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Perceived relationship power, relationship characteristics and sexual risk taking among adult black women.

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Perceived relationship power, relationship characteristics and sexual risk taking among adult black women.

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Bachelor of Arts, Willamette University, 2004

Master of Public Health, Oregon State University, 2009

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An abstract of
A dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
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Abstract

Perceived relationship power, relationship characteristics and sexual risk taking among adult black women.

By

Lisa Paige Oakley

HIV/AIDS rates continue to be substantially higher among Blacks than among Hispanics or Whites. Additionally, women are at a higher risk of HIV infection than are men. Black women carry a "double jeopardy" when it comes to HIV as they are at increased risk because of both race and gender. Gender-based power, relationship dynamics, and relationship context are important social factors in women's sexual health choices and safer sex negotiations and, yet, there is a lack of understanding of power dynamics among midlife and older adults and the impact these relationships have on women, especially black women. A mixed-methods study was undertaken to examine the association of age with sexual health, including psychosocial risk factors, relationship characteristics, relationship-specific behaviors, and personal and relationship power dynamics among black women, to inform interventions that can be targeted for black women across adulthood, but more specifically, for black women entering middle age (35-55 years old) and later life. Main themes from this dissertation include midlife black women's relationship empowerment built through personal power and life experiences, women's high sexual self-efficacy for sexual communication and condom use, and women's reported low condom use with main or primary partners.

Findings emphasize the need to explore characteristics (such as concurrency, peer norms, future orientation, and self-efficacy) among midlife women that have been mostly investigated among younger (adolescent and young adult) populations to better understand and intervene on beliefs and behaviors that are putting midlife women at an increased risk for HIV and STIs. Additionally, findings serve to inform efforts to increase personal and relationship power as well as self-efficacy through programs and intervention research for preventive behaviors in an attempt to reduce the rates of new HIV and STI infections among midlife black women.

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Table of Contents

Table of Tables

Table of Figures

Chapter 1: Literature Review

Socially speaking, women are at a higher risk of HIV infection than are men. Black women carry a "double jeopardy" when it comes to HIV risk as they are at increased risk because of both race and gender. Midlife and older black women are even more vulnerable. In 2011, people aged 20–34 had the highest rate of new HIV infections while women approaching midlife (aged 35–44) still represented approximately 30% of new infections (CDC, 2011c). Although HIV is seen primarily as a younger person's disease, during the period from 1996 to 2000 nearly as many persons diagnosed with AIDS were 50 years of age and older as those in their twenties (CDC, 2001). By 2007, those 40 to 49 comprised the largest proportion of newly diagnosed HIV cases in the United States, implying the immediate need to address this vulnerable older population (CDC, 2005, 2009a).

Gender-based power, relationship dynamics, and relationship context are important social factors in women's sexual health choices and safer sex negotiations (Blanc, 2001; Civic, 1999; Harvey, Bird, Galavotti, Duncan, & Greenberg, 2002; Pulerwitz, Gortmaker, & DeJong, 2000; Soet, Dudley, & DiIorio, 1999; Wingood & DiClemente, 2000). Although work has been done on power and relationship dynamics among younger populations, there is a lack of understanding of power dynamics among midlife and older adults and the impact these relationships have on women, especially black women. The purpose of this dissertation is to explore the association of age with sexual health, including psychosocial risk factors, relationship characteristics, relationship-specific behaviors, and personal and relationship power dynamics among

black women to inform interventions that can be targeted for black women across adulthood, but more specifically, for black women entering middle age and later life.

Epidemiology of HIV

HIV in the United States. The Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) epidemic were first acknowledged in the United States in the early 1980s (CDC, 2005). More than thirty years from the start of the epidemic, HIV has remained a significant health threat in the United States. Over the past 30 years, an increasing number of states have developed HIV/AIDS surveillance systems. The Centers for Disease Control and Prevention (CDC) estimates that 1.2 million people are living with an HIV infection today in the United States (CDC, 2011b). Because of advances in medication and treatment, a growing number of people are living with HIV. Despite these increases in numbers, the annual rate of new infections for the general population has remained fairly stable but nevertheless remains high, with an estimated 50,000 Americans becoming infected each year (CDC, 2011b). Since the epidemic began, approximately 1,100,000 people have been diagnosed with AIDS and nearly 594,500 Americans have lost their lives due to AIDS-related death (CDC, 2011b). Understanding predictors of HIV transmission can help to significantly reduce HIV-related morbidity and mortality.

HIV and Blacks. Blacks are the racial group most affected by HIV in the United States (CDC, 2011b). HIV/AIDS rates are substantially higher among Blacks than among Hispanics or Whites (Bird & Bogart, 2005; Bird & Harvey, 2000-2001; Bowleg, Belgrave, & Reisen, 2000). In 2010, Blacks represented 12% of the population, but

accounted for 44% of new HIV infections; one in 16 black men and one in 32 black women will be diagnosed with HIV in their lifetimes (CDC, 2011b).

In 2009, approximately 16,800 black individuals were diagnosed with AIDS in the United States (CDC, 2011b). AIDS-related illness was the ninth leading cause of death for all black Americans and the third leading cause of death for black women and men aged 35–44 (CDC, 2011b). By the end of 2008, over 240,000 black Americans with AIDS had succumbed to the disease.

These high rates and numbers are concerning because racial minorities are far more likely to become infected with HIV and are significantly less likely to receive "timely and appropriate care" (Gwadz et al., 2006, p.786). Additionally, because Blacks tend to have sex with partners of the same race or ethnicity, as the prevalence of HIV continues to increase in black communities, individuals face a growing risk of HIV infections with each new partner or sexual encounter (CDC, 2011b).

HIV and women. Heterosexuals accounted for nearly 30% of estimated new HIV infections in 2009 and of people living with HIV in 2008 (CDC, 2011b). Women are especially vulnerable, as they are more likely than are men to acquire HIV through heterosexual contact; 72% of all women living with AIDS in 2003 were thought to be infected through this behavior (CDC, 2003, 2011b; Mack & Ory, 2003). Heterosexual women accounted for a quarter of new infections in 2009 (Bowleg et al., 2000; CDC, 2011b).

Heterosexual women of racial minorities are the fastest growing group with HIV in the United States (CDC, 2011a). Since the beginning of the epidemic, there has been a dramatic increase in HIV infection in women, especially women of color. Eighty-five

percent of black women with HIV acquired it through heterosexual sex (CDC, 2011b). By 1999, black women had a rate of HIV infection over 21 times that of white women (CDC., 1999). By 2001, almost 400,000 black women had died from AIDS (CDC, 2005). Today, the estimated rate of new HIV infections for black women is more than 15 times the rate for white women, and more than three times that of Latina women (CDC, 2011b). By 2009, black women accounted for 67% of all HIV infections in women and 30% of new infections among black Americans (CDC, 2011b). With this population plagued by increasing HIV infection rates, now is the time to investigate the factors that are putting black women at increased risk in order to better inform interventions, programs, and treatment.

HIV and midlife and older adults. In 2011, people aged 20–34 had the highest rate of new HIV infections while women approaching midlife (aged 35–44) still represented approximately 30% of new infections (CDC, 2011c). Although HIV is seen primarily as a younger person's disease, during the period from 1996 to 2000, nearly as many persons diagnosed with AIDS were 50 years of age and older as those in their twenties (CDC, 2001). By 2007, those 40 to 49 comprised the largest proportion of newly diagnosed HIV cases in the U.S., implying the immediate need to address this vulnerable "older" population (CDC, 2005, 2009a). Data from New York City, a high HIV-prevalence city, predict that within the next decade the majority of HIV-positive people will be over the age of 50 (Karpiak, Shippy, & Cantor, 2006).

Intersectionality of Age, Gender, and Race in HIV Risk. The term intersectionality refers to the recognition of the relationships among multiple dimensions and modalities of social relations (McCall, 2009). As we come to recognize that the

larger HIV pandemic is actually constructed by smaller populations' epidemics, it becomes important to look not just at individual groups with higher risk, but also at those populations that lie at the intersection of multiple risk groups (Mann, Tarantola, & Netter, 1992). One example of this is the intersection of HIV risk of being a woman, being black, and being older. HIV and AIDS are important causes of increased morbidity for a significant number of middle age and older women.

The intersectionality of age, gender, and race in HIV risk puts older black women at particularly high risk for Sexually Transmitted Infections (STIs), including HIV. As is the case in younger populations, racial and gender disparities in HIV/AIDS prevalence and incidence rates exist among older adults. In 2005, 67% of older women diagnosed with HIV in the United States were African American, and women of color constituted 70% of HIV/AIDs cases in women 50 years of age and older (Bowleg et al., 2000; CDC, 2005; Levy-Dweck, 2005). Although Blacks make up approximately 11% of the total female population aged 50 and older, they account for more 65% of HIV infections and more than 50% of AIDS cases in older women (CDC, 2002; United States Census Bureau, 2001).

If these rates continue, as the U.S. population ages, heterosexual midlife and older women are likely to represent a growing segment of all HIV and AIDS cases. The intersectionality here complicates prevention and treatment issues. However, by focusing on this growing, and underserved, population, we can begin to determine the most salient predictors of risk.

Reasons for Increased Risk

Women's biological susceptibility to HIV. Biologically, women are more susceptible to some sexually transmitted infections (STIs), including HIV, than are men (Harvey et al., 2002). There are several biological characteristics that make transmission to women easier. For example, heterosexual transmission of HIV is more likely when a women engages in sex during menstruation, uses oral contraceptives, or has cervical ectopy (Clemetson, Moss, Willerford, & al., 1993).

The risk of STI transmission is significantly higher from man to woman than from woman to man. For instance, the risk of a woman's acquiring gonorrhea from one act of intercourse ranges from 60% to 90%. However, for men this risk is only between 20% and 30% (Judson, 1990). HIV is transmitted at least eight times more effectively from man to woman (De Vincenzi, 1994; Padian et al., 1987; Padian, Shiboski, & Jewell, 1991). Women have larger mucosal surfaces in their genitalia than men, and men carry more of the HIV virus in their semen than women do in their vaginal fluids, resulting in easier viral transmission from man to woman (Volberding, 2007). As the receptive partner in heterosexual intercourse, women are at greater exposure to the virus as a result of pooled semen in the vagina and greater trauma to tissues during intercourse (Wingood & DiClemente, 2000; Wong, Singh, Mann, Hansen, & McMahon, 2004).

Additionally, women often have much more severe health effects from STIs than do men (Harvey et al., 2002). Because STIs are more likely to be asymptomatic in women compared to men, they are less likely to be detected in women, resulting in the possibility of further damage to health because of the delay in diagnosis and treatment (Harvey et al., 2002). It is estimated that between 30% and 80% of women with

gonorrhea and as many as 85% of women with Chlamydia are asymptomatic (Hook & Handsfield, 1990). Finally, when the presence of an STI is suspected, it is often more difficult to diagnose in women than men because men's genitals are more easily viewed in a clinical exam (Aral & Guinan, 1984).

As women age, they become more biologically susceptible to STI acquisition, as risk transmission is complicated by the aging process. Such hormonally related changes as decreased estrogen levels can result in the thinning or atrophy of the vaginal wall and mucosa, which can result in decreased lubrication and increased risk of vaginal tearing during intercourse (Conde et al., 2009; Linsk, 2000; Savasta, 2004). Additionally, the symptoms of initial and advanced HIV/AIDS can be confused with the natural aging process. For example, cognitive changes, fatigue, weight loss, and frailty may be attributed to older age or the existence of a comorbid illness, resulting in missed diagnosis and delayed treatment (Linsk, 2000; Manfredi, 2002). While there are still aspects of HIV transmission that have not been fully studied, it is clear that many biological factors increase women's susceptibility to HIV.

Discrimination, racism, and stigma's effects on Black's HIV susceptibility. Research suggests that experiences of discrimination are often negatively associated with health (Shi & Stevens, 2005). Pathways through which discrimination and inequality harm health have become increasingly clear (Adimora & Schoenbach, 2005; Adimora, Schoenbach, & Doherty, 2006b). Discrimination from health care providers can be especially damaging and can play a significant role in Blacks' negative health outcomes and willingness to seek timely sexual health treatment (Lichtenstein, Hook, & Sharma, 2005). A higher risk of HIV infection exists among women of color, partially because

they not only feel the negative effects of classism and sexism, but racism as well (Pulerwitz et al., 2000). These negative effects of discrimination can be caused by both real and perceived discrimination.

Self-reported discrimination has been linked to such risky behaviors as excessive drinking, smoking, and low compliance with medical advice (Shi & Stevens, 2005). Adimora and colleagues (2006) found that some respondents reported that "extensive economic injustice and racial discrimination that constrained educational and employment opportunities, job advancement, and other aspects of their lives (p. S.43)." Some also attributed STI-related risk behavior to institutional racism through such problems as community substance abuse, boredom, and absence of recreational outlets. The conclusion can be drawn that there is an indirect connection between discrimination and some risky behaviors, including sexual health behaviors. Moreover, Blacks are more likely than are Whites to choose sexual partners from "the core (persons who have had at least four partners in the last year) (p. S40)." This indicates that STIs tend to stay within the black population because of partner choices. Also, unlike other racial groups, Blacks tend to choose other Blacks as partners (Adimora, Schoenbach, et al., 2006b). Because Blacks tend to have relationships with those in their own community, it is likely that the effects of discrimination are felt by both partners.

Likewise, stigma also promotes mistrust and under-utilization of medical and sexual health facilities. Research consistently documents alarming levels of stigma and discrimination (Herek, 1999; Herek, Capitanio, & Widaman, 2002). Stigma is associated with emotional distress, treatment delays, and poor health outcomes (Lichtenstein et al., 2005). Sexual health stigma is most prominently noted through labels used to describe

those with HIV or STIs—for instance, referring to those infected as "vectors" and uninfected people as "innocents" (Lichtenstein et al., 2005). Lichtenstein and colleagues also found that strong conservative influences limited sexual health discussions, fueled reports about mistreatment in clinics, and raised concerns about confidentiality (Lichtenstein et al., 2005).

Black women are particularly victimized by stigma. HIV-related stigma and discrimination remain evident in high rates of violence and victimization associated with HIV status, particularly for women (Zierler et al., 2000). Additionally, they are often described as 'good' or 'bad' according to their behavior or STI status (Lichtenstein et al., 2005). These findings suggested that the health workers were responsible for perpetuating these beliefs, which also led to both clinic workers and patients blaming the woman for "spreading" the STI (Lichtenstein et al., 2005). The internalized nature of such stigma is evidenced in newly diagnosed individuals' reports of feeling simultaneously like victims and wishing to seek revenge (Lichtenstein et al., 2005). Visibility was also a major issue in the stigma of screening and preventive care. A study by Lichtenstein et al. (2005) found that a clinic in Alabama had high rates of stigma due to the proximity of the STI clinic to public housing and the fact that STI patients had to enter through a separate entrance from the rest of the health department medical services. A desire to avoid the gossip and stigma of being seen at the STI clinic promoted avoidance rather than prevention and testing.

Midlife and older women's social susceptibility to HIV. Today, a growing proportion of AIDS cases—and a majority of cases among women—are attributed to heterosexual contact (Mack & Ory, 2003; Stall & Catania, 1994). Ageist stereotypes

suggest that older adults do not engage in the sexual and drug-related behaviors that carry risk for HIV at the same rate as younger populations. However, population-based studies, as well as studies of mid-life and older women, have suggested that although these women are particularly unlikely to perceive of themselves as at-risk, they face risks for HIV exposure by virtue of their relationship dynamics with male partners, risky sexual behaviors, and substance use (Corneille, Zyzniewski, & Belgrave, 2008a; Neundorfer, Harris, Britton, & Lynch, 2005; Sormanti & Shibusawa, 2007). Therefore, only small percentages of older women adopt safer sex practices or undergo HIV testing (Mack & Ory, 2003; Stall & Catania, 1994).

Numerous social factors contribute to an increase in the prevalence and diagnosis of HIV/AIDS and other STIs among older adults. The introduction of erectile dysfunction medications has increased sexual activity among certain older adult populations and heightened the risk of contracting HIV/AIDS and other STIs by increasing the number of men able to engage in sexual intercourse (Kim, Kent, & Klaussner, 2002; Sanchez & Gallagher, 2006). Older men who use Viagra have been shown to engage in higher risk behaviors and have 35% more concurrent sexual partners than those who do not use Viagra. Additionally, older Viagra users have been shown to have 35% more sexually transmitted diseases than those who do not take such medication (Kim, Kent, & Klaussner, 2002; Sanchez & Gallagher, 2006). In addition to such drugs as Viagra, online dating, singles clubs, retreats, and Elderhostel have grown in popularity, increasing the opportunities for older adults to meet more people who could become new sexual partners (Eldred & West, 2005). These opportunities, in conjunction with more liberal views of sexuality and increased Viagra use, have created a pivotal moment in which

older adults are both more accepting of non-marital sex and more able to physically participate in it (Agate, Mullins, Prudent, & Liberti, 2003; Binson, Pollack, & Catania, 1997; C.M. Gott, 2001; C.M. Gott, 2006; Klein et al., 2001; Walz, 2002).

However, despite these risks, older adults believe their vulnerability to HIV and STIs declines with age and reduced sexual activity (Davis, Duncan, Turner, & Young, 2001b). These incorrect perceptions of susceptibility place older adults at increased risk for HIV and STI contraction. In addition to negative personal beliefs regarding condom use and necessity, studies focused on older adults have shown that these populations entertain inaccurate perceptions of risk and lack of awareness regarding HIV and STI infection transmission (Savasta, 2004).

There is a paucity of readily available and age-appropriate educational material regarding sexual health risks and HIV/STIs for older adults. Lacking such materials, hearsay and myths will continue to dominate the sexual health knowledge of midlife and older adults, leading to a continuation of high-risk sexual behavior (Eldred & West, 2005; Klein et al., 2001; Paranjape et al., 2006; Savasta, 2004; Ward, Disch, Levy, & Schensul, 2004). Educational interventions and materials are necessary to curb the rising rate of new infections among older adults, especially among black women.

Finally, many researchers have acknowledged disparities in social power between women and men (Connell, 1987; French & & Raven, 1959; Johnson, 1976; Kanter, 1977; Lorber, 1998). Lower social power is related to women's inability to engage in safer sex practices. Some researchers believe that women have lower power to negotiate condom use or to make other personal sexual health choices that subsequently put them at greater risk of transmission than men (Kline, Kline, & Oken, 1992; Wingood, Hunter-Gamble, &

DiClemente, 1993; Worth, 1990). Lower social power has been expressed through women's greater risk for intimate partner violence (IPV), which is linked with lower condom use and higher risk for HIV and STI infection (Wu, El-Bassel, Witte, Gilbert, & Chang, 2003). Presence of IPV can push women to avoid violent behavior perpetrated by male partners, which has been linked with lower condom use and higher risk for HIV and STI infection (Ludwig-Barron et al., 2014; Wu et al., 2003). Perceptions of power, relationship dynamics, and relationship context are important factors in sexual health choices and negotiations (Blanc, 2001; Civic, 1999; Harvey et al., 2002; Pulerwitz et al., 2000; Soet et al., 1999; Wingood & DiClemente, 2000).

Black women may be at further risk for HIV and STIs because of relationship and power dynamics. There is some conflicting literature about the role of relationship power in sexual health choices. Some studies have suggested that women, especially minority women, may not be capable of negotiating safer sexual practices with male partners (Kline et al., 1992; Worth, 1990). However others have found that lack of power in sexual relationships was not a salient barrier to condom use, as a majority of couples made contraceptive decisions together (Bird & Harvey, 2000-2001; Bowleg et al., 2000; Harvey & Bird, 2004; Harvey et al., 2002; Kline et al., 1992; Wingood et al., 1993). Condom use was much lower with ongoing partners, as many women felt that condoms were not as important with their primary partner (Kline et al., 1992; Wingood et al., 1993). Understanding the existing differences in black women's perceived relationship power and relationship dynamics is necessary to best understand how to mitigate increased risks for HIV transmission and infection.

Although work has been done on power and relationship dynamics among younger populations, there is a lack of understanding of power dynamics among midlife and older adults. Before effective interventions can be developed with this population, we need to understand the role psychosocial variables, age, gender relations, and power dynamics exert on sexual health choices among midlife and older women. In terms of relationship power and dynamics, it is not enough to understand who has power in different situations, but how that differential power creates meaning for the prescription of social interactions, including health behaviors that are either protective or risky. Before new measures of power can be developed for midlife and older adults, a general understanding of key characteristics that increase risk and the definitions of interpersonal-relationship power and how it is measured must be developed.

Relationship Power

Definitions of power. Definitions of gendered power have been in the social science literature for decades. In 1959, French and Raven developed a model of sources of power based on interpersonal relationships containing the five domains of social power: reward, coercive, expert, legitimate, and referent. In 1976, Johnson proposed that men hold higher levels of coercive power (when someone believes he or she can punish them); reward power (when someone believes that he or she can give them a desired reward); expert power (those who have an expertise or knowledge in a specific area of study or domain); and greater legitimate power (the extent to which others believe that he or she has the right to exert influence over others) (Johnson, 1976). This type of power-over power is generally given to men because, socially, they are more likely to be seen as the “head of the house” or the household “breadwinner” and therefore more legitimate in

their action of power over a woman, which brings into light the importance of social norms as influences on definitions of power. Additionally, Johnson proposed that referent power (likeableness or social attractiveness) would be appropriate for both men and women (Johnson, 1976). This kind of power, described first by French and Raven (1959) and subsequently by Johnson (1976) describes a power relating to the access of resources that can be employed in influencing or controlling others. Alternatively, power coming from source-independent resources includes informational power (based on the content of the message rather than the influencer); power resources (men are more often seen as holding legitimate power, expert power, and coercive power here); and influence strategies (communication styles, men are more expected to be direct and competent, whereas women are expected to be indirect and helpless) (Lips, 1991).

In 1987, Robert Connell first proposed a new theory regarding gender and power issues. The theory of gender and power is a structurally-based theory focusing on gender-based power imbalances. The theory of gender and power is a social-structural theory first espoused in Connell's 1987 book, *Gender and Power*. Connell posits that gender roles that exist in both personal relationships and in the broader social structure result in power imbalances and inequities between women and men that put women at a social and personal disadvantage. Connell (1987) proposes three major structures that characterize these gendered relationships: the sexual division of labor (the allocation of differing types of work between women and men); the sexual division of power (inequalities in social power and interpersonal power between women and men); and the structure of cathexis (dictates social norms that influence power imbalances between women and men). These

three structures explain the socially-culturally-bound gender roles of both women and men and act together on both societal and institutional levels.

In 1991, Hilary Lips described types of gendered power. She explains that power can be broken into personal power, collective power, and institutional power. Personal power includes control over others, the capacity to achieve goals, the strength to resist influence, and inner-strength (ability to endure, not to fall apart in adversity).These are strongly related to the concept of self-efficacy often included in models explaining public health behaviors. Collective power includes power derived from membership in a high-status group. This could include groups based on gender, class, race, religion, or other socially-centered groups. Institutional power includes power that is conferred by a specific political or social position in an institution (e.g., that of the U.S. Presidency or the leader of a church) (Lips, 1991).

Gendered power, or sexual relationship power, is multifaceted and is defined by influences from the individual's empowerment, dynamics between the partners, and larger, macro-level social influences that favor men (Jenkins, 2000; Wingood & DiClemente, 2000). Although research has explored connections between relationship power and sexual risk, a lack of measurement consistency makes differentiation among the concepts of relationship power and similarities across samples more difficult to detect (Castaneda, 2000; Pulerwitz, Amaro, De Jong, Gortmaker, & Rudd, 2002).

Measuring sexual relationship power in the current literature. Literature on the effects of perceived relationship power varies widely in power definitions, study populations, methods, and measurement. Studies across the globe have reported a variety of power definitions. For instance, some explained the operational definition they were

working from while others merely explained the construct as part of the description of its measurement. Study methods ranged from qualitative focus groups and in-depth interviews to quantitative survey and intervention research.

Power has been measured qualitatively with such open-ended questions as, "What makes you feel powerful in your relationship?" The majority of quantitative studies have used invalidated, single- or multiple-item scales that the authors wrote themselves or that had been used in a previous study. Few measures used were from scales that had been previously validated (Boer & Mashamba, 2007; Bui et al., 2010; Cabral et al., 2003; Fenaughty, 2003; Goldenberg, Shoveller, Ostry, & Koehoorn, 2008; Hoffman, O'Sullivan, Harrison, Dolezal, & Monroe-Wise, 2006; Kelly et al., 2004; Kocken, van Dorst, & Schaalma, 2005; MacPhail & Campbell, 2001; NIMH, 2007; Panchanadeswaran et al., 2010; Raiford, Wingood, & DiClemente, 2007; Sionéan et al., 2002; Yang & Xia, 2006). The differences in how power is defined and measured in the literature complicate the ability to generalize or draw conclusions across samples or populations. Validated measures are essential to the ability to make sense of the relationship power construct in a generalizable way.

Measures of power have included items regarding intimate partner violence, gender inequalities, self-efficacy of communication (primarily condom use communication), relationship control, infidelity, decision making, commitment, and sexual exchange and economic dependence (Boer & Mashamba, 2007; Bui et al., 2010; Cabral et al., 2003; Fenaughty, 2003; Goldenberg et al., 2008; Harvey et al., 2002; Hoffman et al., 2006; Kelly et al., 2004; Kocken et al., 2005; MacPhail & Campbell, 2001; NIMH, 2007; Panchanadeswaran et al., 2010; Raiford et al., 2007; Sionéan et al.,

2002; Yang & Xia, 2006). Panchanadeswaran and colleagues (2010) described the influence of violence on power through experiences of partner physical violence and experiences of sexual violence. Other studies examined the influence of violence on the reduction of women's felt power by partner abuse after condom negotiation or after refusal of sex without a condom or whether sex is consensual (Cabral et al., 2003; Fenaughty, 2003; Hoffman et al., 2006; MacPhail & Campbell, 2001; Raiford et al., 2007); men's abusive and coercive treatment of female sexual partners (Kelly et al., 2004; MacPhail & Campbell, 2001); violence as a proxy for social power imbalances (Fenaughty, 2003); and women's experiences of sexual and physical violence (Cabral et al., 2003; NIMH, 2007). Relationship factors hypothesized to contribute to the definition of sexual power include perceived partner fidelity (Panchanadeswaran et al., 2010) and partner's age difference (Sionéan et al., 2002). Other studies included these and additional relationship factors in their prediction of condom use, but did not include them in the manner in which the authors defined power.

Adherence to or agreement with traditional gender norms and roles have been a common way in which gender norms were shown to influence relationship power (Boer & Mashamba, 2007; Bui et al., 2010; Fenaughty, 2003; Kocken et al., 2005; Sionéan et al., 2002). Gender norms were also described as a part of power because of felt sexual inequalities in relationships (NIMH, 2007; Yang & Xia, 2006). Kelly and colleagues (2004) discussed gender norms in the context of differential sexual freedom among partners as contributing to power differences. Infidelity was discussed as an expression of power because of the perception that extra-relationship sex is normative for men and does not necessarily mean the end of a relationship. Women's acceptance of infidelity further

decreased their relationship power. The same tolerance for infidelity is not extended to women. Infidelity has consequences on relationship power, whether real (Kelly et al., 2004; NIMH, 2007) or perceived (Panchanadeswaran et al., 2010). Aspects of self-efficacy that were discussed as contributing to a definition of relationship power include self-efficacy for condom use in general (Boer & Mashamba, 2007; Sionéan et al., 2002); while intoxicated (Fenaughty, 2003); and across different situations (Bui et al., 2010; Fenaughty, 2003); and condom negotiation (Cabral et al., 2003; Fenaughty, 2003; Goldenberg et al., 2008; NIMH, 2007); sexual communication (Fenaughty, 2003; Raiford et al., 2007; Sionéan et al., 2002); and assertiveness (Fenaughty, 2003).

The most general definitions of power and, specifically, relationship power, as those discussed above, often involve aspects of control. The influence of control on relationship power was presented by determining when to have sex (MacPhail & Campbell, 2001; NIMH, 2007), control over condom use (Boer & Mashamba, 2007), getting someone to do what you want even with resistance (Fenaughty, 2003), control over partner (Fenaughty, 2003), being the boss (Fenaughty, 2003; Zukoski, Harvey, & Oakley, 2011), and dominating or ordering around (Fenaughty, 2003). Control and decision making are closely related in their influence on relationship power. Although being the decision maker exerts a certain amount of control, controlling someone else extends beyond decision making. Decision making was discussed in relation to sexual power through deciding when to initiate sex and what the sex will be like (e.g., pace) (Harvey et al., 2002; Hoffman et al., 2006), decisions about condom use (Cabral et al., 2003; Harvey et al., 2002), decisions on other important matters (Fenaughty, 2003; Harvey et al., 2002), and decisions about pregnancy (Harvey et al., 2002). Power has also

been described by some in terms of power equity rather than in terms of power over another (Fenaughty, 2003; Zukoski, Harvey, & Oakley, 2011).

The partner with less attachment to the relationship can exert more power. This is partially because the other partner might be more compromising in an attempt to keep the relationship intact. Feelings of relationship commitment operate in a similar manner (Fenaughty, 2003; Harvey et al., 2002). Physical attractiveness has been shown to give women more perceived power. They feel that if they are more attractive, they can have more influence on a man or withhold sex if they don't get what they want (Harvey et al., 2002).

Finally, exchange of money, resources, and drugs or alcohol creates a strong power dynamic and dependence. Conversely, women's economic independence has been shown to be a predictor of high perceived relationship power. When the man has more money, he has "power over" the woman, but when the woman is financially independent, she has the "power to" make her own choices and use her own resources. Exchange or economic dependence or independence has also defined power in the literature (Fenaughty, 2003; Harvey et al., 2002; Sionéan et al., 2002).

Other Important Psychosocial Predictors

Psychosocial characteristics, gender-based power, relationship dynamics, and relationship context are important individual and social factors in women's sexual health choices and safer sex negotiations (Blanc, 2001; Civic, 1999; Harvey et al., 2002; Pulerwitz et al., 2000; Soet et al., 1999; Wingood & DiClemente, 2000). As discussed above, sexual self-efficacy is affected by gendered social influence, especially for women of color. Social norms theory also posits that peer influence is based on beliefs about the

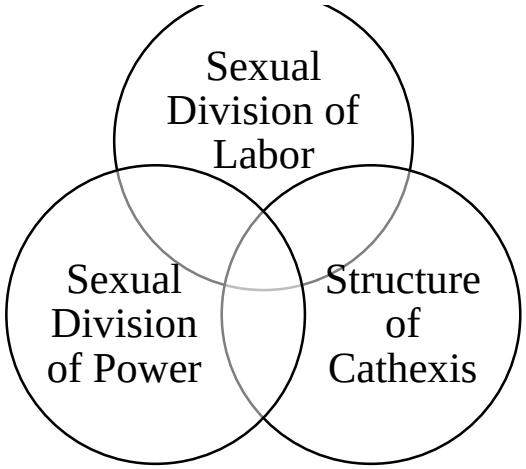
norms that are prevalent among one's peers (Berkowitz, 2005). A majority of studies, however, have investigated only the effect of peer influence among adolescents and young adults, rather than throughout the life course. There is a need to determine if peer norms affect women across adulthood, and if that association varies by age. A positive future orientation has been associated with lower likelihood of risky behaviors including drug use, alcohol use, and risky sexual behaviors among adolescents (Kingree, Braithwaite, & Woodring, 2000; Robbins & Bryan, 2004). Although future orientation has not been investigated within an adult sample, a pattern of significant age differences among adolescents would suggest that the relationship between future orientation and age will continue into mid- and later-life. There is still a paucity of literature investigating the impact of age on beliefs, influences, and behavior across adulthood, and more specifically, among black women.

Conceptual Frameworks for the Proposed Research

The theory of gender and power is derived from Robert Connell's social structural theory, first espoused in his 1987 book, *Gender and Power*. This book attempts to provide a social analysis of gender that reformulates social and political theory. Connell posits that gender roles that exist in both personal relationships and the broader social structure result in power imbalances and inequities between women and men that put women at a social and personal disadvantage. Connell points out that these inequities are not an inherent part of human life, i.e., are not inherent in our biological sex, but rather are a social construct that has ramifications in all aspects of our lives.

Connell proposes three major structures that characterize gendered relationships: the sexual division of labor, the sexual division of power, and the structure of cathexis (Figure 1.1). These three structures explain the socially- and culturally-bound gender roles of women and men and act together on both societal and institutional levels. The societal level supports strong historical and sociopolitical forces that segregate power, ascribe social norms, and maintain disparate gender roles. The societal level is expressed and additionally maintained through such institutions as schools, the workplace and industry, families, interpersonal relationships, religious organizations, the medical system, and the media. These two levels (societal and institutional) support and maintain each other in a bi-directional relationship. The institutional level is supported by broad gender roles which are, in turn, supported by the societal social norms and stereotypes.

Figure 1.1. Theory of Gender and Power



The sexual division of labor describes the allocation of differing types of work between women and men. Prior division of work, over time, becomes a social rule allocating different kinds of people to different kinds of work (R. Connell, 1987). Variations in work allotment are seen in both paid and unpaid work, from the scale of individual work environment to wider categories of workers and fields of study. It is most often manifested in the health literature in the differences in unpaid work (such as housework and childcare) that is often characterized as “women’s work” and inequalities

in wages and educational attainment that put women at a social disadvantage (Wingood & DiClemente, 2000).

The sexual division of power describes inequalities in social power and interpersonal power between women and men, where men wield the power and women lack the power. Power may be a balance of resources and their distribution in small- or large-scale settings. The structure of power is an object of practice as well as condition (R. Connell, 1987). The power structure that puts women at a disadvantage is the socially defined connection of authority with masculinity. Power relations can be as seemingly innocent as how two people communicate, or as volatile as physical, emotional, or sexual violence.

Unlike the sexual division of labor and the sexual division of power, which had been previously discussed in the literature, Connell created an additional influence on gender dynamics with the structure of cathexis. This structure dictates social norms that influence power imbalances between women and men. These social norms include normative actions, taboos, sexual and relationship attachments (and ownership), and normalcy that dictate differences between appropriate exhibition of sexuality, masculinity, and femininity, as well as the society's definition of what is socially acceptable for women.

Connell's (1987) work is focused on a sociological perspective of understanding gender roles and power relations. However, this framework does not relate directly to constructs that can be used for behavior change. For the purpose of using his ideas about gender and power in relation to sexual health and, specifically, the acquisition of HIV and STIs, Wingood and DiClemente (2000) proposed a framework examining gender and

power relationships through a behavioral perspective. The focal relationship of Wingood and DiClemente's adaptation is that the gender-based inequalities set out by Connell's (1987) theory relate to differing health-related exposures and risk factors, which impact health outcomes. They also put forward the proposition that disease risk is influenced by exposures, behavior, and biological differences, resulting in varying levels of risk of disease followed by disparate health outcomes (Figure 1.2) (Wingood & DiClemente, 2000).

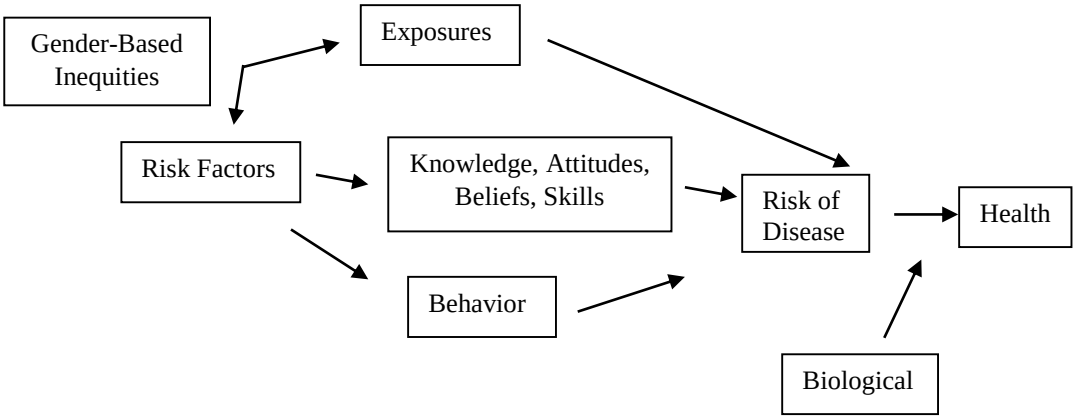


Figure 1.2. Wingood and DiClemente's proposed Theory of Gender and Power framework for HIV risk.

Because much of the division of labor results in women's doing unpaid, domestic work, an economic imbalance occurs in which women have to rely financially on men. The degree to which reliance exists is exacerbated (and often measured) by lower educational attainment, age, minority status, and living at the poverty level. It is important to note that these disparities remain, even among highly educated, mature, middle- and upper-class white women.

Power has been defined differently by several disciplines, including power-over others, power-to act, control over others, and various other sources, including shared

power (Wingood & DiClemente, 2000). Power differentials can result in women's inability to negotiate condom use or other safer sex practices, as well as choose to abstain from other sexually risky behaviors. Constructs that can be operationalized to measure the division of power include history of abuse, partner's decision making about safe sex practices, alcohol and drug use, communication skills, and condom-use skills (Wingood & DiClemente, 2000). This conceptualization of power will be vital in the guidance of not only the development of the new perceived relationship power scale, but also in validation and modeling studies.

Wingood and DiClemente (2000) have renamed the structure of cathexis as the structure of affective attachments and social norms, in an effort to more clearly define this third aspect of Connell's (1987) model. This level dictates sexually appropriate behavior for women and men and explains women's emotional and sexual attachments to men. This structure also prescribes harsher definitions of women's actions of impurity and immorality. It sets up additional sexual health exposures and risk factors that contribute to women's burden of HIV. Variables in this category, such as having an older partner, the desire to conceive, medical mistrust, and religious ideation forbidding contraception use, will all be used to model relationships between the new power scale and condom use outcomes (Wingood & DiClemente, 2000).

Additionally, social cognitive theory (SCT) suggests that behavior is a result of reciprocal relationships between personal and environmental factors (Bandura, 1989). Sexual health interventions utilizing social cognitive theory have been successful in improving preventive behaviors such as condom use, and reducing risky sexual behavior by promoting perceptions such as self-efficacy as well as behavioral skills particular to

various environments (O'leary, 1992). As such, self-efficacy is a cornerstone of social cognitive theory and has been shown to be significantly related to consistent condom use and avoiding high-risk sexual behavior (Bandura, 1994; DiClemente et al., 1996; Wulfert & Wan, 1993). Additionally, since SCT incorporates environmental factors, researchers can utilize the constructs of this theory to frame contextual factors like age and race in terms of their relationships and interactions with personal factors and behavior.

Gaps and Limitations in the Current Research

There are a number of gaps in literature focused on midlife and older adults and their sexual health perceptions, beliefs, feelings, and behaviors. First, although a number of studies have explored psychosocial factors and behavior, few have examined how psychosocial and behavioral factors change across adulthood, especially for black women. Personal characteristics such as peer norms and future orientation have only been explored for adolescents and young adults. No studies have investigated the differences in the relationships between psychosocial predictors and sexual risk behaviors by age. There is a need to determine if personal factors such as these affect women across adulthood and if that effect varies by age. Second, although significant age effects have been reported on sexual partner concurrency, only a small number of studies have explored age effects across young and middle adulthood (adolescent to age 50) (Javanbakht et al., 2010; Neaigus, Jenness, Hagan, Murrill, & Wendel, 2013; Richards et al., 2008). Additionally, no studies have investigated differences in sexual behavior and condom use by age among an adult, black population. Lastly, much work, as discussed above, has been done on relationship power and dynamics among younger populations, but there is a lack of understanding of how relationship power is felt, defined, and

exhibited for midlife and older women. Additionally, no studies have looked at women's definitions of power and how they affect behavior such as condom use and sexual risk taking. Before effective interventions can be developed targeted at a midlife and older population, we need to understand the role that gender relationships and power dynamics play in sexual health choices, and how the intersection of gender, power, race, and age affect women's ability to protect themselves and their health.

Aims of the Research

It is clear from the literature that there is an urgent need to address the risks and risky behaviors of midlife and older black women that put them at greater risk for contracting HIV. But additionally, there is a need to focus in on the social influences that make them, as midlife, minority women, especially vulnerable. The purpose of this dissertation is to explore the effect of age on sexual health including psychosocial risk factors, relationship characteristics, relationship-specific behaviors, and personal and relationship power dynamics among black women to inform interventions that can be targeted for black women across adulthood, but more specifically for black women entering middle age and later life. This study addresses specific gaps in the literature by: 1) examining the role of age as a predictor of risky sexual behaviors with main, casual, and concurrent partners among black women; 2) investigating how age moderates the relationships between psychosocial factors, relationship characteristics, and sexual behaviors among black women; and 3) exploring women's definitions and perceptions of gendered relationship power and how personal and relationship power affect sexual self-efficacy and behavior among midlife black women.

A mixed-methods research design, including two quantitative manuscripts and one qualitative manuscript, was employed to achieve the aims of this research. The results are organized into papers in the following three chapters. The first two papers (Chapters 2 and 3) involve quantitative analyses. In Chapter 2, we explored the effect of age on psychosocial predictors and sexual behavioral outcomes. Additionally, age was explored as a moderator between psychosocial characteristics and behavioral outcomes. This paper contributes to the literature by demonstrating that midlife women are empowered in their sexual negotiations, aware of risks of unprotected sex, and report similar risk behaviors to that of women in their twenties and thirties. Additionally, it describes the role peers and peer networks may play in women's beliefs and behaviors to reduce sexual risk and possible HIV and STI contraction. In Chapter 3, we examined the role of sexual relationship concurrency on risky sex behaviors and how concurrency and differences in behaviors vary by age. This paper contributes to the literature by providing the first examination of concurrency among an urban, sample of black women. Additionally, the effect of age on concurrency behaviors has not yet been explored in this population. In Chapter 4 qualitative focus groups were used to explore midlife women's perceived personal and relationship power, as well as how aspects of relationship power affect women's condom use communication self-efficacy and protective behaviors, such as condom use. Overall, the results of this study have implications for future research and practice, which are discussed in the concluding chapter (Chapter 5).

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Chapter 2:

The effect of age on psychosocial characteristics and risky sexual behaviors among black women.

Abstract

Background: Black women carry a "double jeopardy" when it comes to HIV risk; they are at increased risk because of both race and gender. Older urban black women have been found to be most at risk for HIV. Few studies, however, have examined how psychosocial and behavioral factors change for black women across adulthood, and no studies have investigated the differences in the relationships between psychosocial predictors and sexual risk behaviors by age. This study explores the relationships between inter- and intra-personal factors, behavior, and age. It also investigates the role of age as a moderator of the relationship between beliefs and other psychosocial characteristics and behavior among a sample of black women.

Methods: Adult black women (aged 18–55) were recruited from a hospital-based family planning clinic waiting room in Atlanta, Georgia. Eligible participants completed an audio-computer assisted survey (ACASI) that recorded sociodemographics, and assessed positive future orientation, beliefs about peer norms, condom use costs and benefits, condom use communication, refusal and barrier self-efficacy, and self-reported sexual behaviors. Univariate and bivariate statistics were calculated for predictor and outcome variables. Logistic regression, ordered logistic regression, generalized logistic regression, and generalized linear regression were used where appropriate. Multivariate models were built in a step-wise fashion adjusting first for age and then for other demographic characteristics. Finally, interaction analyses with the categorical age

variable were conducted to assess age as a modifying variable on significant relationships between independent and dependent variables.

Results: Three hundred eighteen adult, black women's data were used in this analyses. On average, women in our sample were 27.42 years old (*SE* = 0.44). Women in this sample had, on average, 10 lifetime vaginal partners (*SE* = 0.61). Women reported a quarter-point reduction in positive future orientation for every five year increase in age. Younger women reported greater sexual communication and refusal self-efficacy than older women, with a -0.08 reduction in self-efficacy for each additional year of age for both characteristics. For every 12.5 year increase in age, reported communication and refusal self-efficacy was reduced by one scale point. Younger women also reported greater costs of unprotected sex as well as greater benefits. Continuous age differences were not significant for women's peer norms and self-efficacy barriers. Age was not a significant predictor of condom use or condom use at last sex act. Younger women had significantly fewer lifetime partners (mean = 8.04 (SE = 0.72)) than both those ages 25-34 (mean = 11.99 (SE = 1.24), $p = 0.0106$) and those ages 35-54 (mean = 12.07 (SE = 1.28) $p = 0.0406$). As women found refusing sex to be easier, they were less likely (*OR* = 0.870, CI = 0.800, 0.946) to have 2 or more current partners versus one partner. Women 25-34 and women 35-54 had a significantly greater number of lifetime partners than those 18-24 years of age. Both the associations of peer norms and refusal self-efficacy were moderated by age. Married women were significantly less likely to use condoms all the time (OR= 0.225, CI = 0.082, 0619) than women in casual relationships. Women who endorsed the benefits of unprotected sex remained significantly less likely to use condoms (*OR* = 0.917, C I= 0.876, 0961) and use only condoms (*OR* = 0.915, CI =

0.0.857, 0.978) than those who did not. Women who endorsed more benefits of unprotected sex and found it easier to refuse unwanted sex were significantly less likely to use a condom at the last sexual encounter (*OR*= 0.906, CI = 0.861, 0.954 and *OR* = 0.908, CI = 0.845, 0.976, respectively).

Discussion: There are significant age associations with beliefs, behaviors, and the relationship between beliefs and behaviors across adulthood. Women moving into midlife are empowered in their sexual negotiations, aware of risks of unprotected sex, and report similar risk behaviors to those of women in their twenties and thirties. As this is the first study to explore age as a moderating factor of the relationship between psychosocial predictors and risky sexual behavior, more research is needed to understand the unique risk factors, beliefs, and behaviors of, specifically, midlife women, but also how these factors change across adulthood.

Introduction

HIV has remained a significant health threat in the United States. The HIV/AIDS epidemic was first acknowledged in the United States in the early 1980s (CDC, 2005). Over the past decade, the number of people living with HIV infections has remained relatively stable (approximately 50,000 new infections a year), however, some groups are still affected more than others (CDC, 2007).

HIV/AIDS rates continue to be substantially higher among Blacks than among Hispanics or Whites, even after adjusting for such correlates as poverty, education, age of first intercourse, marital status, and lifetime sex partners (McQuillan, et al., 2006). In 2010, Blacks represented 12% of the population however they accounted for 44% of new HIV infections and 63% of new HIV infections among women (CDC, 2011a). These higher numbers are concerning because racial minorities are far more likely to become infected with HIV and are significantly less likely to receive "timely and appropriate care" (Gwadz et al., 2006, p. 786).

Black women experience a "double jeopardy" when it comes to HIV risk as they are at increased risk due to both race and gender. Lower education and income, multiple sex partners, history of sexually transmitted infections (STIs), drug use, inconsistent condom use, and being victims of violence are risk factors shown to put women of color at additional risk of HIV (Adimora, Schoenbach, Martinson, et al., 2006; Amaro, 1995; Amaro & Raj, 2000; Javanbakht et al., 2001; Marin, Tschann, Gomez, & Gregorich, 1998; McNair & Prather, 2004; Moreno, El-Bassel, & Morrill, 2007; Pulerwitz, Amaro, & DeJong, 2002; Suarez & Siefert, 1998; Wingood & DiClemente, 1997; Wohl et al., 2002; Yeakley & Gant, 1997). The HIV incidence rate for black women is nearly 15

times that of white women and nearly four times that of Hispanic/Latino women (CDC, 2011a).

Studies of both young and older heterosexual black women suggest that they do not perceive HIV to be a major health risk (Jones & Oliver, 2007; McNair & Prather, 2004). However, although a number of studies show that black women have more HIV risk factors, others have shown higher condom use among black women when compared to other groups (Bryant, 2009; Foulkes, Pettigrew, Livingston, & Niccolai, 2009; Liddon, Leichliter, Habel, & Aral, 2010; Littleton, Breikopf, & Berenson, 2007; Moreno et al., 2007; Reece et al., 2010; Sanders et al., 2010). Vulnerability to HIV and other STIs only increases as black women age. At some point in their lives, approximately one in 30 black women will be diagnosed with HIV. Lauver and colleagues (1995) examined a large sample of women (n = 17, 619) and found that those most at risk for HIV were older, urban, and black.

In 2011, people aged 20–34 had the highest rate of new HIV infections while women approaching midlife (aged 35–44) still represented approximately 30% of new infections (CDC, 2011c). However, a majority of the HIV prevention research focuses on those under the age of 24 or over the age of 50. Investigators studying HIV risk among older adults have found that this population entertains inaccurate perceptions of risk and lacks awareness regarding HIV and sexually transmitted infection (STI) transmission and may be less likely to adopt safer sex practices than those who are younger (Savasta, 2004; Stall & Catalina, 1994; Theall, Elifson, Sterk, & Klein, 2003).

Although a majority of studies focus on risk and behavior of adolescents and young adults, a number have explored sexually-related behaviors and beliefs across

adulthood. For example, Timmons and colleagues (1999) investigated perceived HIV-related sexual risk among a small, qualitative sample of 18– to 44–year-old black women. Bancroft and colleagues (2003) explored distress about sex from a national survey of adult women in heterosexual relationships. Hall (2012), Hetheringon and colleagues (1996), and Corneille and colleagues (2008b) investigated sexual risk behaviors among adult black women through age 61. Lindau and colleagues (2010) investigated an even larger group of women extending through age 85, to explore the link between sex and good health. While all these studies did include women across various stages of adulthood, moderation analyses by age of the relationships between psychosocial predictors and behavioral outcomes were not conducted. There is still a paucity of literature investigating the impact of age on beliefs, influences, and behavior across adulthood, and more specifically, among black women.

Psychosocial characteristics, gender-based power, relationship dynamics, and relationship context are important individual and social factors in women's sexual health choices and safer sex negotiations (Blanc, 2001; Civic, 1999; Harvey et al., 2002; Pulerwitz et al., 2000; Soet et al., 1999; Wingood & DiClemente, 2000). Theories of gender and power posit that gender socialization puts women at increased risk for HIV because, in heterosexual relationships, primarily men have control over condom use, and women who perceive they have a lack of power in the relationship may have difficulty negotiating condom use (Bowleg, Lucas, & Tschann, 2004; DiClemente et al., 2009; Harris, Gant, Pitter, & Brodie, 2009; Wingood & DiClemente, 2002).Social cognitive theory (SCT) suggests that behavior is a result of reciprocal relationships between personal and environmental factors (Bandura, 1989). Self-efficacy has been shown to be

a cornerstone of social cognitive theory. Research has demonstrated that, within a SCT perspective, self-efficacy was related to consistent condom use and avoiding high-risk sexual behavior (Bandura, 1994; DiClemente et al., 1996; Wulfert & Wan, 1993).

Greater self-efficacy using condoms (Bandura, 1994; Jemmott III, Jemmott, Spears, Hewitt, & Cruz-Collins, 1992), the ability to refuse sex without a condom (Sionean et al., 2002), and general sexual communication confidence (R. A. Crosby et al., 2002; DiClemente et al., 2001) are also affected by gendered social influence, especially for women of color (Amaro & Raj, 2000; Krishnan et al., 2008; McNair & Prather, 2004; Sanders-Phillips, 2002; Zierler & Krieger, 1997). Gender stereotypes also put pressure on women to avoid conflict with partners and to put others' needs before their own, which can result in difficulty negotiating condom use (Amaro, 1995; R. W. Connell, 1987; Pulerwitz, Amaro, & DeJong, 2002; Wingood & DiClemente, 2000). Numerous studies have explored condom use communication and refusal self-efficacy among adolescents and young adults, reporting that girls and women who feel more confident in their ability to negotiate condom use report higher frequency of condom use, greater engagement in sexual activity, and lower rates of STIs (R. Crosby et al., 2001; DiClemente et al., 2001; Foreman, 2003; Salazar et al., 2011; Sionean et al., 2002). However, others have found that adolescents' confidence in their ability to perform safer sex did not, in fact, significantly correlate with risky behavior (Bachanas, Morris, Lewis-Gess, Sarett-Cuasay, Sirl, et al., 2002).

Older women, and especially older black women, may have even more entrenched beliefs about gender roles. These beliefs can negatively affect older women's ability to effectively communicate and negotiate condom use with a partner (St.

Lawrence et al., 1998; Winningham, Corwin, Richter, & Gore-Felton, 2004). However, one study (Corneille et al., 2008b) found that older women reported higher condom negotiation efficacy, suggesting that that older women may have had more experience having condom-related conversations and, therefore, reported greater efficacy.

Social norms theory also posits that peer influence is based on beliefs about the norms that are prevalent among one's peers (Berkowitz, 2005). Adolescents and young adults who perceive that their peers are engaging in risky sexual behaviors are significantly more likely to adopt their friends' perceived behaviors (Bachanas et al., 2002; Baumgartner, Valkenburg, & Peter, 2011; Boyer et al., 2000; R. Crosby et al., 2000; Doljanac & Zimmerman, 1998; Millstein & Moscicki, 1995; Salazar et al., 2011). However, protective peer norms have also been shown to have a positive influence (Bachanas et al., 2002; Boyer et al., 2000; R. Crosby et al., 2000; Doljanac & Zimmerman, 1998; Millstein & Moscicki, 1995), contributing to the perception of peer norms as a significant construct in the application of social cognitive theory among adolescents (Diclemente, 1991, 1992; DiClemente et al., 1996). A majority of studies, however, have investigated only the effect of peer influence among adolescents and young adults, rather than throughout the life course. There is a need to determine if peer norms affect women across adulthood, and if that effect varies by age.

The negative perception of condoms, or perceived benefits of unprotected sex, can also contribute to women's condom use decision making (Bryant, 2009; D. P. Kennedy et al., 2010; Sterk, Klein, & Elifson, 2004). Negative attitudes towards condoms include perceived risk of infections and irritating reactions to condoms (Timmons & Sowell, 1999), vaginal dryness and discomfort from dryness, loss of vaginal stimulation

or sensation, less pleasure or loss of feeling connected to their partner, decreased spontaneity, ruining the mood, feeling they are unnecessary when in the heat of the moment, and reduced penile sensitivity that could lead to the loss of an erection and possible anger on the part of a partner (R. Crosby, Milhausen, Yarber, Sanders, & Graham, 2008; Hetherington et al., 1996; Higgins & Hirsch, 2008; Hingson, Strunin, Berlin, & Heeren, 1990; Jemmott III et al., 1992; Nettleman, Brewer, & Ayoola, 2009; Sieving et al., 1997). Women also have reported that unprotected sex promotes trust with their partners, supports a desire to feel close to them, and is evidence of trust and monogamy (R. Crosby et al., 2008; Cummings, Battle, Barker, & Kranovsky, 1999; Hetherington et al., 1996; Higgins & Hirsch, 2008; Nettleman et al., 2009). Older woman may have received poorer sexual health education and may also subscribe to negative beliefs about condoms or believe that condoms suggest mistrust or cheating (Lindau, Leitsch, Lundberg, & Jerome, 2006; Zablotsky & Kennedy, 2003). Additionally, as women approach the end of their reproductive years, they may view condoms solely as a pregnancy prevention method and, therefore, as no longer necessary (Lindau et al., 2006). Because the influence of social pressure to demonstrate trust or avoid negative aspects of condom use may remain constant for women across their lives, these beliefs may not vary by age across adulthood (Corneille et al., 2008b). To our knowledge, no study has investigated both the age effect on negative condom beliefs and how the relationship between negative condom beliefs and behavior varies by age.

A positive future orientation has been associated with lower likelihood of risky behaviors including drug use, alcohol use, and risky sexual behaviors among adolescents (Kingree et al., 2000; Robbins & Bryan, 2004). However, even across adolescents, age

has been shown to be positively related to both future orientation and risky behaviors (Robbins & Bryan, 2004). Although future orientation has not been investigated among an adult sample, this pattern would suggest that the relationship between future orientation and age will continue into mid- and later-life.

Within the context of other protective behaviors, such as fewer sex partners, consistent condom use has been shown to be one of the best ways to reduce risk for STIs, including HIV (CDC, 2009b). Many studies suggest that condom use and condom use intentions decrease as age increases, especially for women of color (Bryant, 2009; Certain, Harahan, Saewyc, & Fleming, 2009; Chan & Martin, 2009; Corneille et al., 2008b; Frost, Singh, & Finer, 2007; Higgins, Tanner, & Janssen, 2009; Littleton et al., 2007; Merchant et al., 2006; Paxton, Williams, Bolden, Guzman, & Harawa, 2013; Sanders et al., 2010; Schable, Chu, & Diaz, 1996; Senn & Carey, 2010; Williams, Larsen, & McCloskey, 2008; Xaverius, Tenkku, & Salas, 2009; Zablotsky & Kennedy, 2003). Even among a college-aged sample, younger age and more experience using condoms were significant predictors of condom use (Bazargan, Kelly, Stein, Husaini, & Bazargan, 2000). Although numerous studies have investigated the effect of age on condom use, none has explored age as a moderator of psychosocial predictors of condom use.

Utilizing the theory of gender and power (Connell, 1987; Wingood & DiClemente, 2000) and social cognitive theory (Bandura, 1994), the purpose of this study is to investigate the differences in personal factors (self-efficacy, future orientation, unprotected sex beliefs), environmental factors (peer norms), and behavior (number of sexual partners, condom use, and other pregnancy prevention methods) by age among an

adult sample of black women. Additionally, we will explore how age acts as a moderator of the relationship between personal and environmental factors and behavior.

Method

Participants

Participants were recruited from a hospital-based family planning clinic waiting room in Atlanta, Georgia. Eligibility criteria included being a black woman, 18–55 years old, HIV-negative or unsure of HIV status, having had at least one unprotected sex act (vaginal, anal, or oral) in the past six months, and providing verbal informed consent to participate in the study. A total of 321 women took part in the study. Participants were compensated $25 for their participation. The Emory University Institutional Review Board and the hospital Research Oversight Committee approved the study protocol prior to implementation.

Data Collection

Participants were approached for participation at a family planning clinic at a large, urban hospital. Interested participants were escorted to a private room for informed consent procedures and eligibility screening. Eligible participants completed an audio-computer assisted survey (ACASI) administered on laptop computers in a private room. The survey took approximately one hour to complete and participants were compensated $25 for their time. Study staff monitored survey administration and answered questions as needed.

Measures

The survey measured variables such as sociodemographics, positive future orientation, beliefs about peer norms, condom use costs and benefits, condom use

communication, refusal, and barrier self-efficacy, and self-reported sexual behaviors. Cronbach alphas for scale scores are provided in Table 2.1.

Demographics. Participants reported their level of education, employment status, household and personal income, number of children, and health insurance status. For those with a reported main partner, partner status (casually dating, exclusively dating, and married) was reported.

Age. Age was measured as a continuous variable. Additionally, age was categorized into emerging adults (18-24), adulthood (25-34), and early midlife (35-54). Nationally datasets break down age into similar (yes slightly smaller) age categories (CDC, 2014). As age is a primary focus of this study, we explored the relationships between age and psychosocial factors as well as the bivariate relationships between age and our behavioral dependent variables. Because some non-linear relationships were identified between age and the outcome variables; these relationships were then explored by age as a continuous variable, categorical variable (as described above), and with a quadratic term. The categorical and quadratic models were a better fit to the data. The relationships between age and psychosocial predictors is reported for both the continuous and categorical versions of the age variables as some loss of power is evident after categorizing. For greater ease of interpretation of the age differences observed in the outcome variables, the categorical age variable was used for model building. Although a slightly lower *F*-value was generated with this categorization, models were compared and substantive findings were largely the same.

Positive Future Orientation. Positive future orientation was measured through an adapted version of the Consideration of Future Consequences (CFC) Scale (Crockett,

Weinman, Hankins, & Marteau, 2009; Strathman, Gleicher, Boninger, & Edwards, 1994; Whitaker, Miller, & Clark, 2000). This scale included four items (e.g., "What happens to me in the future mostly depends on me.") Scale scores were created by summing the four items to create a continuous scale score, with higher scores representing greater positive future orientation.

Peer Norms. The Peer Norms scale consisted of five items measuring the participant's perceptions of peer norms around condom use (e.g., "How many of your friends think that it's okay to have sex without a condom?"), relationship characteristics (e.g., "How many of your friends think that cheating on your partner is okay?"), and sexual risk behavior (e.g., "How many of your friends think that it's safe to have sex when you are high on drugs or alcohol?"). Scale scores were created by summing the five items to create a continuous scale score, with higher scores representing a participants' feelings that peers endorse more risky behavior.

Self-Efficacy. Communication Self-Efficacy consisted of six items (G.M. Wingood & R.J. DiClemente, 1998). Items measured the difficulty for the participant of discussing sexual health topics (e.g., "How hard is it for you to ask if he is having sex with you and other women?"), using a condom (e.g., "How hard is it for you to demand that he use a condom?"), and refusing unsafe sex (e.g., "How hard is it for you to refuse to have sex if he won't wear a condom?"). Refusal Self-Efficacy consisted of seven items measuring a woman's ability to say no to sex with someone under different circumstances (e.g., "How sure are you that you would be able to say no to having sex with someone you have known for a few days or less?" and "How sure are you that you would be able to say no to having sex with someone who is pressuring you to have

sex?"). For communication and refusal self-efficacy scales, higher scores represented more ease in communication or refusal, or higher self-efficacy for those behaviors. Barrier Self-Efficacy consisted of four items that measured a women's perceptions of her partner's emotional reaction to asking for condom use (e.g., "If I asked my partner to use a condom, he might get angry") as well as a physical reaction (e.g., "If I asked my partner to use a condom, he might get turned off or lose his erection/hard on"). This scales measures a women's self-efficacy in addressing condom use in the presence of perceived barriers. Self-Efficacy scale scores were created by summing the items to create a continuous scale score. For barriers, higher scores represented more endorsement of felt barriers to condom use requests.

Unprotected Sex Beliefs: Costs and Benefits. Unprotected sex costs were determined by a five-item self-developed scale (e.g., "Having unprotected sex could cause me to get an STD" and "Having unprotected sex could put my partner at risk for an STD"). Unprotected sex benefits were determined by a six-item self-developed scale (e.g., "Having unprotected sex feels better than using a condom," and "Having unprotected sex shows my partner that I trust him"). Both scales were created by summing the items to create a continuous scale score. Higher scores represented greater costs or benefits of practicing unprotected sex.

Self-Reported Sexual Behaviors.

Number of Current Partners. Participants were asked if they had a current main partner and the number of casual partners they currently had. Number of current sexual partners was created by summing the number of casual partners reported with the

presence of a main partner. Because of large zero-inflation, the number of current partners was categorized into three groups (0, 1, and 2 or more partners).

Condom Use. Participants were asked to report the number of times they had vaginal sex in the past three months. Additionally, they were asked how many times they used a condom during vaginal sex in the past three months. Condom use percentage was determined by dividing the number of times a condom was used by the total number of times the participant reported vaginal sex. Because of a large zero-inflation, condom use was dichotomized into no condom use vs. some/consistent condom use.

Types of Protection. Participants were asked if they used a condom or other type(s) of disease or pregnancy protection the last time they had vaginal sex. Type of protection was categorized as condom only, hormonal method only, both methods, or neither method. For this study each of these categories was explored dichotomously.

Data Analysis

Univariate and bivariate statistics were calculated for predictor and outcome variables. We also tested for associations between age and all independent and dependent variables. For number of current partners (0, 1, and 2 or more), 2 or more partners was the reference group, ordered logistic regression was used if the proportional odds assumption held, otherwise generalized logits were used. Logistic regressions were run for condom use, condom use at last sex, condom use only, hormonal use only, both condoms and hormonal use, and neither condoms nor hormonal use. Generalized linear modeling was used for the outcome of number of lifetime partners. Multivariate models were built in a step-wise fashion adjusting first for age and then for other demographic characteristics. Finally, interaction analyses with the categorical age variable were

conducted to assess age as a modifying variable on significant relationships between independent and dependent variables. All analyses were conducted using SAS 9.4.

Results

Three hundred twenty-one adult, black women completed data collection. One participant was an outlier for number of current sexual partners (over 17 standard deviations above the mean) and was removed from the analyses. Two additional women were outliers on the number of lifetime partners and were also removed from the analyses, leaving a total of 318 in the analyses. On average, women in our sample were 27.42 years old (*SE* = 0.44). Slightly more than half (52.83%, *n* = 168) were employed; 70.13% (*n* = 223) had a personal income less than $10,000 a year; 72.64% (*n* = 231) had at least one child; and 55.66% of women did not have health insurance. The majority of women (69.73%; *n* = 205) were in an exclusive dating relationship with their main sexual partner. Another approximately 17% were casually dating, and approximately 13% of the women were married to their main sexual partner. On average, women in this sample had approximately 10 lifetime vaginal partners (*SE* = 0.61). In the three months prior to the study, the women had a mean of 1.31 vaginal sex partners (*SE* = 0.04) and reported using condoms about 29% of the time when they had vaginal sex (*SE* =0.02). Additionally, 28.98% (*n* = 91) of the women in this study reported using a condom the last time they had vaginal sex.

Psychosocial independent variable scores were calculated as described above. Table 2.1 describes the mean, standard error of the mean, median, and Cronbach's alpha for each scale score. For the future orientation scale, scores ranged from 4 to 20. Peer norm scores ranged from 5 to 25. The three self-efficacy scales (communication, refusal,

and barriers) scores ranged from 6 to 24, 7 to 28, and 4 to 20, respectively. Unprotected sex cost scores ranged from 5 to 25; and unprotected sex benefit scores ranged from 6 to 30 [Table 2.1].

Relationships between age and psychosocial characteristics were calculated by both continuous and categorical age [Table 2.2]. Continuous age was negatively associated with the endorsement of a positive future orientation. Women reported a quarter-point reduction in positive future orientation for every five year increase in age. There was not a significant relationships for categorical age. Younger women reported greater sexual communication and refusal self-efficacy than older women, with a -0.08 reduction in self-efficacy for each additional year of age for both characteristics. For every 12.5 year increase in age, reported communication and refusal self-efficacy was reduced by one scale point. Women 18-24 years old (*Mean* = 19.91, *SE* = 0.34) had a significantly higher mean communication self-efficacy ($p = 0.04$) than women 35-54 years old (*Mean* = 18.32, *SE* = 0.56). Refusal self-efficacy was not statistically different for categorical age. Younger women also reported greater costs of unprotected sex as well as greater benefits. These relationships were significantly different for both continuous and categorical age (for categorical age, significant differences existed between women 18-24 and 34-54). Continuous age differences were not significant for women's peer norms and self-efficacy barriers [Table 2.2]. Age was not a significant predictor of condom use or condom use at last sex act. Younger women had significantly fewer lifetime partners (mean = 8.04 (*SE* = 0.72)) than both those ages 25-34 (*Mean* = 11.99 (*SE* = 1.24), $p = 0.0106$) and those ages 35-54 (*Mean* = 12.07; *SE* = 1.28; $p = 0.0406$). Average number of lifetime partners did not differ significantly between those

25–34 and those 35–54. In terms of condom versus hormonal protection, women 25-34 and women 35-54 did not differ significantly from women 18-24. However, women aged 25–34 were more likely (*OR* =2.286, CI=1.190, 4.391) than women aged 35–54 to use only hormonal protection. Women 35-54 were more likely to report using neither condoms nor hormones compared to women 18-24 (*OR* = 2.064, CI = 1.094, 3.894). Additionally women aged 25–34 (*OR* = 0.340, CI = 0.169, 0.682) were significantly less likely to report using neither condoms nor hormones than women aged 35–54.

Table 2.3 shows bivariate and multivariate models. Model A reports the significant bivariate relationships between independent and dependent variables; significant bivariate relationships for each outcome were then adjusted for categorical age (Model B) and then adjusted for categorical age, education, employment, and insurance status (Model C) (Table 2.3). Other demographic variables were removed from the final adjusted models because of high multicollinearity. Categorical age was modeled as a moderating variable between psychosocial independent variables and behavioral outcomes (Model D) (Table 2.3).

In Model A, self-efficacy (communication, refusal, and barriers) and relationship status were significant bivariate predictors of the number of current partners. After adjustment, Model C shows that women in exclusive dating relationships or marriages were less likely (*OR* = 0.203, CI = 0.099, 0.416 and *OR* = 0.074, CI = 0.023, 0.240, respectively) to have 2 or more current partners than women in casual relationships. As women found refusing sex to be easier, they were less likely (*OR* = 0.870, CI = 0.800, 0.946) to have 2 or more current partners versus one partner. These relationships were consistent across age groups. Significant bivariate predictors of the number of lifetime

partners included age, employment status, education, peer norms, and refusal self-efficacy. After adjustment (in Model C), women 25-34 and women 35-54 had a significantly greater number of lifetime partners than those 18-24 years of age. Both the associations of peer norms and refusal self-efficacy were moderated by age. Women 35–54 reported practically the same number of lifetime partners regardless of their level of negative peer norms, while women 18–24 showed a strong, positive relationship between negative peer norms and number of lifetime partners. This affect was significantly different between 35–54 and 18-24 year olds. Women 25–34 years old also showed a positive relationship between negative peer norms and number of lifetime partners, it was not statistically different from that of women aged 18-24. For women 18-24 and 25-34, as refusal self-efficacy increased (i.e., it became easier to refuse unwanted sex), their number of lifetime partners decreased. However, for women 35-54, the relationship was reversed, with more refusal self-efficacy relating to an increased number of lifetime partners (Figure 2.1). These differences were statistically significant.

Consistent condom use (versus some or no condom use) was significantly related to relationship status, number of children, and endorsement of the benefits of unprotected sex in bivariate relationships. After adjustment (Model C), married women were significantly less likely to use condoms all the time (*OR*= 0.225, CI = 0.082, 0619) than women in casual relationships. Those with no children (*OR* = 2.444, CI = 1.197, 4.991) or one child (*OR* = 3.565, CI = 1.876, 6.777) remained significantly more likely to use condoms than those with two or more children. Women who endorsed the benefits of unprotected sex remained significantly less likely to use condoms (*OR* = 0.917, C I= 0.876, 0961) and use only condoms (*OR* = 0.915, CI = 0.0.857, 0.978) than those who did

not. Additionally, women with one child (versus two or more) were more likely to use only condoms as their preferred method of pregnancy prevention (*OR* = 4.298, CI = 1.325, 13.945). Age was not a significant moderator of the relationship between predictors and either consistent condom use or the use of only condoms as pregnancy prevention.

In Model C (after adjustment), women who endorsed more benefits of unprotected sex and found it easier to refuse unwanted sex were significantly less likely to use a condom at the last sexual encounter (*OR*= 0.906, CI = 0.861, 0.954 and *OR* = 0.908, CI = 0.845, 0.976, respectively). Additionally, women in committed relationships (exclusively dating or married) were less likely to use condoms at last sexual encounter (*OR* = 0.382, CI = 0.187, 0.779 and *OR* = 0.175, CI= 0.056, 0.542, respectively). Although only related bivariately, the relationship between future orientation and condom use at last sexual encounter was significantly moderated by age. Women 25–34 who had low levels of positive future orientation were significantly more likely to report condom use at last sex than women 35–54. Additionally, as positive orientation increased, women 25–34 became more likely to report no condom use at last sex, while women 35–54 were more likely to have used a condom at last sex as their positive future orientation increased (Figure 2.2).

Women who used only hormonal methods were also more likely to find it easier to refuse unwanted sex (*OR* = 1.073, CI = 1.005, 1.146) and to endorse more benefits of sex without condoms (*OR* = 1.062, CI = 1.016, 1.110). A significant relationship status by age interaction was found. Among women who were in exclusive dating relationships, 25–34 year olds were more likely to use only hormones than those 18–24 or 35–54 year

olds. And, among 25–34 year olds, those in casual dating relationships were less likely to use only hormones compared to those in exclusive dating relationships or women who were married.

In Model C, relationship status and unprotected sex benefits remained significant predictors of using both condoms and a hormonal method of birth control after adjustment. Those in exclusive relationships (*OR* = 0.327, CI = 0.152, 0.706) and women who were married (*OR* = 0.203, C I= 0.057, 0.728) were less likely to use both types of pregnancy prevention methods. Additionally, women who endorsed more benefits of sex without condoms were also less likely (*OR* = 0.929, CI = 0.880, 0.981) to use both methods. Age was not a significant modifier to any of these relationships. Finally, only age was significantly related to using neither condoms nor a hormonal method. Older women were significantly more likely to use neither method than those 18-24 years old (*OR* = 2.174, CI = 1.142, 4.137).

Discussion

Contrary to the majority of the literature (e.g., Chan & Martin, 2009; Corneille et al., 2008b; Frost et al., 2007; Merchant et al., 2006; Sanders et al., 2010; Schable et al., 1996; Xaverius et al., 2009; Zablotsky & Kennedy, 2003), this study did not find a significant difference in condom use by age. Age was, however, associated with condom use communication and refusal self-efficacy, both of which were more difficult for the older women in this study. This result is in line with a majority of the literature that suggests that younger people have greater sexual communication and refusal self-efficacy (DiClemente et al., 2001; Salazar et al., 2011). Alone, older women did not appear to find it easier to negotiate condom use. However, as some have suggested (Corneille et al.,

2008b), we did find that refusal self-efficacy increased with number of lifetime partners among older women. Women of all ages who reported greater refusal self-efficacy also reported, significantly fewer current sexual partners. Costs of unprotected sex were significantly fewer for the women 35-54 compared to women 18-24. Since beliefs about the benefits of unprotected sex did not differ by age, this is, perhaps, more a reflection of sexual education and risks of unprotected sex between the younger and older groups of women in this study. Those who reported a greater number of benefits of unprotected sex also reported less condom use (overall and at last sexual experience) and were less likely to report using only condoms or using both condoms and a hormonal method and were more likely to report using only hormones as a birth control method. As expected, when explored with continuous age, younger women reported a greater positive future orientation. Although the literature suggests that a greater positive future orientation is related to fewer risky sex behaviors (Kingree et al., 2000; Robbins & Bryan, 2004), our findings did not support this association. Peer norms did not significantly differ by age; however, it is important to note that negative peer norms were reported by women in all age groups, suggesting that future, in-depth investigations should explore the influence of peers and social networks on women's risky sexual behavior beyond adolescence. Additionally, the interaction between peer norms and age did differentially affect the number of women's lifetime partners.

Age and number of children were also among the predictors of types of birth control. Women with two or more children were less likely to report condom use and were less likely to report only using condoms. This could be affected by the fact that older women in this study were significantly more likely to have 2 or more children and

women below 35 were significantly more likely to use some sort of birth control. Older women were more likely to report using neither condoms nor hormonal methods. Women 25-34 were more likely to report using hormonal methods than older or younger women. This suggests that a combination of reproductive desire, number of children, beliefs about condoms, and age can have an effect on the choice of condom use versus hormones for pregnancy prevention.

This study is not without limitations. These data come from a cross-sectional study. Therefore the relationship between personal and environmental factors and behavior is that of association rather than of prediction. However because the purpose of this study was to explore age differences in beliefs and behavior, rather than intra-individual change across time, this design is sufficient to address the research question. The women who participated in this study were recruited from a clinical waiting room in a large urban hospital in Georgia. It is possible that because of increased HIV awareness in this city and the fact that participants were seeking gynecological care, women in this sample may be more alike in their awareness of disease and risk behavior than the general population and may have diluted actual differences in behavior by age. Similarly, there may be some healthy volunteer effects as women who were seeking more serious medical care may have been less likely to participate in the study. Lastly, coming from a convenience sample, these findings may not be representative of the greater Atlanta metro population.

Effects of a number of personal and environmental factors on behavior were found among women of all ages, however. This finding supports the need for behavioral interventions targeted for midlife and older women that include psychosocial predictors,

such as peer norms, traditionally only studied in younger populations. Although it is expected that the size and effect of peer networks would change as women move from adolescence into middle- and later adult life, these findings suggest that the perceived beliefs and behaviors of women's peers remain an important influence, no matter the woman's age. Additionally, as evidenced in this study, women still participate in risky sexual behaviors as they age. Effective interventions for midlife women should include the role both peers and peer networks may play in women's beliefs and behaviors to reduce sexual risk and possible HIV and STI contraction. Additionally, interventions that target multiple levels including the individual, peer networks, and policy may be most effective in reducing risk for early midlife women.

This research suggests that midlife women are empowered in their sexual negotiations, aware of risks of unprotected sex, and report similar risk behaviors to that of women in their twenties and thirties. Much of the research among older women focuses on women 55 years of age and older. Therefore, the findings from studies of older women may not be generalizable to midlife women. More research is needed to understand the unique risk factors, beliefs, and behaviors of midlife women and how these factors change across adulthood.

Tables

Table 2.1. Psychosocial Predictors

	Cronbach's Alpha	Mean (SE)	Median	Range
Positive Future Orientation	0.91	17.30 (0.18)	18.00	4-20
Negative Peer Norms	0.86	10.21 (0.25)	9.00	5-25
Self-Efficacy: Communication Ease	0.90	19.53 (0.23)	20.00	6-24
Self- Efficacy: Refusal Ease	0.89	23.62 (0.23)	24.00	7-28
Self-Efficacy: Barriers	0.89	9.43 (0.25)	8.00	4-20
Unprotected Sex: Costs	0.89	20.98 (0.29)	24.00	5-25
Unprotected Sex: Benefits	0.87	17.63 (0.35)	18.00	6-30

Table 2.2. Independent Variables by Age

	Continuous Age (Range 18-54 years)		Categorical Age			
	Significance	Predictor Estimate (SE)	18-24 Years	25-34 Years	35-54 Years	Significance
Positive Future Orientation	$F = 5.56$*	-0.05 (0.02)*	17.67 (0.23)	17.20 (0.33)	16.60 (0.43)	$F = 2.62$
Negative Peer Norms	$F = 0.26$	-0.02 (0.03)	10.33 (0.37)	10.06 (0.43)	10.19 (0.53)	$F = 0.11$
Self-Efficacy: Communication Ease	$F = 6.30$*	-0.08 (0.03)*	19.91 (0.34)	19.70 (0.39)	18.32 (0.56)	$F = 3.30$*
Self- Efficacy: Refusal Ease	$F = 6.41$*	-0.08 (0.03)*	24.19 (0.34)	23.30 (0.39)	22.84 (0.52)	$F = 2.85$
Self-Efficacy: Barriers	$F = 1.62$	0.04 (0.03)	8.73 (0.34)	10.29 (0.46)	9.53 (0.50)	$F = 3.88$*
Unprotected Sex: Costs	$F = 8.75$**	-0.11 (0.04)**	21.50 (0.36)	21.24 (0.53)	19.29 (0.79)	$F = 4.14$*
Unprotected Sex: Benefits	$F = 8.40$**	-0.13 (0.04)**	18.30 (0.51)	17.69 (0.61)	15.95 (0.72)	$F = 3.15$*

Note: All Independent Variables are continuous scale variables; Mean (SE) values are given for categorical age

*p<0.05 **p<0.01 ***p<0.001

Table 2.3. Bivariate and Multivariate Analyses

	Model A: Univariate	Model B: Multivariate Adjusted for Age	Model C: Multivariate Adjusted for Age, Education, Employment, and Insurance Status[†]	Model D: Age and Psychosocial Predictor Interaction
Number of Current Partners				
Overall Model	---	χ^2= 46.38***	χ^2= 47.68***	
Relationship Status[1]				
Exclusively dating	OR= 0.192 (0.100, 0.370)***	OR= 0.210 (0.106, 0.417)***	OR= 0.203 (0.099, 0.416)***	
Married	OR= 0.106 (0.036, 0.318)***	0.081 (0.025, 0.256)***	OR= 0.074 (0.023, 0.240)***	*ns*
Self-Efficacy: Communication	OR= 0.943 (0.891, 0.998)*	OR= 1.049 (0.966, 1.139)	OR= 1.049 (0.966, 1.140)	
Self-Efficacy: Refusal	OR= 0.895 (0.844, 0.949)***	OR= 0.869 (0.800, 0.944)***	OR= 0.870 (0.800, 0.946)**	
Self-Efficacy: Barriers	OR= 1.056 (1.001, 1.113)*	OR= 1.031 (0.963, 1.103)	OR= 1.031 (0.962, 1.105)	
Number of Lifetime Partners				
Overall Model	---	F= 5.80***	F= 5.07***	
Age				
Age: 25-34 vs. 18-24	3.95 (1.34)**	3.25 (1.31)*	3.29 (1.32)	
Age: 35-54 vs. 18-24	4.02 (1.62)*	3.44 (1.58)*	3.46 (1.58)	
Unemployed	2.42 (1.21)*	1.62 (1.21)	1.63 (1.21)	*Refusal SE and age* *Peer Norms and age*
Education				
HS vs Less than HS	-3.20 (1.36)*	-2.40 (1.57)	-2.33 (1.58)	
More than HS vs. Less than HS	-0.34 (1.65)	-0.03 (1.65)	0.04 (1.67)	
Peer Norms	0.44 (0.14)**	0.35 (0.13)**	0.35 (0.13)**	
Refusal Self-Efficacy	-0.59 (0.14)***	-0.43 (0.14)**	-0.43 (0.14)**	
Condom Use				
Overall Model	---	χ^2= 44.16***	χ^2= 47.46***	
Relationship Status[1]				
Exclusively dating	OR= 0.550 (0.292, 1.037)	OR= 0.510 (0.257, 1.013)	OR= 0.526 (0.260, 1.063)	
Married	OR= 0.241 (0.098, 0.593)**	OR= 0.231 (0.086, 0.621)**	OR= 0.225 (0.082, 0.619)**	*ns*
Children				
0 Children vs. 2 or more	OR= 2.568 (1.476, 4.465)***	OR= 2.698 (1.387, 5.246)**	OR= 2.444 (1.197, 4.991)*	
1 Child vs. 2 or more	OR= 2.890 (1.682, 4.966)***	OR= 3.590 (1.908, 6.756(***	OR= 3.565 (1.876, 6.777)***	
Self-Efficacy: Barriers	OR= 0.948 (0.901, 0.996)*	OR= 0.975 (0.920, 1.034)	OR= 0.973 (0.917, 1.033)	
Unprotected Sex Benefits	OR= 0.926 (0.891, 0.962)***	OR= 0.920 (0.880, 0.961)***	OR= 0.917 (0.876, 0.961)***	
Condom Use at Last Sex				
Overall Model	---	χ^2= 32.30***	χ^2= 34.35***	
Relationship Status[1]				
Exclusively dating	OR= 0.402 (0.210, 0.769)**	OR= 0.359 (0.180, 0.718)**	OR= 0.382 (0.187, 0.779)**	*Future Orientation and age*
Married	OR= 0.222 (0.078, 0.627)**	OR= 0.183 (0.060, 0.556)**	OR= 0.175 (0.056, 0.542)**	
Future Orientation	OR= 0.919 (0.854, 0.990)*	OR= 0.966 (0.884, 1.055)	OR= 0.955 (0.873, 1.045)	
Self-Efficacy: Refusal	OR= 0.941 (0.888, 0.998)*	OR= 0.912 (0.849, 0.979)*	OR= 0.908 (0.845, 0.976)**	
Unprotected Sex Benefits	OR= 0.927 (0.890, 0.967)***	OR= 0.911 (0.866, 0.957)***	OR= 0.906 (0.861, 0.954)***	

*p<0.05 **p<0.01 ***p<0.001

[†]Select demographics were removed from adjustment because of high multicollinearity

[1] Comparison group is "Casually dating or not exclusive"; only main partners were assessed for relationship status therefore models with relationship status use only those with a main partner (n=294).

Table 2.3. Bivariate and Multivariate Analyses (cont.)

	Model A: Univariate	Model B: Multivariate Adjusted for Age	Model C: Multivariate Adjusted for Age, Education, Employment, and Insurance Status[†]	Model D: Age and Psychosocial Predictor Interaction
Use Condoms Only				
Overall Model	---	χ^2= 18.64**	χ^2= 21.99**	
Children				
0 Children vs. 2 or more	OR= 4.471 (1.661, 12.035)**	OR= 6.636 (2.171, 20.282)***	OR= 8.039 (2.373, 27.232)***	*ns*
1 Child vs. 2 or more	OR = 2.490 (0.872, 7.105)	OR= 3.631 (1.167, 11.294)*	OR= 4.298 (1.325, 13.945)*	
Unprotected Sex Benefits	OR= 0.928 (0.872, 0.987)*	0.921 (0.864, 0.982)*	OR= 0.915 (0.857, 0.978)**	
Use Hormones Only				
Overall Model	---	χ^2= 30.50***	χ^2= 33.52***	
Relationship Status[1]				
Exclusively dating	OR= 2.268 (1.149, 4.477)*	OR= 2.428 (1.185, 4.975)*	OR= 2.387 (1.150, 4.954)*	*Relationship Status and age*
Married	OR= 3.000 (1.229, 7.322)*	OR= 3.747 (1.446, 9.709)**	OR= 3.916 (1.480, 10.364)**	
Positive Future Orientation	OR= 1.116 (1.030, 1.211)**	OR= 1.065 (0.974, 1.164)	OR= 1.066 (0.974, 1.167)	
Self-Efficacy: Refusal	OR= 1.059 (1.002, 1.119)*	OR= 1.071 (1.004, 1.143)*	OR= 1.073 (1.005, 1.146)*	
Unprotected Sex Benefits	OR= 1.050 (1.012, 1.090)**	OR= 1.055 (1.011, 1.100)*	OR= 1.062 (1.016, 1.110)**	
Both Condoms and Hormones				
Overall Model	---	χ^2= 20.44**	χ^2= 21.58*	
Relationship Status[1]				
Exclusively dating	OR= 0.398 (0.197, 0.804)*	0.335 (0.159, 0.703)**	OR= 0.327 (0.152, 0.706)**	*ns*
Married	OR= 0.235 (0.071, 0.779)*	0.208 (0.059, 0.727)*	OR= 0.203 (0.057, 0.728)*	
Positive Future Orientation	Or= 0.917 (0.847, 0.993)*	0.939 (0.859, 1.028)	OR= 0.937 (0.854, 1.028)	
Unprotected Sex Benefits	OR= 0.946 (0.903, 0.991)*	0.926 (0.878, 0.977)**	OR= 0.929 (0.880, 0.981)**	
Neither Condoms nor Hormones				
Overall Model	---	χ^2= 9.43**	χ^2= 12.93*	
Age				*ns*
Age: 25-34 vs. 18-24	OR= 0.701 (0.382, 1.287)	OR= 0.701 (0.382, 1.287)	OR= 0.705 (0.381, 1.305)	
Age: 35-54 vs. 18-24	OR= 2.064 (1.094, 3.894)*	OR= 2.064 (1.094, 3.894)*	OR= 2.174 (1.142, 4.137)*	

[1] Comparison group is "Casually dating"; only main partners were assessed for relationship status therefore models with relationship status use only those with a main partner (n=296).

Figure 2.1. Refusal Self-Efficacy by Age Interaction Predicating Number of Lifetime Partners

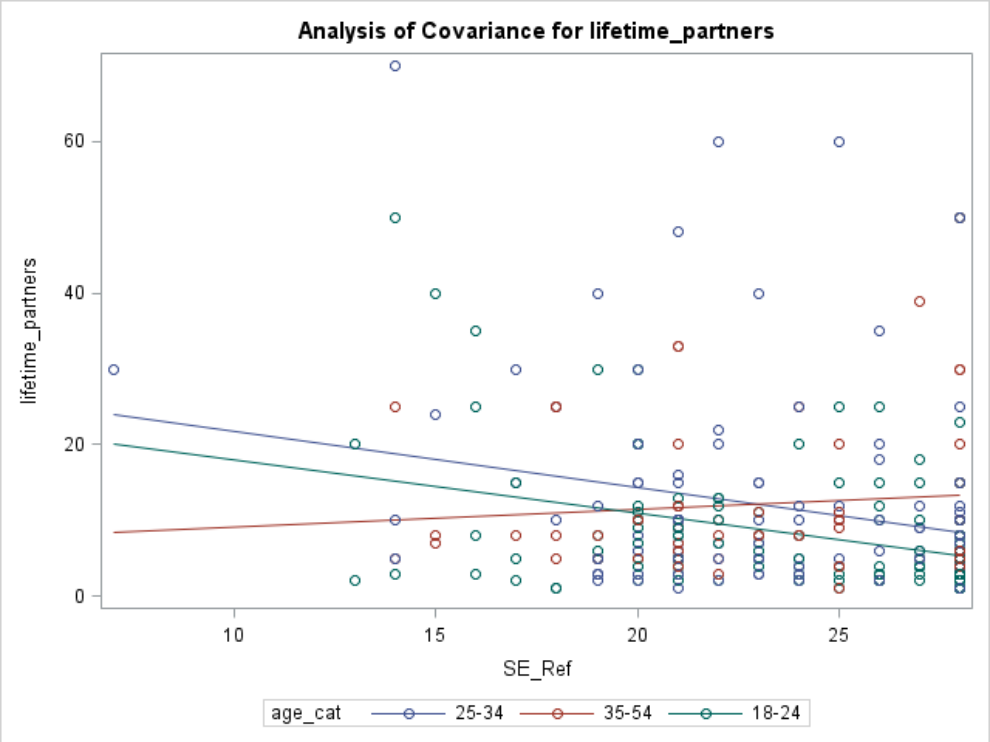
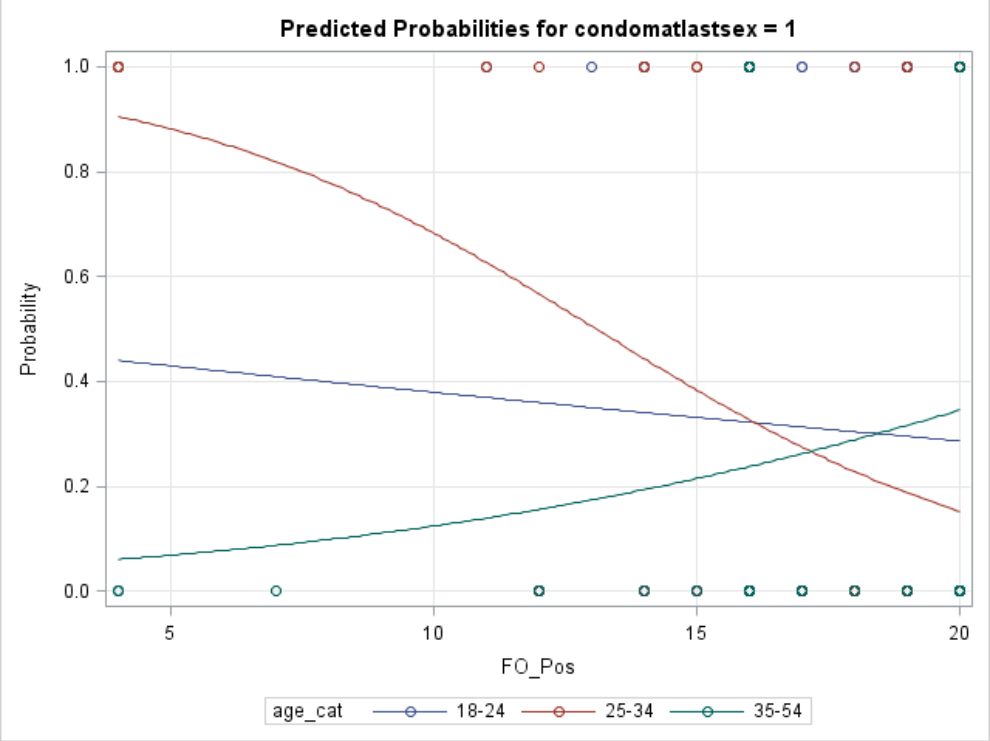


Figure 2.2. Positive Future Orientation by Age– Predicted Probabilities Condom Use at Last Sex



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Chapter 3:

Differences in sexual risk behavior and condom use among adult, black women in concurrent partnerships

Abstract

Introduction: Concurrent partnerships have long been studied as a risk factor for the transmission and acquisition of HIV and other STIs as they increase the likelihood of exposure to infected partners, especially if the partners are also in reciprocal, concurrent relationships. Urban environments, particularly those with high levels of incarceration and poverty, skew sex ratios so that even women who rarely engage in high risk sexual behaviors partner with higher risk men, increasing HIV and STI risk. The prevalence of concurrency has been demonstrated to be significantly higher among black men and women. Racial difference in concurrent partnerships has been attributed to such social and contextual factors as sex ratio, community-level poverty, crime rates, and educational attainment. Few studies have looked at the effects of age among at-risk, adult, black women, and there is a dearth of evidence about differences in sexual behavior and condom use by age among an adult, black population.

Method: Black women 18-55 years old were recruited from a hospital-based family planning clinic waiting room in Atlanta, Georgia. Eligible participants completed a one-hour audio-computer assisted survey (ACASI) administered on laptop computers in a private room. The survey measured sociodemographics and characteristics and behaviors relating to both main and casual sexual relationships over the past three months. For this study, concurrent partnerships were defined as women who had a main partner and one or more casual partners.

Results: Three hundred twenty-one adult black women completed data collection. The average age for each group remained substantively consistent to the overall average age of 27.42 (*SE* = 0.44). The proportion of concurrent partnerships (24.21%, *n = 77*) did not differ significantly by age group. Approximately the same number of participants had vaginal sex with both their main and casual partners, although vaginal sex experiences with their main partners were significantly more frequent over the previous three months (10.48 times) than with casual partners (5.54 times). Unprotected vaginal sex with main partners was statistically more frequent (6.38 times) than with casual partners (1.33 times) (Wilcox Signed Rank Sum Test = 2.01). Approximately 83% of the women with both partner types reported giving oral sex to their main partner, but only 50% reported giving oral sex to casual partners. Women reported using condoms during oral sex with their main partners between 0 and 10 times during the past three months, but didn't use condoms during oral sex with casual partners. Ten women who reported both partner types and who answered the anal sex question reported having anal sex with a main partner and just two women reported having anal sex with a casual partner.

Discussion: Expected significant age differences were not found, perhaps because of the larger impact of race on such contextual factors as sex ratios, higher crime rates, and incarceration on women's concurrency. These factors affect black women equally across all ages of early and middle adulthood. Interventions targeted at these broad influences, including the personal, relational, and cultural/environmental factors could have a greater impact on concurrency than simply addressing individual risk taking behaviors.

Introduction

HIV rates in the United States are disproportionately high among Blacks. While Blacks make up just 14% of the U.S. population, they account for 44% of new HIV infections and 63% of new HIV infections among women (CDC, 2011a). Black women carry an additional HIV burden because of social influences based on both gender and race. The HIV incidence rate for black women is nearly 15 times as high as that of white women and nearly four times that of Hispanic/Latino women (Wohl et al., 2002). This dramatic disparity is the result of an interaction of complex structural, environmental, and historical factors. Urban environments, particularly those with high levels of incarceration and poverty, skew sex ratios so that even women who rarely engage in high risk sexual behaviors partner with higher risk men, increasing HIV and STI risk (Aral, Adimora, & Fenton, 2008; Ferguson, Quinn, Eng, & Sandelowski, 2006). HIV prevalence among black men and women in urban areas is estimated to be almost three times higher than HIV prevalence among white adults (CDC), 2013). Additionally, Blacks living in the urban South are at an even greater risk, as seven of the 10 states with the highest AIDS case rates for women are in the southern United States (CDC, 2007).

Concurrency is the term describing the overlapping of one or more sexual partners in the same time frame (Daker-White & Barlow, 1997; Garnett & Johnson, 1997; Morris & Kretzschmar, 1997; Potterat et al., 1999; Rosenberg, Gurvey, Adler, Dunlop, & Ellen, 1999). Concurrent partnerships have long been studied as a risk factor for the transmission and acquisition of HIV and other STIs as they increase the likelihood of exposure to infected partners, especially if the partners are also in reciprocal, concurrent relationships (Anderson & May, 1988; Doherty, Shiboski, Ellen, Adimora, & Padian,

2006; Javanbakht et al., 2010; Manhart, Aral, Holmes, & Foxman, 2002; Morris & Kretzschmar, 1997; Seidman, Mosher, & Aral, 1992). Concurrent sexual relationships have also been shown to spread STIs faster than sequential partnerships (Morris & Kretzschmar, 1997; Watts & May, 1992). The overall prevalence of relationship concurrency is substantial and has been shown to range from 10% to 54% (Adimora et al., 2002; Certain et al., 2009; Drumright, Gorbach, & Holmes, 2004; Howard, Fortenberry, Blythe, Zimet, & Orr, 1999; Kraut-Becher & Aral, 2003; Lescano, Vazquez, Brown, Litvin, & Pugatch, 2006; Manhart et al., 2002; Paik, 2010; Rosenberg et al., 1999; Rosengard, Adler, Gurvey, & Ellen, 2005).

The prevalence of concurrency has been demonstrated to be significantly higher among black men and women (Adimora, Schoenbach, Taylor, Khan, & Schwartz, 2011; Ellen, Cahn, Eyre, & Boyer, 1996), with rates ranging from 16% to 22% (Adimora et al., 2002; Adimora et al., 2011; Choi & Catania, 1996). Racial difference in concurrent partnerships has been attributed to such social and contextual factors as sex ratio, community-level poverty, crime rates, and educational attainment (Adimora et al., 2002; Adimora et al., 2011; Adimora et al., 2013; Noar et al., 2012). The effect of fewer available male partners has been suggested to enable men's relationship power to gain sexual behaviors from their female partners with less commitment, increasing risk for both partners (Ellen et al., 2002; Manlove, Ryan, & Franzetta, 2007). Higher concurrent partnerships among Blacks, especially those in the urban, southern United States, could be a factor in their higher incidence of heterosexually acquired HIV (Adimora et al., 2002; Adimora, Schoenbach, & Doherty, 2006a; Adimora et al., 2004). A higher prevalence of concurrency has also been associated with younger age (Adimora et al.,

2002; Adimora et al., 2011; Adimora et al., 2013; Choi & Catania, 1996), early sexual debut (Adimora et al., 2002), number of lifetime partners (Neaigus et al., 2013; Waldrop-Valverde et al., 2013), alcohol and drug use (Koblin et al., 2010; Scheidt & Windle, 1996), and primary relationship status. Among primary relationships, concurrency was higher for those in dating relationships (exclusive and non-exclusive) than those who were married (Adimora et al., 2002; Adimora et al., 2011).

Condom use is an effective method of reducing HIV and STI transmission risk. However, positive condom attitudes and condom use are much more likely in a casual or newly formed relationship than with a main or primary partner (Cooper & Orcutt, 2000; Corbett, Dickson-Gomez, Hilario, & Weeks, 2009; S. B. Kennedy, Nolen, Applewhite, Waiters, & Vanderhoff, 2007; Lansky, Thomas, & Earp, 1998; Macaluso, Demand, Artz, & Hook, 2000; Noar et al., 2012; Richards et al., 2008; Santelli et al., 1996; Sheeran, Abraham, & Orbell, 1999). Consistent condom use has also been shown to decrease as relationships change status from new to more regular (Macaluso et al., 2000; Noar et al., 2012). Familiarity with partners was shown to decrease condom use with each progression of partnership closeness: casual, unknown partners to casual, known partners to regular partners and, finally, to main partners (Fridlund, Stenqvist, & Nordvik, 2014). Condom use was more common among concurrent partnerships that occurred during a relationship transition (68%) than within a concurrent partnership that was contained in the time frame of another relationship (54%) (Warren et al., 2015). These trends hold across racial categories; one study found that black women in long-term relationships, compared to women in casual relationships, reported less condom use (Bralock &

Koniak-Griffin, 2007; Jones, 2004; Stark et al., 1998; G. M. Wingood & R. J. DiClemente, 1998).

Additionally, differences in sexual behaviors have also been shown between concurrent partners. Lansky and colleagues (1998) demonstrated that women with both a main and casual partners were significantly more likely to have oral sex with main partners than with casual partners. Similarly, another study found that women were more sexually open with main partners, with whom they had increased intimacy. This resulted in more willingness to perform oral sex and/or engage in anal sex with their main partners, but not with casual partners (Noar et al., 2012). Male participants expected oral sex from all their partner types, but reserved giving oral sex to their main partners (Noar et al., 2012).

Significant age and race associations have been found between the presence of concurrency and sexual risk taking across multiple studies, but only a handful of these have looked at age associations from young adulthood into midlife (age 50) (Javanbakht et al., 2010; Neaigus et al., 2013; Richards et al., 2008). Although age differences in concurrency, stratified by race across early and midlife women, have been reported in relationship to human papillomavirus infection (Javanbakht et al., 2010; Neaigus et al., 2013; Richards et al., 2008), few have looked at the effects of age among at-risk adult black women, and there is a dearth of evidence about differences in sexual behavior and condom use by age among an adult, black population.

The purpose of this study is to investigate characteristics of concurrency, differential sexual and condom use behaviors between main and casual partners, and the

effect of age on both the presence of concurrency as well as on differences in behavior among urban, adult black women.

Method

Participants

Participants were recruited from a hospital-based family planning clinic waiting room in Atlanta, Georgia. Eligibility criteria included self-identifying as an African American or black woman, 18–55 years old, HIV-negative or unsure of HIV status, reporting at least one unprotected sex act (vaginal, anal, or oral) in the past six months, and providing verbal informed consent to participate in the study. A total of 321 women participated in the study, and they were compensated $25 for their time. The Emory University Institutional Review Board and the oversight committee of the hospital-based recruitment site approved the study protocol prior to implementation.

Data Collection

Participants were approached at a family planning clinic at a large, urban hospital. Interested individuals were escorted to a private room for informed consent procedures and eligibility screening. Eligible participants completed an audio-computer assisted survey (ACASI) administered on laptop computers in a private room. The survey took approximately one hour to complete. Study staff monitored survey administration and answered questions as needed.

Measures. The survey measured such variables as sociodemographics and questions relating to both main and casual sexual relationships. For main partners, data were collected on relationship status (casually dating, exclusively dating, or married),

length of relationship, age of partner, HIV status of partner, and sexual behaviors with main partner including vaginal, oral, and anal sex and condom use for each behavior over the past three months. For casual partners, vaginal, oral, and anal sex behaviors over the past three months were collected. For the purposes of this study, concurrency is defined as having reported having a main partner and at least one casual partners. Women without a main partner but with multiple casual partners, while in concurrent relationships, were not categorized as concurrency for this study.

Demographics. Participants provided their age, level of education, employment status, household and personal income, number of children, and health insurance status. Additionally, women reported the age of sexual debut (age at first sex) and the number of sexual partners they have had in their lifetime. They also identified partners from the last three months as being either a *main partner* (casually dating, exclusively dating, or married) or a *casual partner*.

Self-reported Sexual Behaviors

Reported Behaviors. Participants were asked if they had engaged in vaginal and anal sex in the past three months. For oral sex behavior questions, participants were asked if they had given oral sex to their partner or partners in the past three months. For casual partners, participants were also asked how many people they partnered with for each type of sexual activity (i.e., vaginal, oral, and anal). Additional sexual information was collected, including the number of lifetime partners and the age at first sex.

Condom Use. For each type of sexual activity, participants were asked to report the number of times they had sex and how many times they had used a condom during sex in the past three months. Condom use percentage was determined by dividing the

number of times a condom was used by the total number of times the participant reported sex. Because of a large zero-inflation, condom use was dichotomized into consistent versus inconsistent/no condom use. From the number of times the participant had unprotected sex and the number of times they used a condom, we also calculated the number of times the participant had unprotected sex for each type of sexual activity.

Data Analysis

Univariate statistics were calculated for demographic, relationship, and behavioral variables. Bivariate relationships were calculated between demographics and partner-specific behavioral variables, stratified by age. Partnerships statuses were compared to explore concurrency in the sample. Comparisons among behvioars for women with both a main partner and at least one casual partner were explored. Chi-squared tests were utilized to investigate differences in the presence of sex with each partner type and condom use consistency. Generalized linear modeling was used to explore differences in the numbers of times women had sex with main versus casual partners. T-tests were used to compare the number of times women used a condom with each partner type. Finally, when exploring the differences between partner types for number of times women had sex and the number of unprotected sex acts Signed Rank Sum tests were performed to account for the non-normality of the differences. Differences in behaviors between main and casual partners were explored by age. All analyses were conducted using SAS 9.4.

Results

Three women were removed from the sample. One woman was an outlier (over 17 standard deviations above the mean) for number of current sexual partners. Additionally, two other women were removed because of outliers for number of lifetime

partners. Starting with 321 women, the final sample size for this study was 318. Demographics for all women—those with a main partner, those with casual partners, and those with both—are presented in Table 3.1. The average age for each group remained substantively consistent with the overall average age of 27.42 (*SE* = 0.44). Slightly more than half of the women (52.83%) were employed. Personal income was less than $10,000 a year for 70.13%; 72.64% had at least one child; and 55.66% of the women did not have health insurance.

Nearly all of the women in the sample (92.45%, *n* = 294) reported having a main partner, and 28% (*n* = 90) reported having one or more casual partners. Twenty-four percent of the women (*n* = 77) reported being in a concurrent relationship with a main partner and at least one causal partner. The majority of women in all age groups (69.73%, *n* = 205) reported being in an exclusive dating relationship with their main partner [Table 3.2]. Fifty women (17.01%) reported being in a non-exclusive relationship with their main partner, and 39 (13.27%) reported being married. There were no significant age differences in having a main partner (versus not having one) or in the type of main partner relationship women reported.

For women with a main partner, the man was older than the woman in 68.04% of relationships, with only about one-quarter of partners being more than five years older than the participant. Older women were significantly more likely to have younger partners than partners the same age (*OR* = 1.149, *CI* = 1.079, 1.224). The average length of a main relationship was 4.24 years (*SE* = 0.26). Two women reported having an HIV-positive main partner. Most women (68.37%, *n* = 201) had an HIV-negative partner, although approximately 30% didn't know the HIV status of their main partner. The

women who didn't know their main partner's HIV status were significantly younger than those who did know (whether positive or negative). The women identifying their partners as HIV positive appeared much older (38.00 years) than were those with HIV-negative partners (27.90 years), but the difference was not statistically significant because of the small number of women with HIV-positive partners. Those who didn't know their partners' HIV status were, on average, 26.20 years old.

Of the women who reported having a casual partner, approximately 75.56% (n = 68) reported having only one casual partner. Almost 19% (n = 17) reported having two casual partners, and approximately six percent (n = 5) reported having three or more casual partners. No significant age differences were found in having at least one casual partner (versus not having any) or in the number of casual partners women reported. The women with casual partners were found to have had significantly more (F = 8.46, p = 0.004) lifetime partners (*mean* = 13.00, *SE* = 1.27) than those without a casual partner (*mean* = 9.12, *SE* = 0.67). Women's age of sexual debut was not significantly related to having a casual partner.

Of the women in concurrent relationships (n = 77), over half (55.84%, n = 43) reported being in an exclusive relationship with their main partner (either exclusively dating or married) (Table 3.2). The relationship status of the main partnership did differ significantly among those women in concurrent partnerships. After a Bonferroni adjustment, those who were casually dating their main partner were significantly more likely to report other casual partners than did those whose main partner was a married spouse or who reported they were in an exclusive dating relationship. Married women

were not significantly different in their prevalence of concurrent relationships, possibly because of small numbers *(n* = 5, 6.49%).

Concurrent partnerships were reported by 20% of women 18–24 years old, 28% of women 25–34, and 26% of women 35–54. These differences were not statistically significant. The women with concurrent partners also had significantly more lifetime partners (*mean* = 12.57, *SE* = 1.22) than those without concurrent partnerships (mean = 9.46, SE = 0.69). Age of sexual debut was not statistically associated with having concurrent partners, with approximately 15 being the age of debut for both those with and without concurrent partners.

There were varying degrees of missing data for the behavioral questions (Figure 3.1). Ninety-seven percent (*n* = 285) of women who had a main partner responded to the question about whether they had vaginal sex in the past three months. All of those who answered "yes" to the vaginal sex behavior question also answered how many times they had vaginal sex with their main partner. However, only 43.96% (*n* = 120) of those who had vaginal sex answered how many times they had used a condom. As the number of times a participant had vaginal sex increased, the odds of answering the number of times a condom was used decreased significantly (*OR* = 0.970, CI = 0.952, 0.988), indicating that those answering the condom use question were potentially women with less sexual risk behavior. About 44% of those who had vaginal sex with a main partner answered the number of times they used a condom. Women with two or more children were significantly more likely to not answer this question than were those without children.

Approximately 98% (*n* = 88) of those with a casual partner answered the question about vaginal sex in the past three months, with 84.44% (*n* = 76) of them answering in

the affirmative. All who answered the vaginal sex behavior question also answered how many times they had vaginal sex. However, only 64.47% *(n* = 49) of those who had vaginal sex answered how many times they had used a condom. No significant differences were found between those who answered the condom use question in regards to the number of times they had vaginal sex with casual partners. However, unemployed participants were less likely to answer the condom use question (χ^2 = 3.87, *df* = 1, *p* = 0.049) than those who were working. Other response numbers for oral and anal sex are reported in Figure 3.1.

Differences between behaviors in main and casual relationship statuses could only be compared among the 73 participants who reported both types of partnerships. Behaviors are reported for all those with main partners, all those with casual partners, and those reporting both, however. (Tables 3.3 through 3.5). Women who reported being sexually active with both partner types did not consistently have the same type of sex with both. Therefore, for these women, percent who had vaginal, oral, and anal sex differed between main and casual partners.

As seen in Table 3.3, approximately the same number of participants had vaginal sex with both their main and casual partners although vaginal sex experiences with their main partners were significantly more (10.48 times) than with casual partners (5.54 times). The relationship between the number of vaginal sex experiences between main and casual partners did not differ by age. As the number of times women had vaginal sex with a casual partner increased, the number of times they had sex with their main partner also increased (*b* = 0.685, *SE* = 0.203). The number of times women used a condom did not differ between main and casual partners. However, as is the case with the number of

times women had sex, as condom use increased with casual partners, condom use also increased with the main partner (b = 0.710, SE = 0.100). Due to missing data between the number of times women had sex and the number of times a condom was used, statistical differences could not be calculated for condom use percentage (see Figure 3.1 for more information about missing data).

Unprotected vaginal sex with main partners was statistically more frequent (6.38 times) than with casual partners (1.33 times) (Wilcox Signed Rank Sum Test = 2.01; See Table 3.3). The differences in the number of unprotected sex acts did not vary significantly by age. The number of unprotected vaginal sex acts with main and casual partners was not statistically different.

As seen in Table 3.4, approximately 83% (n = 49) of the women with both partner types reported giving oral sex to their main partner, but only 51% (n = 30) reported giving oral sex to casual partners. The number of times women reported giving oral sex was approximately equal between main and casual partners. In terms of condom use during oral sex with main and casual partners, eight women reported using condoms 0 to 10 times with main partners whereas all 11 women answering the condom use question for casual partners reported not using condoms for oral sex. A significant, positive relationship was found between the number of times women gave oral sex to their main partner and the number of times they gave oral sex to a casual partner or partners (b = 1.26, SE= .138). Because the women answering the condom use question were different for main partners than for casual partners, a statistical difference could not be tested.

As seen in Table 3.5, approximately 67% (n = 10) of the women who reported both partner types and who answered the anal sex question reported having anal sex with

a main partner and just 13.33% (n = 2) reported having anal sex with a casual partner. None answered the number of times they had anal sex or the number of times condoms were used with casual partners, so differences between these behaviors or condom use percentage could not be tested.

Discussion

This study investigated concurrency and sexual risk behaviors among adult, urban, black women. The rate of concurrency was 24%, higher than those reported in previous studies (Adimora et al., 2002; Adimora et al., 2011; Choi & Catania, 1996). Additionally, this is likely an underestimate as we defined concurrancy as having a relationship with a main partner and one or more partners, but were not able to investigate women without a main partner but with multiple casual parters. In agreement with the literature, a higher number of lifetime partners was significantly related to both having a casual partner and being in concurrent sexual relationships. Additionally, those with less commitment in their main partnership were significantly more likely to have other casual partners than women in more committed main partnerships. Age of first sex was not significantly related to either having a casual partner or having concurrent relationships.

Substantive differences in the number of times the women had vaginal sex were found between those with main and casual partners. Among the women with both main and casual partners, vaginal sex acts with their main partner were significantly more frequent. Conversely, consistent condom use was much more frequent with casual partners than with main partners. This difference was not significant among those women who had both partner types, however, because only a small number of women with

concurrent partners did not use condoms consistently. Women with concurrent partners did have significantly more unprotected sex acts with their main partners versus their casual partners. Women also had substantively more oral sex with their main partners, used condoms more for oral sex with their main partners, and had more anal sex with their main partners. However, possibly because of low numbers, these differences were not significant or did not lend themselves to testing.

Women in this study reported risky sexual behaviors with multiple partners. Interventions to reduce HIV and STI transmission rates among black women should include components on concurrency and sexual risk with different partner types as women participated in riskier sexual behaviors with their main partners and safer sexual behaviors, in general, with their casual partners. It would have informed the data to have known why some behaviors were more common with a particular partner type. For example, condom use was not significantly differnet between main and causal partners for vaginal sex, but no women reported condom use during oral sex with casual partners. It is important to gain an understanding of what motivates different behaviors among different partner types to inform effective interventions dealing with sexual safety and concurrency. Future studies should include qualitative work understanding why behaviors change with partner type among black women.

Limitations and Conclusion

Although our results provide an important first examination of concurrency and sexual risk behaviors among urban black women, they must be viewed with caution. Because these data come from a cross-sectional examination of variables, the relationships between partner type, psychosocial characteristics, condom use, and sexual

behavior are those of association and not causal relationships. Additionally, the significant loss of participant data in the sexual behavior questions limited our ability to test statistical differences that seemed large, substantively. However, although no age differences were found in concurrency or sexual behavior by partner type, our findings are largely in agreement with the literature indicating that a substantial number of women appear to be participating in concurrent sexual relationships. Additionally, as suggested in the literature, condom use was similar across all ages of women and more consistent with casual partners than with main partners

The expected age differences were not found in this sample of adult black women. It is possible this is because of the larger impact of race on such contextual factors as sex ratios, higher crime rates, and incarceration, which in turn affect women's concurrency. These factors affect black women equally across all ages of early and middle adulthood. Interventions targeted at these broad influences, including the personal, relational, and cultural/environmental factors, could have a greater impact on concurrency than simply addressing individual risk-taking behaviors (DiClemente, Salazar, & Crosby, 2007; DiClemente & Wingood, 2003; DiClemente et al., 2004). Sucessful interventions utilizing the theory of gender and power and social cognitive theory have been been shown to decrease women's concurency and increase preventive and testing behaviors (Wingood et al., 2013). If such larger, ecological influences have a greater impact on women's choices to engage in concurrent relationships, then future interventions should extend past adolescence and young adulthood, as is found in the current literature, to include all sexually active women through the reproductive years and beyond.

Table 3.1. Demographics by Partner Type

Demographics		All	Had Main Partner	Had Casual Partner	Had Both
		n = 318	*n* = 294	*n* = 90	*n* = 77
Age	Mean (*SE*)	27.42 (0.44)	27.44 (0.45)	28.31 (0.79)	28.06 (0.80)
Education					
Less than high school		67 (21.07%)	62 (21.09%)	22 (24.44%)	19 (24.68%)
High school		138 (43.40%)	127 (43.20%)	35 (38.89%)	28 (36.36%)
More than high school		113 (35.53%)	105 (35.71%)	33 (36.67%)	30 (38.96%)
Employed		168 (52.83%)	157 (53.40%)	42 (46.67%)	37 (48.05%)
Household income below $10,000		187 (58.81%)	171 (58.16%)	55 (61.11%)	46 (59.74%)
Personal income below $10,000		223 (70.13%)	205 (69.73%)	65 (72.22%)	56 (72.73%)
Children					
0		87 (27.36%)	78 (26.53%)	28 (31.11%)	24 (31.17%)
1		96 (30.19%)	90 (30.61%)	24 (26.67%)	22 (28.57%)
2 or more		135 (42.45%)	126 (42.86%)	38 (42.22%)	31 (40.26%)
Insured		141 (44.34%)	130 (44.22%)	38 (42.22%)	34 (44.26%)

Table 3.2. Types of Partnerships

	Main Partner	Casual Partner	Concurrent Partnerships
Yes	294 (92.45%)	90 (28.30%)	77 (24.21%)
Non-exclusive	50 (15.72%)	---	29 (37.66%)
Exclusively dating	205 (64.47%)	---	43 (55.84%)
Married	39 (12.26%)	---	5 (6.49%)
No	24 (7.55%)	228 (71.70%)	241 (75.79%)

Table 3.3 Behavioral Outcomes by Partner Type

		Had Main Partner	Had Casual Partner	Had Both		Significance
				Main	Casual	
	Sample size	*n* = 294	*n* = 90	*n* = 73		
	Had vaginal sex in the past three months	273 (92.86%)	76 (84.44%)	66 (90.41%)	65 (89.04%)	χ^2= 0.09
	How many casual partners	---	*n* = 76			
	Mean (*SE*)	---	1.37 (0.09)	---	---	---
	Range	---	1 - 6			
	Number of times	*n* = 273	*n* = 76	*n* = 66	*n* = 65	
Vaginal Sex in past 3 months	Mean (*SE*)	13.73 (1.12)	5.42 (1.07)	**10.48 (2.07)**	**5.54 (1.24)**	**S= 201.00*** [4]**
	Range	1 – 100 times	1 – 50 times	1 – 100 times	1 – 50 times	
	Number of times used a condom	*n* = 120[1,2]	*n* = 49 [3]	*n* = 40	*n* = 42	
	Mean (*SE*)	3.83 (0.51)	3.86 (1.14)	4.03 (1.27)	4.05 (1.32)	t= -0.03
	Range	0 – 35 times	0 – 48 times	0 -35	0 -48	
	Consistent Condom use	*n* = 120	*n* = 49	*n* = 36		χ^2= 1.11 [5]
	Yes	30 (25.00%)	30 (61.22%)	10 (27.78%)	24 (66.67%)	
	Number of unprotected sex acts	*n* = 120	*n* = 49	*n* = 40	*n* = 42	
	Mean (*SE*)	5.5 (0.82)	1.51 (0.43)	**6.38 (1.99)**	**1.33 (0.46)**	**S= 113.5*** [4]**
	Range	0 – 63 times	0 – 15 times	0 – 63 times	0 – 15 times	

*p<0.05 **p<0.01 ***p<0.001

S= Wilcox Signed Rank Sum test statistic

[1] As the numbers of times had sex in the past three months increases, the odds of answering the number of times used a condom question significantly decreases (*OR* = 0.970, CI = 0.952, 0.988).

[2] Women with 2 or more kids were significantly less likely to answer the number of times used a condom question (χ^2 = 14.68, p <0.001)

[3] Unemployed women were significantly less likely to answer the number of times used a condom question (χ^2 = 3.87, *p* <0.05)

[4] Differences are not significantly different by age.

[5] Small numbers in each cell resulted in a loss of statistical power to detect differences.

[6] Those who answered did not overlap and therefore differences could not be calculated for significance testing.

Table 3.4 Behavioral Outcomes by Partner Type

		Had Main Partner	Had Casual Partner	Had Both Main	Had Both Casual	Significance
	Mean (*SE*)	5.5 (0.82)	1.51 (0.45)	**6.38 (1.99)**	**1.33 (0.46)**	
	Range	0 – 63 times	0 – 15 times	0 – 63 times	0 – 15 times	
	Sample size	*n* = 294	*n* = 90	*n* = 59		
	Had oral sex in the past three months	174 (59.18%)	34 (37.78%)	49 (83.05%)	30 (50.85%)	$\chi^2 \approx 0.00$
	How many casual partners	---	*n* = 34			
	Mean (*SE*)	---	1.29 (0.11)	---	---	---
	Range	---	1 – 4			
	Number of times	*n* = 174	*n* = 12	*n* = 49	*n* = 11	
	Mean (*SE*)	3.32 (0.57)	3.00 (0.88)	3.33(0.52)	2.36 (0.66)	S= -0.50
	Range	1 – 50 times	1 – 10 times	1 – 20 times	1 – 8 times	
	Number of times used a condom	*n* = 24	*n* = 11	*n* = 8	*n* = 10	
Oral Sex in past 3 months	Mean (*SE*)	1.92 (0.44)	0.00 (0.00)	3.13 (1.11)	0.00 (0.00)	*n/a* [b]
	Range	0 – 10 times	All 0 times	0 – 10 times	All 0 times	
	Consistent Condom use	*n* = 24	*n* = 11	*n* = 8	*n* = 11	*n/a* [b]
	Yes	13 (54.17%)	0 (0.00%)	5 (62.50%)	0 (0.00%)	
	Number of unprotected sex acts	*n* = 24	*n* = 11	*n* = 8	*n* = 10	
	0	13 (54.17%)	0 (0.00%)	5 (62.50%)	0 (0.00%)	
	1	3 (12.50%)	5 (45.45%)	1 (12.50%)	5 (50.00%)	
	2	3 (12.50%)	4 (36.36%)	1 (12.50%)	4 (40.00%)	
	4	1 (4.17%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	*n/a* [b]
	5	2 (8.33%)	1 (9.09%)	1 (12.50%)	1 (10.00%)	
	8	1 (4.17%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	
	10	0 (0.00%)	1 (9.09%)	0 (0.00%)	0 (0.00%)	
	20	1 (4.17%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	

[*]$p<0.05$ [**]$p<0.01$ [***]$p<0.001$

S= Wilcox Signed Rank Sum test statistic

[1] As the numbers of times had sex in the past three months increases, the odds of answering the number of times used a condom question significantly decreases (OR = 0.970, CI=0.952, 0.988).

[2] Women with 2 or more kids were significantly less likely to answer the number of times used a condom question (χ^2 = 14.68, p <0.001)

[3] Unemployed women were significantly less likely to answer the number of times used a condom question (χ^2 = 3.87, p <0.05)

[4] Differences are not significantly different by age.

[5] Small numbers in each cell resulted in a loss of statistical power to detect differences.

[6] Those who answered the condom use question for main and casual partners were not the same participants and therefore differences could not be calculated for significance testing.

Table 3.5 Behavioral Outcomes by Partner Type

		Had Main Partner	Had Casual Partner	Had Both		
				Main	Casual	Significance
	Sample size	$n = 294$	$n = 90$	$n = 15$		
	Had anal sex in the past three months	31 (10.54%)	2 (2.22%)	10 (66.67%)	2 (13.33%)	$\chi^2 = 0.29$
	How many casual partners	---	$n = 2$			
	1	---	1 (1.11%)	---	---	---
	3	---	1 (1.11%)			
	Number of times	$n = 31$	$n = 2$			
	0	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	
	1	18 (58.06%)	0 (0.00%)	5 (50.00%)	0 (0.00%)	
	2	5 (16.13%)	1 (50.00%)	1 (10.00%)	1 (50.00%)	
	3	5 (16.13%)	0 (0.00%)	2 (20.00%)	0 (0.00%)	
Anal Sex in past 3 months	4	1 (3.23%)	1 (50.00%)	1 (10.00%)	1 (50.00%)	*n/a* [3]
	5	1 (3.23%)	0 (0.00%)	1 (10.00%)	0 (0.00%)	
	15	1 (3.23%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	
	Number of times used a condom	$n = 5$	$n = 0$	$n = 3$	$n = 0$	
	1	4 (80.00%)		2 (66.67%)	---	*n/a* [4]
	2	1 (20.00%)		1 (33.33%)	---	
	Consistent Condom use	$n = 5$	$n = 0$	$n = 3$	$n = 0$	
	Yes	4 (80.00%)	---	2 (66.67%)	---	*n/a* [4]
	Number of unprotected sex acts	$n = 5$	$n = 0$	$n = 3$	$n = 0$	
	0	4 (80.00%)	---	2 (66.67%)	---	*n/a* [4]
	3	1 (20.00%)	---	1 (33.33%)	---	

[1] As the numbers of times had sex in the past three months increases, the odds of answering the number of times used a condom question significantly decreases ($OR = 0.970$, $CI = 0.952, 0.988$).

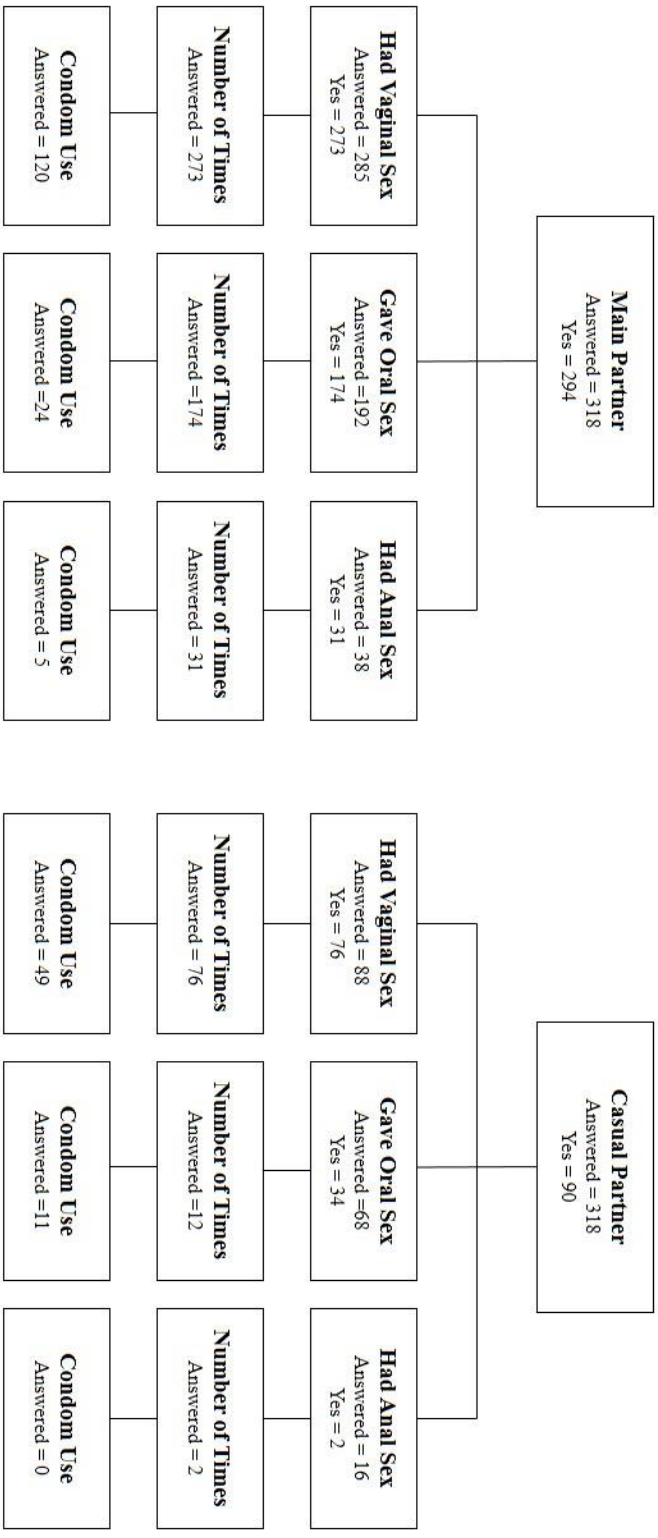
[2] Women with 2 or more kids were significantly less likely to answer the number of times used a condom question ($\chi^2 = 15.49$, $p < 0.001$)

[3] Unemployed women were significantly less likely to answer the number of times used a condom question ($\chi^2 = 4.33$, $p < 0.05$)

[4] Those who answered the number of times a condom was used did not overlap and therefore differences could not be calculated for significance testing.

[5] Only one participant had anal sex with both main and casual partners. Cannot test difference

Figure 3.1 Reported Behaviors by Partner Type



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Chapter 4:

Associations of unmarried midlife black women's gender relationships and power dynamics with sexual health choices: A focus group study

Abstract

Introduction: Perceptions of power, relationship dynamics, and relationship context are important factors in sexual health choices and negotiations. Women's lesser power can result in more difficulties negotiating condom use or making other personal, sexual health choices that subsequently put them at greater risk of transmission of sexually-transmitted infections (STIs) than men. This qualitative study explored perceptions of relationship power, relationship characteristics, and sexual risk behaviors among unmarried, midlife, black women and the manner in which these characteristics place these midlife women at additional risk for HIV or other STIs.

Method: Women filled-out a questionnaire that took between 20 to 30 minutes to complete, prior to the initiation of the focus group discussion. Each of the three focus groups lasted approximately 90 minutes and explored participants' perceptions of relationship characteristics, perceived relationship power in regards to different characteristics, and sexual risk, specifically around condom use, condom use self-efficacy, and sexual communication self-efficacy.

Results: First, when exploring factors that affect women's relationship power three themes were identified, resiliency from histories of violence, knowing and trusting themselves, and acceptance and equality from the partnership were identified. Second, these themes affected behavior in various ways. Three themes emerged regarding how relationship power affected behavior: choice of partners, feelings about condom use with

their sexual partners, and availability of men to partner with, all of which impact women's perceived power and HIV risk.

Discussion: Our findings suggest that women 35 to 55 years old are empowered personally and, within the contexts of their relationships, utilize that power with high self-efficacy to communicate about sex and negotiate condom use.

Introduction

Perceptions of power, relationship dynamics, and relationship context are important factors in sexual health choices and negotiations (Blanc, 2001; Civic, 1999; Harvey et al., 2002; Pulerwitz et al., 2000; Soet et al., 1999; Wingood & DiClemente, 2000). Many researchers have acknowledged disparities in social power between women and men (R. Connell, 1987; French & & Raven, 1959; Johnson, 1976; Kanter, 1977; Lorber, 1998). Women's lower power results in more difficulties negotiating condom use or making other personal, sexual health choices that subsequently put them at greater risk of STI transmission than men (Kline et al., 1992; Wingood et al., 1993; Worth, 1990).

Research among older adults suggests that perceived vulnerability and knowledge of HIV and STIs declines with age and, assumed-reduced sexual activity, which places older adults at increased risk of these outcomes (Davis, Duncan, Turner, & Young, 2001a; Ludwig-Barron et al., 2014; Savasta, 2004). In addition to negative beliefs about condom use necessity, older adults have been found to have a lack of awareness regarding HIV and STI transmission risk in their age group (Savasta, 2004). Midlife and older women have reported less frequent condom use than younger women (Schable et al., 1996; Stall & Catalina, 1994). Research has demonstrated that women of color have an even larger condom use-age differential than White women (Zablotsky & Kennedy, 2003). Midlife women's inability to engage in safer sex practices has been associated with having sexual partners who refused condom use, age-related physiologic characteristics (e.g., impotence, vaginal dryness), and feeling they had "aged out" of HIV risks (Ludwig-Barron et al., 2014). Additionally, low self-efficacy in condom use communication and negotiation or discussions around sexual histories, particularly if

women have been in married or long-term relationships has been reported to be much more difficult for midlife and older women than those who are younger (Dancy, 1996; Zablotsky & Kennedy, 2003). Midlife women experience high rates of changes in relationship status (Kreider & Fields, 2001; Rich, 2001). Women who have been in committed relationships for an extended amount of time may believe that new sexual partners are safe, or may not have the knowledge or self-efficacy to discuss or demand condoms (Reisen & Poppen, 1999; Rich, 2001).

Despite a considerable body of research on power and relationship dynamics and behavior among younger populations, there is a fundamental lack of understanding of relational power dynamics among midlife and older adults and the impact such relationships have on women, particularly on black women. Before effective interventions can be developed with this population, a better understanding of the role that gender relationships and power dynamics exert on sexual health choices among midlife and older women must be more fully explored. This includes not simply an understanding of who has power in different situations, but also how differential power creates meaning for the prescription of social interactions, including health behaviors that are either protective or risky. Increased knowledge of the definitions of interpersonal relationships from the perspective of midlife black women is vital in understanding the mechanisms operating between power and behavior among this population. This qualitative study explored perceptions of relationship power, relationship characteristics, and sexual risk behaviors among unmarried, midlife, black women and the manner in which these characteristics place these midlife women at additional risk for HIV or other STIs.

Method

Eligibility

Before recruitment and data collection began, IRB approval was obtained from both Emory IRB and hospital ROC. Women were eligible if they self-identified as being unmarried, English-speaking, heterosexual, African American or Black, and indicated they had participated in vaginal intercourse with a male partner during the past year with no intention of becoming sexually abstinent in the coming year. (Although sexual health studies among adolescents and young adults often require sex within the past three to six months, the time frame for sexual activity for this study was extended to a year to allow for potentially less frequent sexual activity and possible limitations in numbers of available partners among the anticipated older sample.) Women who did not give informed consent, had never engaged in sexual intercourse, or who were pregnant or planning to become pregnant were ineligible to participate. Eligibility was assessed through a brief screening form after written informed consent was obtained.

Recruitment

Recruitment for the focus groups consisted of a combination of active and passive techniques. Participants were actively recruited by the first author (also the principal investigator) in the waiting rooms of a family planning and gynecology clinic at a large hospital in Atlanta, Georgia. Potential participants were approached, informed about the study, and asked to participate in a study focus group. If a woman was interested in the study, she completed a written informed consent and screening questionnaire. Printed handouts with study and contact information as well as the study consent information were made available for participants to take with them.

Additionally, passive recruitment took place through flyers containing study information at the clinic check-in desks and on a small folding table provided by the principal investigator. Potential participants who called after seeing a flyer were given initial oral consent and were screened over the phone. Written consent was obtained in person before the focus group began.

Participant Characteristics

Eighteen women participated in the study. Their ages ranged from 35 to 55 with a median age of 44 years. Two participants (11.11%; 2/18) held college degrees and four (22.22%; 4/18) had a high school (GED) or lower education. Almost all of the women (94.44%; 17/18) were mothers. The majority (83.33%; 15/18) reported their relationship status as single. The remaining four women reported either being divorced, widowed, or living with a partner. Only six women (33.33%; n=6) reported consistent (100%) condom use over the past three months. Condom use consistency was measured by dividing the number of times women reported using a condom by the number of times they reported having sex in the past three months.

Data Collection Procedures

Women filled-out a questionnaire that took between 20 to 30 minutes to complete prior to the initiation of the focus group discussion. Each of the three focus groups *(n* =7; n=5; n=6) lasted approximately 90 minutes and explored participants' perceptions of relationship characteristics, perceived relationship power in regards to different characteristics, and sexual risk, specifically around condom use, condom use self-efficacy, and sexual communication self-efficacy. In addition to the first author, another study team member attended the focus groups to help facilitate the discussion and take

notes. Focus groups were audio-recorded and transcribed verbatim. Bagels, fruit, juice, and candy were available for participants before, during, and after the focus group. The women received $20 for their participation in the questionnaire and $25 for their participation and contribution to the focus group discussion. A resource guide was also given to each participant at the end of the focus group.

Data Analysis

Qualitative data were analyzed using thematic analysis. First, all three focus group recordings were listened to and memos where written noting details and initial ideas from the data. Data were then transcribed verbatim. An initial codebook was developed from the first focus group. To improve inter-rater reliability, the first focus group transcript was coded using the initial codebook by the first author and a coauthor. Coding patterns were compared and the codebook was refined until consensus was reached. This second codebook was used to code the second transcript and the coding and comparison process was repeated. This process was repeated a third time for the final focus group transcript. After the codebook was updated a final time after consensus was reached following the third focus group, the first author coded all three transcripts again to make sure coding patterns were consistent across all the data. Memos and notes were written during the coding of each transcript, which helped the authors to collate codes that centered on potential themes. Themes were discussed and were refined for the final analysis. MAXQDA (Verbi, 2013) was used to facilitate qualitative analyses.

Findings

Two sets of inter-related themes were identified. First, when discussing women's relationship power three themes were emerged including resiliency from histories of

violence, knowing and trusting themselves, and acceptance and equality from the partnership were identified. These themes affected the second set of themes centered on how relationship power affected behavior. These themes include the choice of partners, feelings about condom use with their sexual partners, and availability of men to partner with, all of which impact women's perceived power and HIV risk.

"We don't do violence no more": Resiliency from Histories of Violence

Women reported high perceived individual and relationship power. Empowerment was described as developing through various life experiences with family and previous sexual partners. A major theme was how experiences of violence from their childhood homes and/or previous relationships helped to build resiliency, which created stronger personal conviction as well as stronger relationship power. Almost every participant commented on a history of violence from a father or male partner. For some women, experiences of violence reflected the larger social norms that men were more powerful than women. Therefore, violence was a mechanism used to demonstrate this power differential, especially for strong women who were thought to be a threat to the man's power over the family or relationship.

> And the person who beat me was my father. Growin' up, everything… he used to beat my mom and me. I think it was my mom, um, always said to me, um, 'he saw you as a little too strong. He saw you as, um, a threat. – 52 years old

Participants acknowledged that some women who have been in violent relationships become submissive and "weak-minded." Perceiving their history of violence as a positive characteristic about themselves helped women reframe their experience and use it as a

catalyst to strengthen themselves and the behavior that they would or would not accept in their current relationships.

The women described their present intolerance and an unwillingness to accept abuse from a romantic partner. They approached this intolerance in two ways: First, they described spending more time with a potential partner to get to know him until they were confident that the relationship would not include violence. Second, women described an absolute intolerance of any display violence in their current relationships. Language around this intolerance to violence was strong and non-negotiable. A 45-year-old woman related this firm intention, "You ain't gettin' violent. That was the one thing. We don't do violence no more." Another, 48 years, reiterated, "And I won't, I refuse; for the age, I cannot be in a relationship based on fear."

Women discussed the use of fear in violent relationships as a method of control. As noted above, they demanded more from their relationships than one in which they were scared or unable to be themselves. Some women perceived that the fear resulting from relationship violence was a method of reducing their ability to be heard and respected. They described gaining personal strength and power by standing up to their partners in an effort to reverse the role that fear had in their relationships. This 43-year-old woman advised, "You have to show him, I'm not afraid of you . . . Show him, you're not a man but you can be that man 'cause you got gut [sic]. You have that strength."

"Know who she is": Knowing and Trusting Themselves

Women described a powerful woman as someone who is confident in who she is and what she wants. Many reported that knowing themselves was a primary factor in

their power and that their self-definitions helped them remain true to what they wanted their identities to be, even in the face of challenges or difficult partnerships:

> Know who she is and what she accepts and what she don't accept and what not, to bring herself back up because she was allowing someone to take her down, take her to a place where she didn't want to go. So, identity . . .staying focused of who I am. – 52 years old

Women believed that as they had gotten older, they had been able to solidify who they are and what they really want in life and in partnerships. As they had grown in self-knowledge, they had gained greater love for themselves, greater self-confidence, and a stronger sense of what makes them happy. Additionally, women talked about coming to a place where they trust themselves more. Women described trusting themselves and the knowledge they had developed over time about what they want. This trust was related to an acknowledgement of their own self-worth and that trusting that would reinforce knowing themselves.

At this age, women can appreciate who they are and what they have and use that as a starting place to choose what they will or will not accept in a relationship. This illustrates a change from younger ages, when they would adjust their behaviors and desires to please a man. But they felt that their age and relationship experience now gave them the perspective and ability to choose what they want to focus themselves on, what they want in their relationships, and a willingness to wait for the right situation. Negative experiences in the past influenced the strength of their language when talking about what they wanted and what they would accept in their current relationships:

> You filter through all the mess and you learned from the younger experiences. And you know, you know what you are willing to accept, what you won't accept. You know how you want to be treated. You know who you are. Because life has taught you these things. – 36 years old

They also reported that if they weren't confident in what they wanted, what they would accept, or who they are, men would take advantage of that, using them for sex and resources.

A final aspect of personal power they derive from knowing themselves is their strength in not compromising what they have learned about what they want. They reported that even small compromises of their character or desires represents a slippery slope, as it could lead to compromising ever larger parts of themselves later.

"On the same page": Acceptance and Equality from Partner

A recurring attribute of knowing themselves was wanting a partner who would accept them for who they are. These women felt that their life experiences up to this point had helped shape them, and they now desired or sought a partner willing to accept who that is, without trying to change them. This 48-year-old described the process as finding a "prince":

> You have to go through a lot of frogs to get to your prince. It's just like, you don't want to lower your standards, you know. I mean it's just always something, you know. Or then accept me for me.

Additionally, part of a man's accepting who they are is feeling secure enough in the relationship to be able to talk about their feelings and share their struggles with their

partner. They want their partner to allow them to be themselves, even in a raw, honest, and emotional way.

Although women believed that their power must come internally, from within themselves, their sense of relationship power derived from the man's accepting who they are, as they are. Part of this acceptance is being treated as an equal in the relationship. Equality was described as both the acceptance of who a woman is and the absence of control in the relationship. Women did not describe gaining relationship power from not being controlled by a man, but rather always in terms of neither partner's being in control of the other. A 44-year-old expressed it this way: "I don't think anybody should be in control of the relationship. I think the relationship should be equal at all times." Women felt empowered in their relationships by becoming a team and being "on the same page," where both partners prioritized each other.

"You gotta fight to the nails": Choice of Partners

Women's life experiences have supported the development of their resiliency to become strong, empowered women. This empowerment influences how these women approach dating in early mid-life, as well as their experiences with risky sexual behavior and negotiating and using condoms. Many had been married or partnered for many years and are now adjusting to being single, sometimes for the first time in their adult lives. At age 52, this woman was one of the older participants:

> For me, um, I've always been in a relationship. Always. Before I met my husband, I was with somebody for five years. I went straight into the relationship with my husband. I was with him for thirteen years and then,

> when I was three weeks separated, I was with somebody else for four years. This is my first time actually being single for a long time.

Many reported that they are taking their time with dating. They no longer feel a social pressure to partner quickly, and since they are confident in themselves and able to wait until they find someone that fulfills many needs, they are enjoying their single lives.

Women had differing opinions of their preferences for partner age. They indicated that because of perceived maturity differences between women and men when they were younger, practically all of them preferred to date older men. However now that they were older, some still preferred older men while the majority now preferred younger. Those who preferred younger men felt that they were more vivacious and energetic. They believed that older men tire more easily and couldn't keep up with them. Partnering with younger men would allow them to engage with a younger crowd that is still active. Some women mentioned erectile dysfunction problems with older men, especially as they relate to other health problems. As often newly single older women, they don't have patience to manage that aspect of sexual aging.

> You know, but the only things for me at 52, I can't even date men my own age! Because they got everything goin' on. They're too fat. They're too ... sloppy, you know. They've got high blood pressure . . . The minute you meet a man who got high blood pressure, they instantly become Mr. Floppy.

Some women noted that there continue to be maturity differences between themselves and younger men, acknowledging that younger men tended to be more disrespectful in the way they approached women. Since many women are looking for

relationships that are based on more than sex, respect and acceptance are important parts of their own power and what they are looking for in a relationship. Additionally, some women, like this 44-year-old, commented that they get to interact with young, active people because of their children and don't need that level of youth and activity from a partner:

> I'm very active with my children. So, I spend a lot of time with my kids. So, hanging out with the young crowd is something I get to do outside of my man. So, it makes it easier for me to be able to feel, prefer, an older man."

Like many younger women, participants lamented the lack of availability of "good" men to date. They readily agreed with a 52-year-old participant that "men are a dime a dozen" but that the men they would be interested in were harder to find. The small number of good men was largely blamed on characteristics of Atlanta, including imbalanced sex-ratios that resulted in having to compete with younger women. They also admitted that uncertainty about men's sexual preferences and orientation contributed to a reluctance to initiate a relationship with them.

Because areas of Atlanta have more single women than men, the participants felt that the men were more likely to be sexually involved with multiple women, to expect women to take care of them, and, because men have so many choices, wouldn't "tolerate" a woman who required an emotional investment: "Because you in Atlanta, because men just… they don't even offer these girls nothing but they feel like, 'Oh, well, men are so scarce down here and there's so many women.' You gotta fight to the nails" (41 years old).

Women also believed that there are a lot of men living in Atlanta who present themselves as heterosexual but have sex with men, that is, that these are men who are on the "down-low." This was a concern for almost every woman when talking about finding men to date. They discussed disinterest in dating men on the down-low, as well as how they did not trust that a man who had sexual encounters with another man at some point in his life would not do it again during their relationship.

"I'm the condom queen": Feelings about Condom Use

All women agreed about the importance of using condoms. For many it was a non-negotiable rule for any sexual activity. Additionally, some women noted that they would find it embarrassing, as someone in their 50s, to have to get treated for an STI, and that was enough motivation for them to be consistent with condom use.

> I'm good with it. But, um, you know, I have seen myself in a hospital tryin' to tell somebody at 50-something years old that I've got an STD or, God-forbid, HIV or anything like that. I'm a maniac where it comes to protecting me. You know, I don't wanna be embarrassed like that. So…um, I don't have any problems talking about it." – 52 years old

Women did not agree, however, on whose responsibility it was to provide condoms for the relationship. Women who had their own condoms talked about their level of comfort buying them, with one woman comparing the comfort of buying condoms to the comfort of buying "a six-pack of Coca-Cola" (52 years old). Women acknowledged histories of inconsistent condom use when they were younger that resulted in children, and maintained that they are more careful taking those risks, now that they are older. Additionally, women with their own condoms discussed how, sometimes, a date can start

without the intention of sex but can lead there by the end of the night. Lastly, a number of women reported that they didn't trust that the man would have a condom with him when it was needed. A 52-year-old boasted, "I got them in my house . . . yeah, I've got my own condoms. You know, I'm not leavin' it to them. And if it don't fit, go outside and get some your size."

This experience also highlights women's self-efficacy with condom use communication and their relationship power in demanding condom use, even if the correct protection is not available. Women also connected having their own condoms to the maturity of their age and their ability to demand the condom use if it is present. "I think [it's more common] for older women [to have their own condoms]. More responsible. I'd say older women are more responsible. Where younger girls, she'll probably leave it up to the guy" – 48 years old. Women who didn't keep their own condoms also felt the same relationship power and self-efficacy in refusing sex without a condom, even though they didn't participate in the preparation as they felt that protection was the man's role in the relationship.

Although women mentioned that older men were not consistent with condom use, they agreed that younger men were "quick to use a condom" (42 years old) and that, like themselves, younger men would not have sex without one. Women seemed more encouraged by the younger men's condom attitudes as they were more closely aligned with their own.

> I'm dating younger. And when you date younger, most of these guys are completely clued up in reference to protecting themselves, you know. They're not like old school. They're younger. So they . . . are protecting

> themselves these days. And if they're not protecting themselves, they can't be with me. I'm… I'm the condom queen" – 52 years old.

Women's relationship power was also expressed with the ease and frequency that they discussed condom use and condom use decision making. When the discussion turned to who initiates conversations about condom use, every woman said that she did. Many agreed with this 41-year-old participant that women most often bring up the use of condoms because, in general, they are more concerned with health and protecting themselves in that way: "Women initiate [condom use]. We're just more health conscious. And we're more prone to carry things. You know, men don't really go to the doctor very much. We do."

The majority of women also reported ease in discussions of condom use and sex. Additionally, women found it easy to discuss decision making around both initiating a sexual relationship and what acts they were comfortable engaging in. However, a majority of the women who were not actively dating or who relied on hormonal or surgical birth control did not consistently use condoms with their main partners. Additionally, women who were recently single, often after long monogamous relationships, found the initial conversations around condom use to be challenging and a bit uncomfortable. This woman, now 52 years old, described her initial embarrassment five years earlier:

> I was embarrassed. I was embarrassed being 47 and divorced. I thought I'd be married forever. And by the time I got divorced, everything was changed. It was changed out there. And, um, the first guy that I was with, you know. He said he didn't know how to have sex without a

> condom. So, I was really lucky, um, with him ‘cause he was tellin’ me about stuff.

Women were quick to acknowledge that they didn’t always feel this empowered to discuss or demand condom use. They felt that this was part of the increased empowerment they felt as they got older and became more confident with themselves. Women reported that when they were younger, they had felt they had to have sex with their partners when their partners wanted it, and to accept whatever sexual acts the men wanted, even when a condom wasn’t available. Many women described their now feeling stronger and more able to voice opinions about protection than when they were younger. This 52-year-old woman described herself at a younger age:

> If I asked him to put on a condom or you know, it would have been different. I was different when I was younger. I allowed him to take control . . . let him have the say-so and I was just a follower.

Additionally, women noted that both men and women seemed more consistent with condom use and desired condom use more now that they were older. They discussed how they did not have to fight with men about condom use at this age. However, when they were younger, the men were “smooth about it” (39 years old) and tried to talk women into sex without condoms, relying on complaints about fit problems and that it felt so much better without them. Participants agreed that as a younger woman, these arguments had been more difficult to counter.

Discussion

This study sought to investigate dimensions of early midlife women’s definitions of relationship power and how those dimensions affected their partner choice,

relationship characteristics, and sexual risk taking including condom use. Midlife and older women are an important risk group for HIV and STI transmission, and there is a paucity of information about how these women define and understand gender-based roles in relationships and how power dynamics affect sexual health choices. Our findings suggest that women 35 to 55 years old are empowered personally and, within the contexts of their relationships, utilize that power with high self-efficacy to communicate about sex and negotiate condom use.

Women in this study described themselves as powerful individually and within their relationships. They attributed this to their age, related experiences, and maturity. Relationship power in this study was gained for women through equal treatment by their romantic partner. The women described male power in terms of control and dominance while discussions of female power were related to being treated as an equal partner. To our knowledge, only one other study has reported women's power in terms of egalitarianism in relationships (Zukoski, Harvey, Oakley, & Branch, 2011). In that study, both men and women described power as something that should be shared in a relationship and that neither partner controls the other. One quarter of the participants reported that shared power with their partner made them feel more powerful in their own sexual relationships. Relationship power in terms of equality is a unique finding and demands additional research, as it is not commonly reported but has been found in two very different samples of sexually active adults. Additionally, women in the present study described relationship power in terms of having men allow them to be themselves, which, in fact, still suggests that men hold more power and control over the relationship.

Lesser social power is related to women's inability to engage in safer sex practices. This lack of power has also been associated with avoiding violence perpetrated by male partners, which has been linked with lower rates of condom use and higher risk for HIV and STI infection (Ludwig-Barron et al., 2014; Wu et al., 2003). While women in this study did not discuss condom use during violent sexual relationships, most women reported a history of violence and a renewed sense of personal and relationship power as a result of leaving that situation. While many women who have survived intimate partner violence experience various levels of psychological distress, many survivors are resilient. They utilize resources such as community activism, spirituality, music, and literature to heal (West, 2004). Future research should further investigate the role of resiliency from previous domestic violence in its effect on relationship power and condom use in subsequent relationships.

Midlife women in this study reported awareness of HIV and STI risk, knowledge and self-efficacy in condom use and condom negotiation, as well as strong relationship power to demand condom use. Much of the research focusing on midlife and older women's knowledge and sexual risk behavior is approximately a decade old. Differences in the findings of this study may reflect changes in age-cohort knowledge, beliefs, and behaviors. However, Ludwig-Barron and colleagues' (2014) recent work reported similar gaps in midlife women's knowledge and behavior to those reported in the older literature. Perhaps higher rates of HIV, especially among people of color, in the Atlanta area have impacted midlife women's HIV perspectives of risk in this study in a manner that is unique to this location.

Sex ratio imbalances in communities where females substantially outnumber males has been demonstrated to exacerbate power differentials, resulting in women with less power to communicate and negotiate safer sex practices (Mize, Robinson, Bockting, & Scheltema, 2002). With fewer available men, women have reported an increase in various sexual risk behaviors, including participating in concurrent partnerships and complying with males' condom use preferences (Adimora et al., 2001; Ferguson et al., 2006). Additionally, in communities with high incarceration rates, women may adjust other risk behaviors in an effort to hold onto partners out of fear of not being able to find another (Amaro & Raj, 2000; El-Bassel, Gilbert, Witte, Wu, & Chang, 2011). Women in this study, however, while recognizing the sex ratio imbalances in Atlanta, demonstrated high relationship power in condom use negotiation and in refusing relationships in which the male has multiple sex partners. It is possible that the increased relationship power these participants have built through age and life experience is a stronger factor in their behavior than the social and contextual factors of partner availability.

The term "down low" or "DL" has been used to describe primarily black men who identify as heterosexual but engage in same-sex behavior without disclosing to their female partners (Goparaju & Warren-Jeanpiere, 2012). The prevalence and risk factors associated with being on the "DL" have been largely propagated by the media and have been associated with high rates of HIV among heterosexual black women (CNN, 2010). Research suggests that men who do not disclose their same-sex behavior or are on the "down low" do not primarily identify as heterosexual and are not engaged in greater sexual risk behavior with their female or male partners than men who have sex with men and are not on the "DL" (Bond et al., 2009; Malebranche, Arriola, Jenkins, Dauria, &

Patel, 2010). However, Vetsch and colleagues (2010) found that some women who slept with a bisexual man reported higher individual sexual risk factors. Additionally, qualitative research suggests that non-disclosure of same-sex behavior to female partners did not influence condom use or other risky sexual behaviors among their partners (Malebranche et al., 2010). The women in this study didn't speak as much about men on the "DL" being significant risk factors for them, but rather as undesirable partners and in the difficulty of identifying men who have sex with men. However, because of these women's high communication self-efficacy and the perception of large numbers of "down low" men, most participants felt comfortable asking potential men about their sexuality.

Limitations and Strengths

Our findings should be understood in the context of several study limitations. As these focus groups discussed such sensitive topics as intimate partner violence, domestic violence, sexual relationships and behavior, and condom use choices, it may be that some women did not fully participate or withheld important information that they were uncomfortable sharing. However, most appeared to be at ease and forthcoming in their contributions to the discussions. Additionally, this study sampled women from a low-income hospital in Atlanta, Georgia, and may, therefore, not be representative of all unmarried, midlife black women. This study also had several strengths. While women in this study did report sexual risk factors such as multiple and concurrent partnerships and inconsistent condom use with committed partners, they also discussed their relationships in terms of empowerment and high self-efficacy, which adds a unique perspective to the

literature on relationship power and sexual health risk. Finally, for all primary themes and behaviors, we were able to reach saturation from all focus groups.

Conclusion

Midlife black women have a wide variety of personal and relationship experiences that affect their power and self-efficacy around sexual health behaviors and decision making. Although these women, like women of all ages, did not consistently use condoms in their committed relationships, they have strong knowledge of the necessity of condom use and availability of condoms, and have the confidence and self-efficacy to utilize them in their sexual relationships. Interventions that address histories of domestic and intimate partner violence, help women build resiliency and acceptance of themselves, and reinforce condom use and negotiation skills may result in greater personal power, which has been shown to relate to aspects of relationship power and protective health behaviors.

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Chapter 5: Summary and Conclusion

HIV/AIDS rates continue to be substantially higher among Blacks than among Hispanics or Whites, even after adjusting for such correlates as poverty, education, age of first intercourse, marital status, and lifetime sex partners (McQuillan et al., 2006). Women are at a higher risk of HIV infection than are men and black women are at increased risk because of both race and gender. Midlife and older black women are even more vulnerable to HIV; in 2011, people aged 20–34 had the highest rate of new HIV infections, while women approaching midlife (aged 35–44) still represented approximately 30% of new infections (CDC, 2011). Although HIV is seen primarily as a younger person's disease, by 2007 those 40 to 49 comprised the largest proportion of newly diagnosed HIV cases in the United States, implying the immediate need to address this vulnerable older population (CDC, 2009).

Gender-based power, relationship dynamics, and relationship context are important social factors in women's sexual health choices and safer sex negotiations (Blanc, 2001; Civic, 1999; Harvey, Bird, Galavotti, Duncan, & Greenberg, 2002; Pulerwitz, Gortmaker, & DeJong, 2000; Soet, Dudley, & DiIorio, 1999; Wingood & DiClemente, 2000). Although research on power and relationship dynamics among younger populations has been conducted, there persists a lack of understanding of power dynamics among midlife and older adults and their impact on women, especially black women.

For this dissertation, a mixed-methods study was undertaken to examine the association of age with sexual health, including psychosocial risk factors, relationship characteristics, relationship-specific behaviors, and personal and relationship power

dynamics among black women. Its purpose was to inform interventions that can be targeted for black women across adulthood, but more specifically, for black women entering middle age and later life.

The aim of the first study (Chapter 2) was to investigate differences in personal factors (self-efficacy, future orientation, and unprotected sex beliefs), environmental factors (peer norms), and behavior (number of sexual partners, condom use, and other pregnancy prevention methods) by age among an adult sample of black women. Additionally, we explored how age acts as a moderator of the relationship between personal and environmental factors and behavior.

Contrary to the majority of the literature (Chan & Martin, 2009; Corneille, Zyzniewski, & Belgrave, 2008; Frost, Singh, & Finer, 2007; Merchant et al., 2006; Sanders et al., 2010; Schable, Chu, & Diaz, 1996; Xaverius, Tenkku, & Salas, 2009; Zablotsky & Kennedy, 2003), this study did not find a significant difference in condom use by age, demonstrating that older women were still using condoms. Age was, however, associated with condom use communication and refusal self-efficacy, which were more difficult for the older women in Chapters 2 and 3. The literature that suggests that younger people have greater sexual communication and refusal self-efficacy (DiClemente et al., 2001; Salazar et al., 2011). Although our findings support statistical differences in self-efficacy between younger and older women, older women still reported relatively high scale scores. In Chapter 2, as refusal self-efficacy increased, older women's number of lifetime partners also increased. This is contrary to the literature that older women, with more exposure to sexual situations, may find it easier to negotiate condom use or to refuse sex, as has been suggested by some (Corneille et al.,

2008). It is possible that as older women who are more experienced and empowered in their sexuality find it easier to refuse sex they do not wish to participate in, they also find themselves more empowered to say yes to sex they do want. When coupled with more opportunities for partners as they age, it is reasonable to suggest that the number of lifetime partners increases even as refusal self-efficacy increases. Additionally, women in more committed relationships were less likely to use condoms, in general and at last sexual encounter, than those in casual relationships.

Peer norms did not significantly differ by age; however, it is important to note that negative peer norms were reported by women in all age groups, suggesting that future in-depth investigations should explore the influence of peers and social networks on women's risky sexual behavior beyond adolescence. This finding supports the need for behavioral interventions targeted for midlife and older women that include psychosocial predictors usually included only in younger populations, such as peer norms and social/sexual networks. Although it is expected that the size and effect of peer networks would change as women move from adolescence into midlife and beyond, these findings suggest that the perceived beliefs and behaviors of women's peers remain an important influence, regardless of a woman's age.

In the second study (Chapter 3) we investigated characteristics of concurrency between a main and casual partner, differential sexual and condom use behaviors between main and casual partners, and the effect of age on both the presence of concurrency as well as on differences in behavior among urban, adult black women. The prevalence of concurrency has been demonstrated to be significantly higher among black men and women (Adimora, Schoenbach, Taylor, Khan, & Schwartz, 2011; Ellen, Cahn,

Eyre, & Boyer, 1996), with rates ranging from 16% to 22% (Adimora et al., 2002; Adimora et al., 2011; Choi & Catania, 1996). Racial differences in concurrent partnerships have been attributed to social and contextual factors such as sex ratio, community-level poverty, crime rates, and educational attainment (Adimora et al., 2002; Adimora et al., 2011; Adimora et al., 2013; Noar et al., 2012) that are all aspects of living in an urban environment. Higher concurrent partnerships among Blacks, especially those in the urban, southern United States, could be a factor in their higher incidence of heterosexually-acquired HIV (Adimora et al., 2002; Adimora, Schoenbach, & Doherty, 2006; Adimora et al., 2004).

We found that a higher number of lifetime partners was significantly related to both having a casual partner and being in concurrent sexual relationships. Additionally, those with less commitment in their main partnership were significantly more likely to have a casual partner or partners than women in more committed main partnerships. The majority of women had an older main partner. As older partners have been shown to be less knowledgeable about and less likely to use condoms (Chapter 4), it is likely that the effect of partner preference combines with relationship status to affect women's condom use choices. Women in this study reported risky sexual behaviors with mutliple partners and women with concurrent partners had significantly more unprotected sex acts with their main partners than with their casual partners. Interventions to reduce HIV and STI transmission rates among black women should include components on concurrency and sexual risk with different partner types, as women participated in riskier sexual behaviors with their main partners and safer sexual behaviors, in general, with their casual partners

The purpose of the third study (Chapter 4) was to explore perceptions of relationship power, relationship characteristics, and sexual risk behaviors among unmarried, midlife, black women and the manner in which these characteristics place these midlife women at additional risk for HIV or other STIs. Women in this study described themselves as powerful, both individually and within their relationships. They attributed this to their age, related experiences, and maturity. Relationship power in this study was gained for women through equal treatment by their romantic partner. The women described male power in terms of control and dominance while discussions of female power were related to being treated as an equal partner. A similar finding was reported in just one previous study (Zukoski, Harvey, Oakley, and Branch, 2011). This gendered view of relationship power suggests that even when these women feel empowered, it may in fact be the men who are in control, granting women perceived power by treating them in a particular manner. From this perspective, women's relationship power is shown to be not solely a feature of themselves (as seems true for men) but rather a characteristic of the dyad itself.

A majority of participants had histories of domestic violence and/or intimate partner violence that appeared to have resulted in increased resiliency, supporting the development of both their personal and relationship power. Many women who have survived intimate partner violence experience various levels of psychological distress, but many survivors are resilient (West, 2004). Future research should further investigate the role of resiliency as an outcome of previous domestic violence in determining relationship power and condom use in subsequent relationships.

Women in Chapter 4 reported high communication and refusal self-efficacy in the focus group discussions but low personal condom use on the quantitative survey. Although these women, like women of all ages, did not consistently use condoms in their committed relationships, they had strong awareness of the necessity and availability of condom use and—while lower than that of younger women—did exhibit the confidence and self-efficacy to utilize them in their sexual relationships. There may be a cohort effect on condom use, not just for the women themselves but also for their partners. Women reported that younger men were more knowledgeable and demanded more condom use compared to older partners, suggesting that partner characteristics play a strong role in midlife and older relationships and sexual health behaviors. The relationship between relationship power and protective sexual health behaviors is a reciprocal one. Interventions should address histories of domestic and intimate partner violence, help women build resiliency and acceptance of themselves, and reinforce condom use and negotiation skills. Addressing both sides of the relationship could lead to greater improvements in both perceived power and risk behaviors.

There are several overarching themes across the three studies, namely: 1) strength and empowerment built through internal confidence and personal power; 2) sexual self-efficacy for sexual communication and condom use; and 3) low condom use with main or primary partners.

The women in studies from Chapter 2 and Chapter 4 demonstrate strength and empowerment. In Chapter 2, differences in self-efficacy between younger women and midlife women could point to a cohort effect in women's and men's education and knowledge about condoms and condom use. As Chapter 4 demonstrates, older partners

were less likely to demand condom use in casual relationships. However, midlife and older women in both studies (Chapters 2 and 4) reported high condom use knowledge and self-efficacy despite having slightly lower scale scores than younger women. In Chapter 4, empowerment was developed out of a resiliency to exposure to negative life expeirences including violence experienced from fathers (or non-familial domestic male figures) and romantic partners. These studies suggest that the relationship between empowerment and self-efficacy is reciprocal, demanding future testing of the directions of the association between these variables. In Chapter 2, it seems that self-efficacy resulted in greater empowerment in the participants, while in Chapter 4, empowered women felt more able to easily discusss and use condoms.

Finally, in all three studies, women reported less consistent condom use with their primary or main partner despite reporting high levels of condom use self-efficacy. Perhaps relationship factors and characteristics around trust, perceived commitment, and positive feelings of sex without condoms more strongly associate with condom use behavior among midlife black women than their personal self-efficacy for discussing and using condoms. Interventions with this population should address both personal factors such as self-efficacy and personal empowerment, as well as relationship factors such as relationship power and specific partner condom use characteristics.

Evaluation of the Dissertation Research

Strengths. This dissertation has made important discoveries regarding midlife, black women's definitions of relationship power and how that power is demonstrated through behavior. To our knowledge, this is the first study to investigate such psychosocial variables as peer norms among midlife women and the first to explore

moderation by age. These studies have identified new associations between personal and relationship characteristics and behavior that can be targeted for future research and intervention. Additionally, the mixed-methods approach to these research questions allows us to make conclusions based both on what women's risky sexual behaviors are and which variables are associated with risk for this population as well as how women feel about influences on their sexual behavior and how those beliefs might be modifiable through intervention work.

Limitations. All data used for this dissertation research were cross-sectional, meaning that we cannot define causal pathways between empowerment, self-efficacy, and sexual risk behaviors. However, the evidence provided from these studies strongly supports a mechanism in which these factors are related. Future longitudinal work could lead to a greater understanding of the direction of these relationships. Additionally, all these data were obtained from women in the waiting rooms of family planning and gynecology clinics of a large, urban hospital. Therefore, the participating women may be more health-conscious and more aware of sexual health risk factors than other women. We may have missed the women who are most at risk for HIV and STI contraction.

Data for Chapters 2 and 3 came from a study with a different purpose (HIV vaccine acceptance), so the data were not collected with our specific research questions in mind, which limited these studies' exploration to behaviors; we were not able to investigate motivations for condom use or non-use. Since age was a primary independent variable in these studies and since differences in types of protection (hormonal versus condoms) were found in Chapter 2, future studies should investigate the differences in condom use for pregnancy prevention versus disease prevention for women as they age.

Because all data were based on self-report, response bias could have influenced how the women answered survey questions. In addition, particularly for Chapter 3, a large amount of missing data made it difficult to explore differences in oral and anal sex behaviors among women in concurrent partnerships.

In the qualitative focus group study (Chapter 4), only approximately 10 percent of women approached ultimately participated in the study. Some women were not as involved in the conversations as others. This may have reflected discomfort discussing particular topics as well as group dynamics and personality differences. . These are common limitations in qualitative focus group research, however, and are not specific to this study. It is also important to note that my identity as an educated young white woman may have had an impact in my recruitment efforts with midlife black women in this hospital setting as well as in the information women felt comfortable sharing in the focus groups and on the survey. Despite these limitations, saturation of themes were found across all focus groups and similar themes tied across all three studies, providing strong evidence for the findings in this dissertation.

Implications for Research and Practice

Future research. This was the first research to investigate many of the constructs measured in this dissertation among midlife, black women. Therefore, it is important to further validate these significant associations with other samples of women, possibly from other cities that may not have the same cultural awareness of HIV and sexual health risk; women from other socioeconomic statuses; and midlife women of other racial identities. Additionally, it would be important to investigate condom use and other sexual

risk behaviors among a larger number of diverse midlife women to see if the associations found here exist among a general population of U. S. women.

Concurrency was found among midlife and older women. However, little is known about how concurrency is similar to or different for midlife women compared to younger women. Additionally, a large number of women in concurrent relationships described their main partnership as exclusive, when in reality they reported multiple partnerships. Future research should explore how women define their relationships and how these definitions may affect concurrency and sexual risk behaviors for them and their main partners, with whom they are less likely to use condoms.

A reciprocal relationship was found in these studies between sexual and condom use self-efficacy and personal and relationship power. Future studies are needed to explore the directionality of these relationships and explore other factors that may change or alter the strength of these relationships. Longitudinal work may be helpful in exploring how the strength and directionality of these relationships changes as women age.

Longitudinal work would also help tease out the differences between aging effects and cohort effects among women moving from young adulthood into middle and older adulthood. Women in Chapter 4 discussed the value of asking women why they feel empowered or not in their relationships and motivations for using or not using condoms with different types of partners. Therefore, longitudinal, mixed methods studies would provide information about behavior but also motivations and how they change for women and cohorts over time. Additionally, it is important to understand how women's motivations for condom use change over time and for differing age cohorts. Specifically, how the competing priorities of pregnancy prevention versus disease prevention affect

condom and hormonal birth control use and how that relationship may change by age, over time, and with different types of partnerships.

Dyad studies may further inform the role (and changing role) of relationship characteristics among women as they age. Characteristics such as relationship trust, commitment, concurrency, condom use preferences, partner age, and self-efficacy of both partners could be explored cross-sectionally and over time to investigate and compare the role of dyadic influence on sexual behavior compared to intrapersonal beliefs and other environmental effects (such as social networks and peer norms).

Intervention development and practice. People aged 20–34 had the highest rate of new HIV infections, while women approaching midlife (aged 35–44) still represented approximately 30% of new infections (CDC, 2011). However, a majority of the HIV prevention research focuses on those under the age of 24 or over the age of 50. Intervention work for women entering midlife or moving from midlife into later adulthood is much needed.

Some women in Chapter 4 reported an uneasiness around condom use skills after having been in long-term relationships or marriages and now beginning to date again. The rates of disease are quickly growing in this population, and education and empowerment and skill building may help reduce the burden of sexual diseases and illnesses among this group of women. Although the women in these studies reported fairly high condom use and condom use self-efficacy, intervention work should still include skill-building in condom use, negotiation, refusal of sex without condoms, and other sexual health self-efficacy.

Peer norms have been shown in this dissertation to affect women's beliefs and behaviors beyond adolescence. Therefore, it is important to include the effects of social networks and peers in intervention work among midlife women. Additionally, other environmental factors, such as partner characteristics (partner's age, condom use preferences, partner's risk perception, concurrency of woman or partner) are strong intervention targets for all women, including women in midlife.

Interventions should target women's personal and relationship power. Addressing issues that diminish and increase power, including histories of violence and resiliency, are vital in developing women's personal power and helping to shape how they approach and gain relationship power with their partners. Dyad interventions might be more appropriate in building relationship power where they can address communication, relationship-specific condom use preferences and motivations, and power dynamics.

Some women in the Chapter 4 study acknowledged the benefit of having had the focus group discussion for their own power and sexual health development. Some also mentioned wanting to return home and discuss these issues with their daughters and granddaughters to "stop the cycle" of sexual risk behavior and young pregnancies in their families. This would suggest that a cross-generational or family-level intervention might help women discuss differences in risk and behavior across age groups and could influence each other in positive ways. Younger women could play a role in improving older women's condom use education and skill-building, and older women could help improve younger women's personal and relationship power and resiliency. Lastly, multi-level interventions that target the individual, peers and relationships (sexual partnerships,

friendships, family), and broader sexual health policy would be the most effective in improving the sexual health of women as they age.

Conclusion

This dissertation research contributes to our understanding of black women's personal and relationship power, how power affects women's sexual health beliefs, behaviors, and communication and condom use self-efficacy. Furthermore, the findings emphasize the need to explore characteristics (such as concurrency, peer norms, future orientation, and self-efficacy) among midlife women that have been mostly investigated among younger (adolescent and young adult) populations to better understand and intervene on beliefs and behaviors that are putting midlife women at an increased risk for HIV and STIs. These findings may serve to inform efforts to increase personal and relationship power as well as self-efficacy through programs and intervention research for preventive behaviors in an attempt to reduce the rates of new HIV and STI infections among midlife, black women.

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