranged from 1- not at all to 5-frequently and the 3-item alpha=0.71 (Redding et al., 1996b; Noar et al., 2001). Items included: My partner supports my decision to use condoms when we have sex; My partner supports our using condoms together; and My partner shows caring for me by using condoms.

Relationship Items:

Participants rated single items asking them about their relationship status (steady/not steady), relationship closeness, how well they knew their partner, likelihood of going out with their boyfriend again, and relationship exclusivity. For example, “How close do you feel to your most recent boyfriend?” was asked with response options: not at all close, not very close, somewhat close, very close, and extremely close. “How well

do you know your most recent boyfriend?" was asked with response options: not at all well, not very well, somewhat well, very well, and extremely well. Other items were included that measured likelihood of going out again with current partner : “How likely are you to go out with your most recent boyfriend again?” (not at all likely, not very likely, somewhat likely, very likely, or extremely likely). Relationship exclusivity was also assessed, “Do you and your most recent boyfriend go out with other people?” (no, we only go out with each other, yes we both agree to see or date other people, or I don’t know / we don’t talk about it).

Relationship Duration and Sexual Relationship Duration:

Participants were asked one item to assess the length of their current relationship: “How long have you been dating your most recent partner”. The duration dating their recent boyfriend included five response options: less than 30 days, 1-3 months, 4-6 months, 7-11 months, and 1 year or more. Sexual relationship duration with current partner was also assessed including the same five response options.

Condom Use Control:

Participants were asked how much power or 'say' they had in their relationship about using condoms. The item asked “When you have sex, who has the final say about using condoms?” and response options included four categories: my boyfriend has more say, we have equal say, I have more say, and I don’t know/we don’t talk about it.

Stages of Condom Use:

Consistent condom use was measured in five stages. Participants in Precontemplation, Contemplation, and Preparation included those who did not use condoms consistently, and who varied in their intentions to start using condoms consistently. Participants in

Action or Maintenance reported consistently using condoms for less than 6 months (A) and more than 6 months (M), respectively (Brown-Peterside, Redding et al., 2000; Morokoff et al., 2009; Redding et al., in press).

CHAPTER 4

FINDINGS

Participants:

A total of 831 adolescent females, ages 14-17 years old, were recruited for this study. Sociodemographic, sexual history characteristics, and contraceptive methods are shown in Table 1. Racially, 84% (N=698) of the participants identified as Black/African American, 7.8% (N=65) as White/Caucasian, 6% (N=49) as Multiracial, 1.4% (12) Native/Indian American, and 0.8% (N=7) as Asian. Most participants were in high school between 9th and 11th grades (84%) and either lived with their mother (57%) or both parents (21%).

Tables 1 and 3 show that most participating adolescent females were currently in relationships and sexually active at the time of the study. The average age of sexual debut was 13-14 years old with 48% reporting first sex at this age. Considering that 1.9% of participants reported age of first sex was 9 years old or younger, these most likely reflect non-voluntary, non-consensual and/or abusive sexual experiences. While these females did not make up a large portion of the sample, it is important to highlight the presence of sexual abuse considering the unique sexual risk it poses for later development. Table 1 also shows that some adolescents reported experience with pregnancy (38%), childbirth (17%) and a range of STIs (2-20%). Table 2 shows current contraceptive method use with 72% reporting male condom use and 23% reporting birth control pill use. Table 3 shows that most participants reported having

had sex with their current boyfriend (91%). Most also reported that their current relationships were steady (83%). Furthermore, many participants reported that they were in long relationships with 41% reporting dating their current boyfriend for one year or more. Sexual relationship duration was slightly lower, with 31.5% reporting having sex for one year or more with their current boyfriend. About 50% reported that their current boyfriend was "extremely willing" to use condoms. When asked who has the final say about using condoms, 51% of females reported having "equal say". Additional relationship variables are described in Table 3.

Table 4 shows the associations between relationship status (steady/not) and relationship duration, closeness, how well they knew their partner, exclusivity, and condom final say. All associations, evaluated with Chi-squared statistics, were statistically significant, with Phi values indicated in Table 4.

Hypothesis 1*: Those who report being in longer relationships with current partner will be earlier in the stages of change (Precontemplation, Contemplation, and Preparation) for consistent condom use (Crosby et al.,2000;Fortenberry et al., 2002).*

Analysis 1a:

Table 5 shows the Chi-squared tests used to assess the relationship between stages of consistent condom use and categorical relationship variables. The chi-squared test found a significant association between length of the relationship and stage of change for consistent condom use, $x^2(16) = 40.81, p < .001.$

Analysis 1b*:* Table 5 also shows the Chi-squared test evaluating the relationship between sexual relationship duration and stage of change for consistent condom use.

This chi-squared also indicated a significant association between length of time being sexually active with current boyfriend and stage of change for consistent condom use, $x^2(16) = 49.44, p < .000$.

Analysis 1c: A Chi-squared test assessed the relationship between stages of change for consistent condom use and current relationship status (steady/not). No significant association between relationship status and stage of change for consistent condom use was found, $x^2(4) = 1.73, p < .785$. This showed that participants who reported their relationship as steady did not differ on their stage of condom use compared to participants who did not report their relationship as steady. In contrast, the Chi-squared that assessed the association between relationship closeness and stage of change found a significant association, $x^2(16) = 29.99, p < .042$.

Hypothesis 2:*Those who report higher perceptions of relational power will be further along in the stages of change for consistent condom use (Gutierrez et al, 2000).*

Analysis 2: Table 5 shows the results of the Chi-squared test that assessed the relationship between participants' stages of change for consistent condom use and their perceptions of relational control/power. A significant association between relational control/power over condom use and stage of change for consistent condom use was found, $x^2(12) = 37.31, p < .000$.

Multivariate Results

For continuous relational variables, a MANOVA was conducted to assess if there were any significant group differences, based on the linear combination of the continuous dependent variables. The assumptions of normality, linearity, and

homoscedasticity were sufficiently met for this statistical test. A two-way (stage of condom use and relationship status) MANOVA was conducted on dependent variables: pros and cons of condom use, condom use efficacy, condom assertiveness, condom communication with partner, and partner support for condom use. This MANOVA found that the interaction of stage and relationship status (steady/not) was not significant, $F(24, 2837.43)=1.31$, Wilks' $\lambda = .96$, $p<.144$. The main effect for stage of change was significant, $F(24, 2837.43) =15.05$, Wilks' $\lambda = .66$, $p<.000$. These results indicate that there were significant mean differences between individuals at different stages of consistent condom use on the linear combination of pros, cons, efficacy, assertiveness, communication, and partner support for condom use. Table 6 shows the follow-up ANOVA results and proportions of variance accounted for (eta-squared) for each dependent variable indicating significant differences on all, except on the Cons of condom use, which did not differ by stage group. The main effect for relationship status (steady/not) as the independent variable also showed some significant differences, $F(6, 813.00)=7.88$, Wilks' $\lambda = .95$, $p<.000$. These results indicate that there were significant mean differences between individuals with different relationship status (steady/not) on the linear combination of pros, cons, efficacy, assertiveness, communication, and partner support for condom use. Table 6 shows the follow-up ANOVA results that found significant differences by relationship status for cons of condom use, partner communication, and partner support for condom use, but not for the remaining dependent variables.

Discussion

This study examined associations between interpersonal relationship characteristics and condom use among at-risk sexually active adolescent females. Some associations between specific relationship descriptors and stage of change for consistent condom use were found in this sample. While there was no association between relationship status and condom stage of change, a significant association between stage of condom use and relationship duration, sexual relationship duration, closeness, and condom final say was found. Adolescents in relationships for a year or longer were slightly more likely to be in the Precontemplation stage of condom use (52% vs. 42%; See Table 5), although a good proportion were in Action and Maintenance as well. Similar to this, sexual relationship duration also varied by stage of change. Participants reporting being sexually active with their partner for one year or more appeared slightly more likely to be in the Precontemplation stage of condom use (44% vs. 33%; See Table 5). This finding is consistent with the literature on the pattern between relationship longevity and condom non-use. As adolescent girls remain in relationships longer, trust builds, and perceived STI risk declines resulting in inconsistent condom use. Although condom use was lower among participants in longer relationships, these findings were encouraging since condom use rates were only slightly lower than those in shorter relationships. Such minimal differences suggest that despite relationship duration and sexual relationship duration, these participants are still protecting themselves from STI infection and unintended pregnancy. Participant's report on relationship closeness also varied by stage of change. Adolescents feeling closer to their partner were slightly more likely to be in the Precontemplation stage of condom use (55% vs. 47%; See Table 5). This pattern is

consistent with the hypothesis that increased feelings of trust in the relationship decrease perceived risk for STI infection. Regarding condom use final say, most participants reported having "equal say" (n=425), followed by "I have more say" (n=216), and there was minimal variance across stage of change for both of these responses. For those reporting equal say, slightly more were in the Action stage of condom use versus Precontemplation (62% vs 51%; See Table 5). It was hypothesized that those who reported having the final say over condom use would be further along in the stages of change, and while the crosstabulation shows an almost equal range of percentages across stages for having more say, participants were more likely in the Preparation stage, compared to those in the Action stage (31% vs 22%; See Table 5). Previous research findings have associated the lack of relational control and power with higher STI risk behaviors (Gutierrez et al. 2000; Teitelman et al., 2008). Consistent with this literature, those participants who either reported their boyfriend had more say or reported not talking about it were slightly more likely to be in one of the Pre-Action stages of condom use (See Table 5).

Results from the multivariate analyses indicated a significant main effect for both stage of condom use and relationship status on the linear combination of pros, cons, efficacy, assertiveness, communication, and partner support for condom use. Results from the follow up ANOVA for stage of change did reveal significant findings for all continuous relationship variables, except for cons of condom use (See Table 6). Cons of condom use showed no significant mean differences across stages, suggesting that participants perceive cons for condom use, despite stage. The follow up ANOVA's for relationship status revealed significant mean differences for cons of

condom use, partner communication, and partner support for condom use, but not for the remaining continuous dependent variables. Mean differences for partner communication and partner support for condom use were higher in those participants in steady relationships (See Table 6). Contrary to what was expected the mean for cons of condom use was higher in those not in a steady relationship (See Table 6). This finding is inconsistent with previous studies in that it is often assumed that the cons of condom use are higher among those in steady relationships. This finding could be unique to this sample, or could reflect a different meaning than what was usually referred to as "steady". Perhaps future studies can begin to assess the meaning of "steady" as a relationship descriptor, and suggest another term that adolescents may prefer for describing their romantic and/or sexual relationships.

The current study was able to highlight both risk and protective factors for these participants that can further advance intervention strategies for sexually active adolescent females. In light of these results, there is a great need for preventive intervention efforts to increase condom consistency among sexually active female adolescents, as well as continued efforts to better understand the influence of relational characteristics. Since condom use is an interdependent, dyadic, and complex behavior that is dependent upon the intention and willingness of two individuals (VanderDrift, Agnew, Harvey, & Warren, 2012), research efforts should continue to assess the context of its use. Future intervention and prevention efforts should account for relationship duration as well as sexual relationship duration when looking for ways to increase condom use consistency among sexually active adolescent girls. Prevention efforts should encourage and educate adolescent girls currently in relationships about

their continued STI and pregnancy risk, despite relationship longevity. This is especially important for young women who may believe that relationship longevity decreases their STI risk and switch their focus to contraceptive use to prevent pregnancy. This contraceptive switch leaves adolescent females vulnerable to STI and HIV infection, highlighting the need for future efforts to decrease these risks, especially for those reporting being in longer relationships.

Since sexual activity often times takes place in the context of a romantic relationship, the dynamics of this relationship should be further explored, especially as it relates to perceptions of relational power and control. Future studies are needed to further assess sexual behavior among adolescents, and specifically how relational power is associated with condom use. Future intervention efforts could focus on increasing adolescent girls' levels of confidence and power in their sexual relationships, specifically in advocating for safer sex practices with their partners. This may call for interventions that focus on strengthening condom influence strategies for young women that can aid them in getting their partners to use condoms. Teaching adolescent females communication strategies such as refusal skills and condom negotiation could empower them to make safer decisions regarding their sexual behavior. Additionally, future research is needed to better understand the associations of other interpersonal relational characteristics, such as intimacy, love, sense of security, and reciprocity, with condom use.

One possible barrier to this approach is that encouraging condom assertive behavior may challenge traditional gender roles for adolescent women (Tschann et. al, 2002). Given that the association between relational power and condom use is not

clear, future preventive intervention efforts should make use of more items to assess perceptions of relational power and control. Lastly, it would be advantageous for future research efforts to clarify how relationship dynamics such as perceived power and control may change over time, specifically as they relate to condom use.

Furthermore, these results also suggest the need to continue to assess, increase knowledge about relationship experiences, and intervene upon condom use for Black female adolescents that are currently sexually active, given their heightened risk to STI infection and unintended pregnancy. In predicting condom use, future research should take into account the possible influence of cultural values that dictate attitudes about sexual behavior as well asassumptions regarding gender roles. Considering feminine gender socialization, adolescent females may at times submit to condom nonuse, despite their desire or intention, in order to adhere to prescribed gender roles. Future research can assess the possible associations between condom nonuse and gender role adherence or investment in ideal womanhood (Katz and Tirone, 2009). Finally, the historical sexual objectification and exploitation of black female bodies should not be ignored. The exoticizing of Black women, historically and currently, creates damaging sexual scripts that could impact how adolescent females see themselves as sexual beings (Stephens & Phillips, 2003). Future research would benefit from examining the influences of these sexual scripts and their relation to sexual identity development, sexual behavioral outcomes, and interpersonal relational characteristics. Due to the complex nature of STI risk among sexually active adolescent females, population based interventions are needed in order to move beyond the focus on individual risk behaviors (Sevgi, Adimora, & Fenton, 2008).

TTM-tailored interventions are well suited for entire populations and have been demonstrated effective in this sample (Redding et al., in press). Future interventions might evaluate the addition of a social justice framework as a way to respond to both structural and social determinants that address the unique vulnerabilities of this group (Sevgi, Adimora, & Fenton, 2008; Adimora, Schoenbach, &Floris-Moore, 2009). Reducing STI and HIV risk among African American adolescent females, and the greater African American community, may require an integrative social and political movement on both a community and national level.

Limitations

This study has some limitations. One limitation is that all the measures of relationship status, closeness, duration, and power were all based on the female adolescents' self-report to single items. Dyads were not recruited for this study, so partner perceptions of relationship characteristics were not assessed. While this study offers insight into adolescent female relationship and condom use behaviors, recruiting adolescent couples may prove useful in the future, especially when trying to better understand relational power dynamics.

This study did not examine possible changes in relationship dynamics or condom use over time. Longitudinal analyses could show different patterns of interpersonal relationship characteristics and/or condom use behaviors across multiple time points. Also, additional interpersonal relationship characteristics that were not measured here could have had an influence on condom use, such as age of current partner, dyadic trust, relationship satisfaction or perception of future relationship

status. These factors should be considered in future prevention research studies that attempt to further our understanding of consistent condom use in this population.

Last, these findings may not generalize to other adolescent groups given that these adolescent females were recruited from family planning clinics. Other important adolescent groups to evaluate in future research include males and females recruited in other settings, as well as adolescents outside the U.S. This sample presented with unique risk factors in that they tended to be at a greater risk for STI infection and unintended pregnancy. However, given these unique sample characteristics, this study has implications for prevention and intervention efforts that specifically target increasing condom use and other safer sex practices among urban adolescent females.

CHAPTER 5

CONCLUSION

Sexually active adolescent females are at a heightened risk for STI infection, HIV acquisition, and unintended pregnancy, especially when they are of minority status. African American adolescent females are especially affected by this epidemic as they continue to have higher rates of STI infection compared to their white counterparts. Condom use is a proven efficacious prevention strategy and continues to be assessed and intervened upon in research. Previous research has focused on condom use behaviors and predictors of consistent condom use in this population. The current study extends this research by expanding upon factors that influence condom use to include interpersonal relationship characteristics. The current study has also expanded our focus by using three complementary theoretical frameworks that have been used in sexual behaviors research. The results of this study highlight the significant influence of relationship characteristics on consistent condom use within this at-risk population, and as it specifically relates to stages of change. These results suggest that future research should continue to assess how relationship characteristics predict adolescents' decisions to use condoms consistently. These results also have implications for future intervention studies to increase condom use among this at-risk population as well as to decrease STI infection and rates of unintended pregnancy. Future research efforts and intervention strategies to examine relationship characteristics that influence condom use will be helpful in better understanding both risk and protective factors in this

population. Such relational research and intervention strategies can help the field to progress towards increased safer sex practices and decreased rates of STI infection and pregnancy for adolescent females.

APPENDICES

Table 1. *Sociodemographic and Sexual History Information*

Demographic	**n**	**Mean ± SD**
Age (years)	828	16.4 ± 1.05
	n	**%**
Race		
African American/Black	698	84.0
Asian	7	0.8
Native American/Indian American	12	1.4
White/Caucasian	65	7.8
Multicultural/Other	49	5.9
Hispanic or Latino		
Yes	65	7.8
No	766	92.2
Religion		
Baptist	321	38.6
Catholic	115	13.8
Muslim	64	7.7
Other	160	19.3
No religion	171	20.6
Last Grade in School Completed		
7th grade or less	23	2.8
8th grade	112	13.5
9th grade	228	27.4
10th grade	251	30.2
11th grade or more	217	26.1
Highest Grade Mom Completed		
Less than 12th grade	164	19.7
12th grade	305	36.7
More than 12th grade (some college)	248	29.8
Don't know	114	13.7
Highest Grade Dad Completed		
Less than 12th grade	109	13.1
12th grade	287	34.5
More than 12th grade (some college)	199	23.9
Don't know	236	28.4
Mom or Dad Live with You Now?		
No	149	18.0
Mom	471	56.9
Dad	33	4.0
Both mom and dad	175	21.1
Sexual History	***n***	***%***
Age of sexual debut?		
9 years or younger	16	1.9
10-12 years	106	12.7

13-14 years	401	48.1
15-16 years	255	30.6
17 years or older	19	2.3
You and your boyfriend ever had sex?		
Yes	753	90.9
No	75	9.1
Number of times given birth/had a baby	661	83.2
None	126	15.9
1	6	0.8
2	1	0.1
3		
Ever had syphilis?		
Yes	14	1.8
No	780	98.2
Ever had gonorrhea?		
Yes	86	10.8
No	708	89.2
Ever had chlamydia?		
Yes	171	21.5
No	623	78.5
Ever had genital warts (HPV)?		
Yes	49	6.2
No	745	93.8
Ever had herpes?		
Yes	15	1.9
No	779	98.1
Contraceptive Use		
Male Condoms	573	72.2
Female Condoms	26	3.3
Birth Control Pills	186	23.4
Spermicide/Foam/Creams	56	7.1
Diaphragm/Sponge/Cervical Cap	14	1.8
Depo Provera	128	16.1
Norplant	9	1.1
	n	**Mean ± SD**
Number of sex partners in last 30 days	670	1.36±1.94
Number of times had sex in last 30days	681	6.47±9.25
Number of times used condoms in the last 30 days	547	4.09±7.67

Table 2. *Relationship Variables*

Relationship Variables	**n**	**%**
How long dating most recent boyfriend?		
Less than 30 days	58	7.0
1-3 months	169	20.4
4-6 months	125	15.1
7-11 months	133	16.1
1 year or more	343	41.4
Most recent boyfriend steady?		
Yes	690	83.3
No	138	16.7
You and your boyfriend ever had sex?		
Yes	753	90.9
No	75	9.1
Boyfriend live with you now?		
Don't have a boyfriend	78	9.4
Yes	32	3.9
No	718	86.7
How close do you feel to boyfriend?		
Not at all close	19	2.3
Not very close	23	.8
Somewhat close	162	19.6
Very close	250	30.2
Extremely close	374	45.2
How well do you know your boyfriend		
Not well at all	8	1.0
Not very well	20	2.4
Somewhat well	146	17.6
Very well	368	44.4
Extremely well	286	34.5
How likely to go out again with boyfriend?		
Not at all likely	81	9.8
Not very likely	50	6.0
Somewhat likely	135	16.3
Very likely	213	25.7
Extremely likely	349	42.1
Go out with other people?		
No, only with each other	599	72.3
Yes, agreed to see other people	89	10.7
I don't know-haven't talked about it	140	16.9
How long having sex with boyfriend?		
Less than 30 days	158	19.9
1-3 months	170	21.4
4-6 months	97	12.2
7-11 months	107	13.5
1 year or more	262	33.0

How willing is boyfriend to use condoms?		
Don’t know-don’t talk about it	69	8.7
Not at all willing	30	3.8
Not very willing	55	6.9
Somewhat willing	222	28.0
Extremely willing	418	52.6
Who has the final say about using condoms?		
Boyfriend has more say	49	6.2
Equal say	425	53.5
I have more say	216	27.2
We don’t talk about it/DK	104	13.1

Table 3. *Relationship Variables by Steady Partner*

Relationship Variables	**No** n(%)	**Yes** n(%)	χ^2 (df)	p	Phi
Relationship Duration			18.35(4)	.001	.149
Less than 30 days	16 (11.6)	42(6.1)			
1-3 mos	41(29.7)	128(20.4)			
4-6 mos	22(15.9)	103(14.9)			
7-11 mos	16(11.6)	117(17.0)			
1 year or more	43(31.2)	300(43.5)			
Closeness			132.49(4)	.000	.400
Not at all close	13(9.4)	6(0.9)			
Not very close	15(10.9)	8(1.2)			
Somewhat close	53(38.4)	109(15.8)			
Very close	28(20.3)	222(32.2)			
Extremely close	29(21.0)	345(50.0)			
How Well Know BF			67.10(4)	.000	.285
	7(5.1)	1(0.1)			
Not well at all	8(5.8)	12(1.7)			
Not very well	44(31.9)	102(14.8)			
Somewhat well	50(36.2)	318(46.1)			
Very well	29(21.0)	257(37.2)			
Extremely well					
Exclusivity			89.59(2)	.000	.320
Only each other	50 (40.6)	543(78.7)			
Agree to see others	29(21.0)	60(8.7)			
Don't Talk / DK	53(38.4)	87(12.6)			
Condom Final Say			7.61(3)	.055	.121
BF has more say	11(8.7)	38(5.7)			
Equal say	55(43.7)	370(55.4)			
I have more say	37(29.4)	179(26.8)			
Don’t talk /DK	23(18.3)	81(12.1)			

Table 4. *Relationship Variables and Stage for Consistent Condom Use*

	n	PC (%)	C (%)	P (%)	A (%)	M (%)	χ^2 (df)	p
Relationship Duration								
Less than 30 days	58	6 (10.3%)	16 (27.6%)	11 (19.0%)	14 (24.12%)	11 (19.0%)		
1-3 mos	169	15 (8.9%)	49 (29.0%)	31 (18.3%)	37 (21.9%)	37 (21.9%)	40.82 (16)	.001
4-6 mos	125	16 (12.8%)	34 (27.2%)	19 (15.2%)	36 (28.8%)	20 (16.0%)		
7-11 mos	133	17(12.8%)	44 (33.1%)	15 (11.3%)	15 (11.3%)	42 (31.6%)		
1 year or more	343	59 (17.2%)	114 (33.2%)	48 (14.0%)	41 (12.0%)	81(23.6%)		
Sexual Relationship Duration								
Less than 30 days	158	9 (5.7%)	43 (27.2%)	21 (13.3%)	42 (26.6%)	43 (27.2%)		
1-3 mos	170	19 (11.2%)	52 (30.6%)	24 (14.1%)	39 (22.9%)	36 (21.2%)	49.44 (16)	.000
4-6 mos	97	13 (13.4%)	31 (32.0%)	13 (13.4%)	24 (24.7%)	16 (16.5%)		
7-11 mos	107	21 (19.6%)	36 (33.6%)	8 (7.5%)	10 (9.3%)	32 (29.6%)		
1 year or more	262	49(18.7%)	93 (35.5%)	28 (10.7%)	28 (10.7%)	64 (24.4%)		
Steady Partner?								
No	138	16(14.2%)	43 (16.7%)	25(20.2%)	24 (16.8%)	30(15.7%)	1.73 (4)	.785
Yes	690	97(85.8%)	214 (83.3%)	99(79.8%)	119(83.2%)	161 (84.3%)		
Closeness								
Not at all close	19	5(4.4)	3(1.2)	5(4.0)	2(1.4)	4(2.1)		
Not very close	23	2(1.8)	7(2.7)	2(1.6)	4(2.8)	8(4.2)	26.99(16)	.042
Somewhat close	162	9(8.0)	54(21.0)	23(18.5)	38(26.6)	38(20.0)		
Very close	250	35(31.0)	75(29.2)	42(33.9)	47(33.0)	51(26.7)		
Extremely close	374	62(55.0)	118(46.0)	52(42.0)	52(36.4)	90(47.1)		
Condom Final Say								
BF has more say	49	11 (9.9%)	25 (9.8%)	3 (3.2%)	6 (4.2%)	4 (2.1%)		
Equal say	425	57 (51.4%)	112 (43.9%)	51 (54.3%)	89 (62.2%)	116 (60.7%)		
I have more say	216	24 (21.6%)	75 (29.4%)	29 (30.9%)	31 (21.7%)	57 (29.8%)	37.31 (12)	.000
Don't talk /DK	104	19(17.1%)	43 (16.9%)	11 (11.7%)	17 (11.9%)	14 (7.3%)		

Table 5. *Follow-up ANOVAs on Relationship Variables by Stage and Relationship Status*

	df	***F***	***p***	η^2	**Follow-up tests**
Stage					
Pros	4	15.99	.000	.073	PC<C< PR,A,M
Cons	4	1.67	.154	.008	
Confidence	4	19.73	.000	.088	PC<C< PR,A,M
Assertiveness	4	73.19	.000	.264	PC<C< PR,A,M
Communication	4	35.75	.000	.149	PC<C< PR,A,M
Partner Support	4	67.61	.000	.248	PC<C< PR,A,M
Relationship Status					
	df	***F***	***p***	η^2	
Pros	1	.377	.540	.000	
Cons	1	10.87	.001	.013	Nonsteady>Steady
Confidence	1	.130	.719	.000	
Assertiveness	1	.601	.438	.001	
Communication	1	27.86	.000	.033	Steady>Nonsteady
Partner Support	1	7.44	.007	.009	Steady>Nonsteady

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