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Perceptions and Risk: The Role of Education, Body Image, Partner Availability, and Condom Negotiation on Black Women's Sexual Risk-Taking Behaviors

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PERCEPTIONS AND RISK: THE ROLE OF EDUCATION, BODY IMAGE, PARTNER AVAILABILITY, AND CONDOM NEGOTIATION ON EDUCATED BLACK WOMEN'S SEXUAL RISK-TAKING BEHAVIORS

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To: Dean Michael R. Heithaus
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This dissertation, written by Brittany N. Boyd, and entitled Perceptions and Risk: The Role of Education, Body Image, Partner Availability, and Condom Negotiation on Educated Black Women's Sexual Risk-Taking Behaviors, having been approved in respect to style and intellectual content, is referred to you for judgement.

We have read this dissertation and recommend that it be approved.

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Florida International University, 2022

DEDICATION

I would first like to dedicate this dissertation to my dearly departed ancestors. It is on your shoulders that I stand here today, and I am proud to be a part of your lineage. Dad, you recently left us here, on earth, a little less than a year ago. Yet, you are still my guiding light. You have always supported my academic endeavors and during your last days, you called me Dr. Boyd to everyone with such pride. Thank you for always being there for me and making sure that I do my very best. Mom, without your encouraging words, I would not have continued following my dreams when I wanted to quit and give up. Thank you so much for always supporting and caring for me, without you, this would not be possible. I dedicate this dissertation to my grandmothers Mrytis W. Boyd and Martha A. Bond. It is such a privilege to come from a bloodline of strong beautiful women who have mothered, grand-mothered, and great-grand mothered with such poise and grace. I dedicate this dissertation to my Auntie Pam and Uncle Juan, thank you for supporting me through this journey and helping me while being a single mom with my son while I finished school and worked full-time.

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ABSTRACT OF THE DISSERTATION

PERCEPTIONS AND RISK: THE ROLE OF EDUCATION, BODY IMAGE, PARTNER AVAILABILITY, AND CONDOM NEGOTIATION ON EDUCATED BLACK WOMEN'S SEXUAL RISK-TAKING BEHAVIORS

by

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Miami, Florida

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Rates of sexually transmitted infections (STIs) are at an all-time high (Centers for Disease Control and Prevention (CDC), 2021; Kreisel et al., 2021; Merman, 2021), and disproportionately impact women of color. Understanding the factors that coalesce to create elevated risk for Black women is critical for more effective prevention/intervention to reduce risks and negative health outcomes. This study extended previous research by examining the Theory of Planned Behavior (TPB) and the mediating influences of psychosocial factors (i.e., body image, perceived partner availability, and self-efficacy for condom negotiation) on sexual-risk decision making (i.e., condom use) in Black women during emerging adulthood. The TPB model demonstrated a good fit within the whole sample and the sample of highly educated Black women, with attitudes, social norms, and perceived behavioral control predicting condom intentions and intentions predicting condom use. Perceived partner availability mediated the linkages among intentions and

use in the full sample and condom negotiation self-efficacy related to condom use. Black women who are more highly educated perceived a more limited pool of partners and this may have implications for their sexual health. The findings from this study help identify patterns that may differentially impact self-protective behaviors in sexual encounters to promote diversity-affirming prevention/intervention to reduce high rates of STIs in minority women.

Keywords*:* condom use, education, Theory of Planned Behavior, partner availability, Black women

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CHAPTER I: INTRODUCTION

Sexually transmitted infections (STIs) and sexually transmitted diseases (STDs) are a growing public health concern for young people today (Anderson, et. al, 2020; Armstrong et al., 2020; Skakoon-Sparling & Cramer, 2020). Cases continue to rise, but these statistics are likely an underestimate given they only represent diagnosed and reported infections (Kreisel, et al., 2021). Moreover, most STIs are asymptomatic, further leading to underestimates of incidence and prevalence and elevated risks of exposure. Undiagnosed and untreated STIs/STDs can lead to infertility and even premature death (Gottlieb et al., 2014). Although the issues of health disparities and the social determinants of health have been paramount in recent years, their effects have become even more salient during the COVID-19 pandemic (when the disproportionate harm of the virus has been seen on historically marginalized groups; Razai et al., 2021), and the urgency to examine and better understand health differences is more important than ever before. To that end, this study examined the developmental and psychosocial factors influencing the high rates of sexual risk-taking behavior among young Black women to identify ways to reduce risk and lower the incidence of STIs/STDs in this group.

Health disparities persist and may even be increasing, with STDs/STIs rising disproportionately among minorities and women, especially women of color (CDC, 2018, 2021). The most recent data from 2018 shows that prevalence was estimated at 67.6 million cases and recent incident STIs represented 26.2 million newly diagnosed cases in the United States in 2018 (Kreisel, et al., 2021). Late adolescents and emerging adults (i.e., between the ages of 15 – 24) were at highest risk, accounting almost half of all

incidences of STIs in 2018. According to the CDC, nearly 25% of young adult women are diagnosed with an STI each year, and 50% of those cases are found in young Black women between the ages of 15 and 25 (Pflieger et al., 2013). That means that Black women are at least 8.7 times more likely to contract an STD than their white counterparts (Norris et al., 2021; Pflieger et al., 2013). Clearly, as Dr. Jonathan Merman, director of CDC's National Center for STD prevention said, "The burden of STIs is staggering" – but it does not have to be – STDs/STIs are preventable (CDC, 2021). STI prevention is has become the cornerstone of protecting the health of Americans. Yet, there are systemic health and social inequities that put racial, ethnic, and other minority groups at greater risk. Therefore, risk-reduction and prevention/intervention efforts must be more focused to reach those most in need. Given that the rates of STIs are at the highest they have been in decades (CDC, 2021), it is important to understand the factors that elevate risk and find better ways to target prevention and intervention to reduce risk. Therefore, focusing research on this developmental group (emerging adults), and women – in particular, Black women - is critical for national STI prevention efforts (Kreisel, et al., 2021).

Sexually transmitted infections and diseases result from risky sexual behaviors (Pirani & Matera, 2020). Risky sexual behaviors are sexual activities that compromise and expose individuals to the risk of acquiring a STI or other negative health consequences, such as unintended pregnancy (Chawla & Sarkar, 2019; Pirani & Matera, 2020). Examples of sexually risky behaviors include unprotected intercourse, unprotected mouth-to-genital contact, early age of sexual activity, multiple partners, high risk partners, sex trade work, and intercourse with someone who injects drugs (CDC, 2020). The long-term consequences of STI/STD acquisition include but are not limited to

negative mental health consequences (depression, anxiety), reproductive health problems, increased risk of HIV acquisition, and adverse birth outcomes for women (Aral, 2001). The current study examined factors that may influence sexual decision-making, specifically the choice to engage in unprotected sex (e.g., condom use), which is considered the primary health outcome or sexual risk behavior.

Many factors can influence sexual health decision-making and lead to risky sexual behavior. Some factors, considered social determinants of health, have been examined, such as socioeconomic status (SES), education level, gender, and racial and ethnic group identity (Harling et al., 2014; Higgins & Browne, 2008; Turchik & Gidycz, 2012). Intrapersonal psychosocial factors such as personality traits (Turchik et al., 2010), attitudes (Armstrong, et al., 2020), gender norms (Chan et al., 2021), self-perceptions (Boadle Gierer & Buzwell, 2020), relationship motivation and partner familiarity (Skakoon-Sparling & Cramer, 2020), number of sexual partners (Pirani & Matera, 2020), partner or relationship type (Norris et al., 2021), perceived partner availability (Boyd et al., 2020; Burt, et al., 2010), and substance use (Pedersen et al., 2020), have also been found to relate to engagement in risky behaviors. For women, factors such as depression, SES, body esteem and dissatisfaction, and substance use have been linked to condom use behaviors (Parks et.al., 2009; Pirani & Matera, 2020; Santelli et al., 2000; Scott-Sheldon et al., 2009; Seth et al., 2011). Additionally, several other predictors include lower include low self-efficacy for practicing safe sex (Bandura, 1982), and limited or lack of knowledge regarding risks and prevention for STIs (Allen & Walter, 2018; Chaiyeva et al., 2012). Social factors that may elevate risk include social norms against condom use, sexual coercion, co-morbid substance use during sexual encounters (Barriger& Velez-

Blasini, 2013; de Visser, et al., 2014), and greater exposure to social media with sexual content (Anderson et al., 2020). In many cases, these intraindividual, developmental, cognitive, and psychosocial factors may coalesce, perhaps coactively or synergistically, to elevate risk. Thus, teasing apart sexually risky behaviors is especially challenging due to the presence of syndetic comorbidities (Chan et al., 2021). However, it remains unclear how these factors may interact and promote risk in young adult Black women – those at greatest risk for STDs/STIs.

The Theory of Planned Behavior (TPB; Ajzen, 1991, 2002) has been used to understand and predict condom use across a wide and diverse array of populations (Albarracín et al., 2001; Guan et al., 2016; Protogerou et al., 2013). The TPB identifies the indicators (i.e., attitudes, subjective norms, and perceived behavior control) that impact behavioral intentions and engagement. Past research shows that attitudes and subjective norms can positively impact condom use, but the impact of perceived control is inconclusive (Guan et al., 2016). Typically, perceived control in studies of condom use is measured in terms of the ease or difficulty individuals perceive in the use of condoms. However, it has been argued that women and men may experience the ease or difficulty of condom use differently, and that for women it is more of a negotiation, since it ultimately requires the man's consent, which they perceive less control over (Guan et al., 2016; Norris et al., 2021).

There are many factors that may influence condom use among Black women. Research has identified interpersonal and environmental factors that influence condom negotiation, such as fear and worry (Guan et al., 2016; Norris et al., 2021), concern for negative reactions and loss of sexual partners due to the request to use condoms (Norris

et al., 2021; Salazar et al., 2004), and fear of being threatened or abused (Salazar et al., 2004). These concerns are especially problematic for Black women since there are fewer male partners available to them (Newsome & Airhihenbuwa, 2012), and this creates a power structure that impacts sexual decision-making (Amaro & Raj, 2000; Wingood & DiClimente, 2000). Although condom negotiations have been examined and found to be predictive of attitudes, subjective norms, perceived control, condom use intention, and actual condom use; the role of perceived partner availability and its impact on condom negotiation within the TPB model has not yet been examined.

Women, and specifically minority women, are at higher risk due to their behavioral choices in sexual encounters. For example, sexual risk taking has been associated with earlier sexual activity, lower condom use, heightened risk of HIV and other STIs, and higher rates of unintended pregnancy in young Hispanic women (Opara et al., 2020; Norris et al., 2021). Similarly, HIV disproportionately affects young Black women: "While being a woman does not typically increase a person's HIV risk, being Black and being a woman does" (Galloway, 2020, p. vii). In fact, the intersectionality among gender and race significantly disadvantages Black women. Black women are at higher risk for engaging in unprotected sex (Carlson et al., 2013), and as a result, have higher rates of STIs and HIV than women of other racial backgrounds (CDC, 2018; 2021). Social determinants of health risk may also involve socioeconomic status and education. While it has been stated that higher education and wealth status are associated with practicing safer sex practices and lower rates of STIs (Hargreaves et al., 2008), there are other studies that show the opposite (Berhan & Berhan 2015; Hargreaves & Glynn, 2002). Although the impact of education on condom use is inconclusive, research has

shown that education does impact perceptions of partner availability (Burt et al., 2010). In this study, we expanded this question to examine whether education confers benefits or costs in educated Black women's perceptions of partner availability and whether that, in turn, may elevate the likelihood that they engage in unprotected sex to secure a relationship.

Developmentally, young adults (between the ages of 15-24) are at greatest risk for STDs/STIs (Kreisel et al., 2021; Skakoon-Sparling & Cramer, 2020). Given the elevated incidence of STDs/STIs during this period of development, emerging adulthood is clearly a critical window of vulnerability for sexual health. During the transition to adulthood, developmental factors may change and differentially influence health risks, especially risk for STIs/STDs. This developmental period typically coincides with increased sexual behavior and increased sexual risk-taking (Baumrind, 1987). This may be due to increased independence, less parental oversight, greater influences of peer influences, changes associated with one's identity, goals, and social networks, increased engagement in alcohol and substance use, all of which may be associated with the changing contexts in which emerging adults find themselves in (such as attending college or living independently for the first time). Developmental change coupled with the impact of psychosocial and contextual factors, may put women, and especially women from minority backgrounds (Opara et. al., 2020), at greater risk for engaging in risky sexual behaviors that can lead to negative health outcomes (Anderson et al., 2020; Grossman et al., 2019; Pettes et al., 2015; Seth et al., 2011). Teasing apart these social determinants is critical for tailoring prevention and intervention efforts to reduce the risk of STIs/STDs in young Black women.

The Current Study

The current study was premised upon the idea that the examination of multiple factors is best approached through an integrative explanatory framework for interpreting the co-occurrence of developmental and psychosocial factors on sexual risk behaviors in Black women during the transition to adulthood.

Study Aims

The overarching purpose of the current study was to develop a model that could be predictive of likelihood of engaging in sexually risky behavior in underrepresented minority women. The first aim of the study was to examine the possible mechanisms by which psychosocial factors may relate to pathways predictive of condom use in Black women. This study implemented a multivariate analytical framework using specific individual and contextual psychosocial variables that are associated with co-occurring sexual risk-taking, specifically condom use. The integrative model (depicted in Figure 1) is based upon the TPB and how self-perceptions (i.e., perceived body image, perceived partner availability, perceived condom negotiation self-efficacy) may impact attitudes, subjective norms, and perceived behavioral control (or self-efficacy) as potential indicators of behavioral intention to use condoms and actual condom use. In the current study, the education level of Black women, self-perceptions of body image, perceived partner availability, and self-efficacy for condom negotiation were examined as distal influences on the attitudes, subjective norms, and perceived control associated with condom use intentions and behaviors.

The second aim of this study was to extend research on perceived partner availability to assess metacognitive factors that may influence condom use in Black

women of different educational levels. As such, this study extended previous research (Boyd et al., 2018; Thomas, 2019) to examine the potential mediating impact of perceived partner availability on sexual-risk decision making in Black women.

The significance of the current study

A final goal of this study was to identify patterns that may differentially impact self-protective behaviors in sexual encounters to promote prevention/intervention to reduce high rates of STIs in young Black women and highly educated Black women. This research identified potential points of intervention for psychoeducational and therapeutic assessment and intervention to increase condom use behaviors in Black women.

CHAPTER II: LITERATURE REVIEW

The primary focus of this literature review is to present and integrate key conceptual constructs, theoretical approaches, and empirical findings to develop a conceptual model of condom use in Black women. Research has shown that there are developmental, contextual, and individual level variables that relate to intentions and behaviors in sexual-risk decision making. Consequently, this chapter summarizes and synthesizes the available literatures regarding health risk behavior research and specifically condom use to reduce risk of STIs/STDs in young Black women. First, the theoretical underpinnings of developmental research examining risk factors during the transition to adulthood is presented. This is followed by a synthesis of what we know about factors affecting sexual decision-making and sexual risk taking in young adults, women, and particularly Black women. Next, the utility of the TPB is presented as a theoretical framework for the integrative model we have examined to predict factors influencing risk perceptions and behavioral intentions and actions to reduce STIs/STDs in

young Black women. Finally, the multi-level integrative model is presented, and the results associated with the specific hypotheses tested are presented.

Theoretical Framework

To effectively develop a study and interpret data in empirical research, basic theories should be utilized (Sutton & Staw, 1995). Having a theoretically sound foundation is important to the early stages of research as it gives rise to a solid foundation in which to develop and expand future research. A solid theoretical lens helps guide researchers through unknown domains and connect structures between the known and unknown (Van Lange et al., 2012). This study examined individual and contextual factors that may influence sexual decision-making and behavior and as such it is grounded in Developmental Systems Theory and the TPB.

Developmental Systems Theory (DST)

Developmental science is an interdisciplinary approach to understanding and explaining how individuals grow and develop with the goal of optimizing developmental processes and promoting adaptive development in the individual (Lerner et al., 2012; Overton, 2015). Theoretically, developmental scientists often rely on Developmental Systems Theory (DST), a meta-theory in developmental psychology (Ford & Lerner, 1992), to guide and explain how developmental processes and changes unfold over time. DST articulates how individuals are reciprocally intertwined in their environments and through the ongoing dynamic transactions among the individual and the environment their biological, psychological, and environmental contexts maintain or change over time. Rather than provide a model that can be empirically tested against alternate models, DST is a broad theoretical approach to development, heritability, and evolution that provides a

framework for conducting research and understanding the findings generated by research (Oyama et al., 2001). Developmental scientists focus on understanding intraindividual change and interindividual differences and the reciprocal interactions among individuals and influences in their dynamic contexts. An outgrowth of DST is a new conceptual framework for development called the "Process-Relational" or "Relational-Developmental Systems" paradigm (Overton, 2015). This paradigm seeks to better capture how developmental processes occur transactionally within the environment but that they also unfold as we live in a "relational world." In this relational world, "things are defined by their relationships. Individuals exist…but their possibilities are determined by the network of their relationships." (Smolin, 1997, 2003). Smolin (2003) suggests that individuals experience and perceive themselves and each other through the connections they have in their networks. These networks are ever changing and ever evolving, contributing the dynamic nature of intraindividual developmental processes. In the present study, understanding the factors that influence young Black women to make certain choices (that increase or decrease health risks) within the context of their intimate relationships or sexual encounters is dependent upon understanding the developmental period and the developmental pressures at work within their lives. For example, many highly educated heterosexual Black women know the risks of unprotected sex (unintended pregnancy, STDs/STIs), yet, given the biopsychosocial pressures (advancing age, fewer available appropriate male partners, social pressure to "settle down"), they might make choices that put themselves at greater risk of negative health outcomes (Hall & Pichon, 2014).

Relational Developmental Systems Theory (RDST)

From a Relational Developmental Systems Theory (RDST) perspective, it is important to note that psychological actions are "goal-directed, meaning-mediated operations in the world" (Mascolo, 2020, p. 7), and that individuals are both the creators and the products of their own development (Brandtstädter & Lerner, 1999). Development is, in parts, intentional, action-oriented, and goal-directed. While there are changes in cognitive, physical, psychological, and social domains during the transition to adulthood, an individual's relations with others and other systems in their world place adaptational demands upon them (Gestsdottir & Lerner, 2008). In this process, the individual is acting on their environment and their environment is acting upon them. This bidirectional process is called developmental regulation, and the individual contributes to shaping their own development through a process of self-regulation (Gestsdottir & Lerner, 2008). For example, a highly educated young Black woman who has worked hard to achieve certain goals and who strives to excel in the professional (external) domain may experience conflicting developmental pressures in the personal (internal) domains of her life. These conflicts among prominent developmental contexts may impact her decision-making in the moment, as well as her short- and long-term goals. She is not just embedded in a context but can choose to select, create, and change the context in which she operates (Bandura, 2000, Demetriou, 2000; Grolnick et al.,1997; Lerner, 1982, 2002; Lerner & Busch-Rossnagel, 1981). These co-acting contexts present the fundamental adaptive challenges that mark emerging adulthood and make understanding the self-regulatory processes operating during this developmental window especially critical to

understanding personal behavior, development, and the unfolding developmental trajectory of individuals.

Relational Personhood. It has been said that out of the collapse of grand theories such as DST, new models that could be more effectively applied in empirical contexts have evolved. For example, the theory of relational personhood suggests that the processes through which individuals' function are grounded in what it means to be a person (Mascolo, 2020). As Mascolo (2020) states, "a person…is a kind of process – an ongoing, continuously-emerging, relational system of experience-in-action" (p. 30; see also Adams, 2007; Paolo & De Jaegher, 2017; Gergen, 2009; Overton & Lerner, 2014). Mascolo (2020) provides a relational developmental perspective to help us understand that any psychological activity can be understood as the product of the relations that happen among aspects of the dynamic, interactive, and person-environment system (Mascolo & Fischer, 2010, 2015). Within this model (Mascolo, 2020), there are six basic categories of processes: (a) individual *action* (including the nested biological and psychological systems of which individuals are comprised), (b) the *objects* of those actions (real and imagined), (c) the *actions of others*, (d) the use of signs and symbols and other things that mediate the *intersubjective engagement*, (e) the broader *socio-cultural context*, and finally (f) *reflexive self-awareness* – the conscious feedback loop and metacognitive processes that promote behavioral change and development. According to DST, we enter the world embedded in different relational systems and it is from this entry, that psychological and social development unfold. A young Black woman's sexual decision-making in a moment of intimacy will act in concert with the actions and perceptions of others in her world (e.g., e.g., her partner and social group), in the context

of her intersubjective (e.g., personal beliefs, feelings about herself, and her goals), and socio-cultural context (e.g., perceived partner availability), while bringing to the process her reflexive self-awareness of her motivations, desires, and concerns.

Developmental Systems Theory, as an outgrowth RDST, suggest that evolution, development, and all biological processes work by the continuous assembly of new structures within the organism (Ford & Lerner, 1992). The new structures transcend the structures from which they were developed (Ford & Lerner, 1992). This is a process characterized by the continual unfolding of new structures within the organism. Yet, they are inextricably linked in relation to one another (Ford & Lerner, 1992). This theory is important as a broad perspective when developing and testing a theoretical or empirical model of psychosocial processes at a particular point in development, as it does not aim to find causality within any process of development, but rather, remains open as development is a dynamic and continual process (Ford & Lerner, 1992). This study examined factors such as level of education on the beliefs and behaviors surrounding condom use (structure) in heterosexual Black women (level of functioning). This study utilized a well-researched health behavior theory (TPB) that aims to identify systemic bi-directional factors that shape decision-making and behavioral processes impacting condom use in heterosexual Black women. RDST guided our understanding of developmental and contextual processes that may shape Black women's goal-directed self-regulatory processes, and the TPB articulated how the specific factors or contexts, both internal (personal beliefs, self-assessments) and external (perceptions of others) may co-act to impact the individual and give rise to certain behavioral outcomes.

Theory of Planned Behavior (TPB)

Sexual risk behaviors in young adults lead to many negative health outcomes, including the nearly epidemic levels of STDs in the U.S. today (Bryan et al., 2002; CDC, 2021; Kreisel et al., 2021; Merman, 2021). Early adulthood is a critical time of transition marked by physical development and increased sexual desires and activity (Kim et al., 2021). The developmental context of young adulthood creates highly charged emotional contexts where individuals face strong urges, emotions, temptations, and experience pressures in sexual encounters that impact their rational decision-making. This is, in part, why young adults are a high-risk group when it comes to STIs/STDs. One of the most effective methods to prevent STIs/STDs is to use condoms (CDC, 2016; Dacosta et al., 2021). Yet, condom use in young adults remains low worldwide (CDC, 2021; Dacosta et al., 2021; Kim et al., 2021). Whereas Black people represent 13% of the U. S. population, they represented 44% of newly diagnosed HIV cases in 2017 (CDC, 2018). Moreover, heterosexual transmission was responsible for 91% of the newly diagnosed HIV cases in Black women (CDC, 2018). Black college women are almost two times as likely to report having contracted an STI within the last year as white college women (Buhi et al., 2010; DiClemente et al., 2021). Yet, despite the high incidence of negative sexual health outcomes, only 50% to 60% of young Black college women say that they use condoms regularly (Buhi et al., 2010; DiClemente et al., 2021; Francis et al., 2018; Francis et al., 2019). This situation represents a critical window for effective psychosocial and educational intervention to reduce the incidence of STIs/STDs in young Black women, the key is understanding the factors that may predict or interfere with effective condom use.

Condom use intentions during this phase of the lifespan point to the need to explore heterosexual Black women's perceptions and experiences through a systematic and culturally guided lens. As little is known specifically about the role of education in heterosexual Black women's condom behaviors/intentions, this study employed the TPB to guide the investigation of heterosexual (and highly educated) Black women's condom use strategizes as they navigate dating and intimate relationships. The TPB is among the most widely used social-cognitive models applied to explain and predict health-related behaviors (Booth et al., 2014; Kothe & Mullan, 2014, Nolan-Clark et al., 2011; Potard et al., 2017). Decades of research shows that the TPB (Ajzen, 1985; 1991) is effective at predicting sexual risk behaviors (Tseng, et.al., 2019; Turchick & Gidycz, 2012). Moreover, the TPB has been used to investigate condom use behaviors using quantitative data gathered from heterosexual Black college-aged women (Francis et al., 2019; Guan et al., 2016: Thomas, 2019).

The TPB is a multi-level integrative model that allows for the behavioral prediction of specific health behaviors such as condom use to reduce risk of STDs/STIs. The components of the model include: (a) attitudes; (b) subjective norms; and (c) perceived behavioral control that co-act to influence (d) intentions, and further downstream, (e) health behaviors (Azjen, 2002). Many applications of the TPB use behavioral intentions and/or actual health behaviors as outcome or dependent variables. In the present study behavioral intentions were assumed to be a powerful predictor of behavior as well as the factor within the model that may be most important as a potential target for prevention/intervention. Thus, while behavioral intention and actual behaviors

are measured, and both will be assessed as dependent variables, intentions are the construct that will move the needle to change behavior and ultimately reduce risk.

Behavioral Intentions. The behavioral intentions of a person, according to this theory, are the motivational forces that influences an individual's openness to engage in a certain behavioral outcome (Madden et al., 1992; McKinlay & Cowan, 2003). Intentions are the immediate precursors of any voluntary behavior or action (Ayikwa et al., 2020), and are considered the most important and direct determinant of behavior (Ajzen, 1985; 1991; Madden et al., 1992; Yzer, 2012). An individual is more likely to engage in a behavior based on the strength of their intention (Azjen, 2002). Research shows that young Black women report high intentions to use condoms (Francis et al., 2018; 2021). However, behavioral predictions have been difficult to convert into behavioral actions, especially in contexts of sexual intimacy where there are developmental, psychosocial, and environmental constraints (Fishbein & Cappella, 2006). Thus, behavioral intentions are often conceptualized as the outcome measure or dependent variable in the TPB.

Attitudes. Behavioral intentions are strengthened by the attitudes of the individual. In the TPB model attitudes toward condom use are also critical (Caldwell & Mathews, 2015; Lotfi et al., 2013). Attitudes refer to how an individual places value on an intended behavioral outcome (McKinlay & Cowan, 2003). An example of this would be how favorable or unfavorable it is to use a condom for young Black women (Azjen, 2002). The attitude component of the TPB model represents the consideration phase of the individual towards an action (Azjen, 1991). Attitudes toward condom use might include, for example, the satisfaction and reliability of condoms to protect against unintended pregnancy or STIs or the comfort and ease of use of condoms. Attitudes

could include the embarrassment that is felt in initiating the discussion or applying the condom, or the effect of condoms on sexual arousal and excitement, or as a potential interruption of sexual activity (DeHart & Birkimer, 1997). Research shows that Black women experience several barriers to condom use and report several factors that impact their attitudes toward condom use: power-dynamics in relationships (Norris et al., 2021), fear of losing their partner (Guan et al., 2016), and the impact on 'intimacy and love' in the relationship (Garner et al., 2020). Other studies show that Black women's attitudes about condom use can be influenced by fear of condom negotiation, and fear of retaliatory abuse, coercion, and abandonment (Garner et al., 2020; Li et al., 2018; McLaurin et al., 2015; Paxton et al., 2013). Perceived benefits and positive attitudes regarding condoms lead to greater condom use (Maharaj & Cleland, 2005; Taylor et al., 2014). Conversely, perceived barriers and negative attitudes reduce condom use (Van Rossem & Meekers, 2011). For the current study, it was perceived to be beneficial to investigate the attitudes towards condom usage for Black women, and to determine if there are differences for highly educated Black women who may face a paradox that impacts risk: they may have greater knowledge of outcomes of sexual risk taking coupled with increased pressure to take risks due to a perceived smaller pool of available partners. Expanding understanding of attitudes towards condom usage in Black women would provide insight on the factors impacting the decision-making process and risk evaluations when engaging in sexual intercourse with romantic partners.

Subjective Norms. Subjective norms are another construct within the TPB (Azjen, 2002). Subjective norms refer to the approval or disapproval of a behavioral intention/outcome, or the social pressure perceived by an individual to perform (or not

perform) a given behavior (Potard et al., 2018). These norms are composed of social beliefs or opinions about a certain behavior from peers and important people within the individual's immediate environment (Azjen, 2002). For example, "my friends encourage me to use a condom when I have sex," "everyone I know is using condoms to protect against STIs," "my partner thinks condoms lessen his sexual pleasure" are all ways of indicating an attitude toward condom use. These social beliefs are also known as social norms (Conner & Sparks, 2005). Social norms give rise to the decision-making process of the individual towards a certain intended behavior (Azjen, 2002; Conner & Sparks, 2005). Social norms are standards or normative behaviors in society and larger groups of people (Azjen, 1991). These norms are cultural and have a bi-directional relationship with subjective norms with/within the individual. The current study aims to identify the influence of subjective norms surrounding condom usage of Black women, and in particular, highly educated Black women, who are in romantic relationships/dating. It is imperative to understand the influence of the socially perceived messages surrounding condom usage in this population. Research has shown that norms shape and influence an individual's motivations and behavioral outcomes surrounding condom use (Guan et al., 2016; Tseng, et.al., 2019; Turchik & Gidycz, 2012). Black female college students reported positive attitudes toward condom use as well as favorable social norms for intention to use condoms (Kanu, A. J. & Kanu, C. G., 2000). Identifying these norms would allow practitioners who work with Black women to be sensitive to and aware of the social pressures that this population has to face and endure. Social norms may differ across microsystems which is why understanding the interplay of these factors among

highly educated Black women will allow for more tailored and focused prevention/intervention implementation.

Perceived Behavioral Control. Within the TPB, perceived behavioral control is conceptualized as the extent to which an individual feels in control of their behavioral intentions and outcomes or, put another way, their perception of their abilities to carry out a particular behavior (McKenzie et al., 2012). These control beliefs are conceptualized as self-efficacy (Bandura, 2010). These perceptions relate to the ease of performing a given behavior (including internal factors or skills such as "I am confident that I know how to use a condom") and constraints (including external factors such as "It is difficult to buy condoms for my partner"), both of which can impact intentions toward and performance of the desired behavior (Azjen, 1991; 2012). These control beliefs may impact behavior, either by facilitating or inhibiting intentions and performance (Notani, 1998). Perceived behavioral control is based on one's past experiences and the assessment of obstacles to future behavior (Azjen, 1991). For example, young Black women may have had experiences where their attempts to introduce condom use in intimate encounters were met with resistance, and therefore they do not feel they have control to make their current partner use a condom.

Research on perceived behavioral control in condom use shows mixed results (Guan et al., 2015). In one study, despite having positive, even favorable attitudes toward using condoms, Black women's perceptions of behavioral control were the strongest predictors of the intention to utilize condoms (Kanu & Kanu, 2000). The strength of the linkages among the TPB constructs and sexual risky sexual behavior can be shaped by other contextual factors as well (Gu et al., 2009). For example, power

dynamics within the sexual relationship were reported to moderate the associations among attitudes, social norms, perceived behavioral control and condom use behaviors (Nysveen et al.,2005; Rosengard et al., 2001). Yet another study found that sexual relationship power was not a determinant for lowered condom use in Black women college students (Stokes & Brody, 2019). Rather, self-imposed silencing, that is, putting others needs before their own needs, was a key determinant in condom use among college educated Black women (Stokes & Brody, 2019). There are several factors that may influence young Black women's perceived behavioral control that have not yet been considered within the context of the TPB. This study attempts to address that gap by examining how educational level, body and partner perceptions, and self-efficacy for condom negotiation may impact behavioral control and downstream intentions and behaviors.

To summarize, based on the TPB, a behavioral outcome such as condom use is determined largely by behavioral intention or the strength of the motivational factors that influence behavior (Ajzen, 1991; Asare, 2015). The stronger one's intention the more likely the behavioral outcome. Intention is influenced by three constructs: the attitude toward the behavior ("using condoms is a good idea"), subjective norms or the social values/pressures to perform the behavior ("my women friends encourage condom usage"), and perceived behavioral control or the feelings of self-efficacy that one can enact the behavior ("I bought these condoms, and I can encourage my partner to use them"). One study that tested the TPB model showed that in young adults, the constructs of attitudes, subjective norms, and perceived behavioral control significantly predicted condom use intentions, accounting for 64% of the variance (Asare, 2015). The main

driver of condom use was behavioral intention, claiming 15% of the variance in the model (Asare, 2015). When the TPB model is tested as a whole, it predicts condom use behaviors in young Hispanic men and women (Malcolm et al., 2013), university students in South Africa (Heeren et. al, 2007; Protogerou, et al., 2013), the United Kingdom (Newby et al., 2013), Portuguese and Spanish college students (Muñoz-Silva et al., 2007), and college students in the United States (Asare, 2015; Turchick & Gidycz, 2012). These studies suggest that the TPB is effective at predicting condom use in individuals during the transition to adulthood and therefore captures some of the developmental processes that influence behavioral choices and sexual decision-making during this period of development.

Predictors of Condom Use

To predict how constructs of the TPB model may influence condom use, it is first important to understand the predictors of condom use in young adults, and in Black women. Condom use is the most effective way to prevent STIs/STDS and unwanted pregnancy (CDC, 2016). However, STI/STD acquisition rates are still high and are rising at alarming rates in college students, women, and in certain ethnic/minority people groups in the U.S. (CDC, 2018; 2021). College students are at increased risk for STI/STD acquisition (CDC, 2016). For this population, condom use is important as college students are in the developmental age group in which STIs/STDs acquisition is most common (CDC, 2016). For women specifically, research has shown that condom use is related to other negative outcomes such as intimate partner violence (IPV; Maxwell et al., 2015). Moreover, condom use is typically dependent on romantic partner selection, and in heterosexual relationships a woman's ability to negotiate condoms is a key

determining factor in whether the couple will have protected or unprotected sex (East et al., 2013, French & Holland, 2013).

Social Determinants of Condom Use

Many factors can influence sexual health decision making and condom use behaviors. Some factors have been examined within various socioeconomic groups, gender groups, and racial and ethnic groups, (Harling et al., 2014; Higgins & Browne, 2008; Turchik & Gidycz, 2012). Factors such as personality traits (Turchik et al., 2010), attitudes (Armstrong, et al., 2020), self-perceptions (Boadle Gierer & Buzwell, 2020), relationship motivation and partner familiarity (Skakoon-Sparling & Cramer, 2020), number of sexual partners (Pirani & Matera, 2020) perceived partner availability (Boyd et al., 2020; Burt et al., 2018), and substance use (Pedersen et al., 2020) have been explored. For women, factors such as depression, SES, body esteem and dissatisfaction, and substance usage have been linked to condom use behaviors (Parks et al., 2009; Pirani & Matera, 2020; Santelli et al., 2000; Scott-Sheldon et al., 2009; Seth et al., 2011). Other factors that may impact self-perceptions and the constructs of the TPB are discussed below.

Intersectionality: Gender, Race, and Education

There are many gendered differences in condom usage especially for college educated women. Research has shown that college aged women are less likely to buy condoms than college aged men (Diamant-Wilson & Leathers, 2020; Reeves et al., 2016). Moreover, college women were found to be more likely to be embarrassed about acquiring condoms on their own (Reeves et al., 2016). These factors alone pose a risk to college aged women's access to condoms, their intention to use condoms, and actual

condom use. These barriers to condom usage leave women vulnerable to potentially contracting STIs/STDs. The complexity of the situation is evident in these two findings: research shows that college women who do not seek monogamy or who are unsure of their romantic goals are more likely to utilize condoms in sexual relationships (Norris et al., 2021), whereas college women who seek romantic relationships are less likely to negotiate condom use and use condoms primarily when they are in a romantic relationship and with stable partners (Caldwell & Matthews, 2017; Norris et al., 2021). Close relationships with primary partners have been shown to be determinants of lowered condom usage primarily in women (Norris et al., 2021; Senn, et al, 2015).

Black women, and college-educated Black women, are at heightened risk for STIs/STDs (CDC, 2017; DiClimente et al., 2021). Given the fact that rates of STIs/STDs including HIV remain disproportionately high in young Black women, it is imperative to understand the intersectionality among gender, race, and education that may elevate risk. Understanding these interactions and how they may influence behavioral outcomes is critical for prevention/intervention efforts.

One factor shown to influence the interplay among gender, race, and education concerns relationship parameters in young heterosexual Black women. College-aged Black women *perceive* that heterosexual casual sex has greater STI/STD risk than sexual activity in monogamous heterosexual relationships (Foreman, 2003; McLaurin-Jones et al., 2017; Norris et al., 2021). Black women have been found to be more likely to use condoms in causal encounters than in perceived "committed" relationships (Caldwell & Matthews, 2017). Research shows that educated Black women prefer to be in monogamous relationships (Towner et al., 2012). This choice may impact their safe sex

behaviors when in perceived or established committed relationships. Reasons given for not engaging in protected sex with monogamous partners included but were not limited to knowing romantic partners' status, trust within the romantic relationship, and contraceptive use to prevent unplanned pregnancy (McLaurin-Jones et al., 2017). Studies show that people in 'purportedly' monogamous relationships engage in less condom use when with their main partners and they are likely to be consistent in their use of condoms within 'extra-dyadic' partners than people in 'open relationships' – these decisions expose their main partners to greater risk (Lehmiller, 2015; Levine et al., 2018; Pahl et al., 2020). Further studies show that educated Black women were less likely to utilize condoms when they knew they did not have STD/STI/HIV, when they saw the STD/STI test results of their sexual partners, when they trusted that their partner was being faithful, and when they were protected from unplanned pregnancy (McLaurin-Jones et al., 2017). Moreover, this study found that college-aged Black women were more likely to place a higher importance on preventing unplanned pregnancy than STI/STD risk (McLaurin-Jones et al., 2017). Another study showed that gendered relationship dynamics, perceived sex-ratio imbalances, and the degree of trust Black women perceive in their relationships may negatively impact their ability to negotiate factors that impact their sexual-health such as fidelity/monogamy and condom use (Caldwell & Mathews, 2015). Secure relationship status is an interpersonal goal for young Black women and one that also impacts their sexual decision making in real time, leading to increased risk-taking behaviors.

The interactions among gender, race, and education are important and there is evidence that whereas higher levels of education are generally found to reduce health-

related risks, these factors do not operate quite the same way in highly educated Black women. Whereas there is a large void in the empirical literature examining condom use in highly educated heterosexual Black women, there is some evidence that suggests that highly educated Black women are compromising their values and behaviors to obtain/remain in romantic partnerships (Boyd et al., 2020). Boyd et. al. (2020) found that highly educated Black women were compromising their values, such as being in non-monogamous relationships when they wanted to be in a monogamous relationship, to keep a partner. There is an obvious confounding among socioeconomic status (SES) and education level in terms of compromising in relationship when dating. Many studies that show the social determinants impacting sexual risk focus on SES and consider it inclusive of income, educational level, employment status, and profession or occupation. For example, research shows that attaining higher SES does not fully buffer Black women who have attained middle SES from HIV risk (Caldwell & Matthews, 2015). Some research shows that in intimate relationships, men prefer women with lower SES (Burt et al., 2010; Greitemeyer, 2007), but women prefer men with higher SES – specifically the higher education level that relates to higher SES (Burt et al., 2010). Higher educational level may impact intimate relationships through factors such as introducing time limitations and social outlets (Burt et al., 2010). But teasing apart these separable indicators is important because financial stability, career goals, and high levels of education may differentially impact attitudes, social norms, and perceived behavioral control on condom use and intentions. Other factors, that have not yet been studied, such as perceived partner availability and body image, may also have implications for condom use and health risks in this population.

In addition to relational values, the fears surrounding condom negotiation that college women in general and educated Black women may have been found to be strong predictors of condom usage (Crosby et al., 2011; see also Norris et al., 2021). Several studies show that college aged Black women fear violence from their partners or other negative reactions from their partners as a result of having conversations surrounding condom use (Hunter et al., 1999; Norris et al., 2021b). Condom negotiation therefore is a key factor for increasing condom use in college-aged Black women (Guan et al., 2016; Norwood & Zhang, 2015). College-aged Black women who use condoms have been shown to have more condom favorable attitudes and have fewer sexual partners than those who do not use condoms (Norwood & Zhang, 2015). Moreover, an educated Black woman's ability to negotiate condom use will lead to better overall sexually-related outcomes and relational outcomes (Crosby et. al., 2011).

Recall that perceived behavioral control is typically conceptualized and measured as 'perceived ease or difficulty of using a condom' – or self-efficacy for condom use (Guan et al., 2016). Guan and colleagues argue that self-efficacy for condom use in women, and especially Black women, should be conceptualized as condom-negotiation self-efficacy because the actual realization of male condom usage requires the male partner's consent (Crosby et al., 2011; Guan et al., 2016). Based on this approach, Guan and colleagues (2016) have established that measuring perceived control for condom use as communication-based self-efficacy is warranted and better represents the sociocultural context that can best model Black women's condom use. These findings showed that Black women experience fear and worry when negotiating condom use and that these fears were negatively correlated with attitudes, subjective norms, and self-efficacy.

Condom negotiation self-efficacy was a predictor of intent to use condoms whereas condom use self-efficacy was not. Fear associated with condom negotiation was negatively correlated with attitudes, subjective norms, and behavioral intentions. These authors conclude that when examining sexual risk behaviors such as condom use in Black women, the TPB must be adjusted to incorporate factors that are more contextually based (Guan et al., 2016). These conclusions are also supported by other research that demonstrates the importance of considering relational variables and their impact on Black women's condom use (Crosby, et al., 2011).

Perceived Partner Availability and Perceived Self-Image

During the transition to adulthood and into adulthood, developmental factors may change and differentially influence condom use within Black women (Anderson et al., 2020; Grossman et al., 2019; Pettes et al., 2015; Seth et al., 2011). Research has identified gender, communication, perception of relationships, and appearance as factors that impact impulsive and disinhibited behaviors that may elevate risk of lowered condom use during this period (Anderson et al., 2020). But the transition to adulthood and relationship pursuit in adulthood differentially influences women and especially women from minority groups (Opara et al., 2020). Research on risky sexual health outcomes, such as condom usage, has shown that Black women are more likely to engage in sexually risky behaviors when they perceive that their partner availability options are low (Boyd et al., 2020; Caldwell & Matthews, 2017; Matson et al., 2014; Thomas 2019). Moreover, studies have suggested that Black women may not negotiate condom use if they fear that they will lose their romantic partners interest over conversations surrounding condom use and other safe sex practices (Matson et al., 2014). This is

alarming as Black women and especially highly educated Black women are likely to compromise their overall values and beliefs to be in romantic partnerships (Boyd et al., 2020; Burt et al., 2010). Research suggests with increased levels of education, stress, and hardships associated with romantic relationships may increase due to a reduced pool of suitable romantic partners (Burt et al., 2010; Cargan & Melko, 1982; Greitemeyer, 2007; Sprecher & Regan, 2002). For example, Burt and colleagues (Burt et al., 2010) suggest that the romantic partner hardships that occur because of increased education can potentially relate to poorer decision-making and lower sense of self-efficacy in romantic relationships. Hardships in romantic relationships have been linked to an increased risk for intimate partner violence (IPV), sharing of romantic partners, and negative mental health outcomes which are all linked to increased risk for STD/STI acquisition (Boyd et al., 2020; Newsome & Airhihenbuwa, 2012). Perceived partner availability may interact with other social determinants to influence behavior. For example, whereas it has been stated that higher education and wealth status are associated with practicing safer sex practices and lower rates of STIs (Hargreaves et al., 2008). There are other studies that show the opposite (Berhan & Berhan, 2015; Hargreaves & Glynn, 2002; Thomas, 2019). Although the impact of education on condom use is inconclusive, research has shown that education does impact perceptions of partner availability (Burt et al., 2010).

Perception of security and comfort in a romantic relationship depends on many factors. One factor that may impact perceived partner availability and condom negotiation self-efficacy is one's sense of confidence about one's viability as a sexual partner. Romantic relationships are subject to the influences of personal insecurities and peer pressures and these factors can lead to poor interpersonal decision-making and

lowered self-efficacy within the relationship (Burt, 2018). Developmentally, during the transition to adulthood these pressures may lead to the formation of unrealistic, self-damaging expectations of the self and others (Burt et al., 2010), and may lead to self-defeating behaviors that can undermine romantic partnerships and one's optimism for future success in relationships (Banks et al., 2008; Burt, 2018).

Moreover, research shows that sexuality, especially healthy sexual attitudes, are related to having positive feelings about one's body (Auslander et al., 2012). Body image refers to the beliefs, perceptions, and emotions associated with one's own body (O'Dea, 2012), and it significantly impacts women's quality of life (Cash & Henry, 1995). Model Fit of the TPB and Perceived Partner Availability in Highly Educated Black Women

Women who are higher in body dissatisfaction may not be as sexually assertive, especially regarding negotiating safe sex (Auslander et al., 2012). Specifically, body esteem or the assessment/evaluation an individual makes about their own body, including self-evaluations about appearance, weight, or comfort with one's body, may influence mental health and are related to eating disorders (Stice & Whitenton, 2001). Body esteem in sexual encounters can impact sexual health. For example, research shows that women who experience appearance-related anxiety, body shame, and self-consciousness during sexual intimacy tend to report less positive sexual experiences (Cash et al., 2004; Steer & Tiggerman, 2008), less satisfaction with sex (Pujols et al., 2010), and more sexual problems (Kiefer & Sanchez, 2007). Body image may fluctuate over time and it may change with age (Pujols et al., 2010). In college-aged women, body image during sexual activity is linked to lower sexual efficacy, less sexual assertiveness, and poorer sexual self-esteem (Lowery et al., 2005; Yamamiya et al., 2006). Moreover, whereas

positive body image is associated with greater sexual activity, negative body image is associated with greater sexual avoidance (Pujols et al., 2010). A large-scale study of women from adolescence into late adulthood shows that body image, comfort with one's body, and body satisfaction are related to greater engagement and more satisfying sexual behaviors, including increased initiation of sex by women and greater attainment of sexual pleasure and frequency of orgasm (Ackard et al., 2000).

For Black women, the linkages among body image and sexuality are complex. A great deal of research has focused on the developmental aspects of sexuality (Crooks et al., 2019; Dagbovie-Mullins, 2013; Hargons et al., 2018; Morgan, 2015; Mowatt et al., 2013; Watson et al., 2012), and reducing risk behaviors in Black young women (Leath et al., 2020). Regardless of race, young women are socialized in many contexts (e.g., peer group, family, school, social contexts, and social media) to value and prioritize their attractiveness and physical appearance (Parent & Moradi, 2010). For Black women, these socially communicated values go beyond body shape and size to encompass racialized norms that focus on curvaceous bodies and lighter skin tones (Brown et al., 2013). One study of Black women's body image concerns illuminated four main themes: (a) hair; (b) skin tone; (c) attitude; and (d) physique (Capodilupo & Kim, 2014). More specifically, long, straight hair was idealized compared to more natural hair styles (Awad et al., 2014). Black women assume that Black men prefer lighter skin tones, and these views are supported by an overabundance of media images showing Black women with lighter skin as the accepted ideal (Watson et al., 2019). Testament to the complexities of body image in Black women, one study showed that Black women expressed feelings of guilt for being closer to the light-skinned ideal (Awad et al., 2014). Another study by

Lewis and colleagues (Lewis et al., 2016) showed that Black women students at different educational levels (i.e., undergraduate, graduate, professional students) experienced varied gendered racial microaggressions focused on their appearance including comments about their natural hair, body type, skin tone, and facial features that made them feel marginalized and silenced in academic and professional settings. These gendered racial microaggressions were associated with higher levels of stress and impact body image (Watson et al., 2019).

Cultural contexts that focus on male approval and view women as sexual objects may contribute to internalize body image beliefs that exaggerate emblems of external attractiveness (Parker, 2018). In the context of heteronormative development and relationships, these societal pressures lead to greater internalization of these cultural norms of sexual objectivation and can lead to greater negative impacts on Black women's self-esteem, body-image, and body satisfaction (Crooks et al, 2019; Leath et al., 2020; Townsend et al., 2010). Theoretically, understanding Black women's body image must be centered within objectification theory (Fredrickson & Roberts, 1997; Watson et al., 2019). This approach focuses on the many and varied ways that Black women's bodies are commodified and objectified (Watson et al., 2019). Scholars of Black women's body image will be familiar with the theoretical foundations and vast empirical literature that has grown out of Thomas Cash's contributions. One of Cash's greatest contributions was to illuminate the important differences in Black and White women's body images (Cash & Henry, 1995; Cash et al., 2004; Cash, Phillips, et al., 2004). The main differences noted were White women's high rates of cognitive distortions of body image, (Jakatdar et al., 2006), body dissatisfaction (Cash, Jakatdar, et al., 2004), and 'anti-fat' attitudes

(Perez & Joiner, 2004). However, a later meta-analysis of Black-White differences in body dissatisfaction showed more complex results (Roberts et al., 2006) and demonstrated that racial stereotypes impact body image for Black women creating a unique set of body image stressors (Watson et al., 2019) that may impact mental and physical health behaviors.

It has been argued that it is necessary to move beyond comparative studies of White and Black women to gain better understanding of how Black women's lived experiences and cultural influences have shaped their body image (Cho et al., 2013; Collins & Bilge, 2018). More importantly, any study of body image in Black women will necessitate consideration of race and gender, as body images is influenced by both socially influenced identities. This intersectionality requires an intersectional lens that considers Black women, their unique experiences, and a more nuanced understanding of the historical influences on Black women's gender and racial oppression may have influenced their body image concerns (Watson et al., 2019). Taken together, assumptions about beauty and sexual objectification may influence how Black women perceive their bodies and put pressure on them in sexually intimate encounters that may lead to decision making that increases risk of STDs/STIs.

An expanded TPB Model

Scholars such as Asare and colleagues (Asare, 2015; Asare & Sharma, 2009) have been successful in developing assessments and measuring the components of the TPB. As Asare and Sharma (2010) state, 'well-designed, targeted, theory-driven behavioral change' models will likely reduce the spread of STDs (see also Fishbein, 2000). Evidence from meta-analyses showed that behavioral intention predicts sexual risk

behaviors and can explain between 20-45% of the variance in behaviors such as condom use (Boldero et al..1992; Orbell & Sheeran, 1998; Randall & Wolff, 1994). To this end, Asare and Sharma (2010) created a 55-item questionnaire that was theoretically grounded in the literature on the TPB. The questionnaire is comprised of three sections that assess current sexual behaviors and condom use as well as attitudes toward condom use, subjective norms regarding condom use, and perceived behavioral control over condom use, and finally behavioral intentions to use condoms. Results from a study of Ghanaian immigrants' condom use shows that intentions predicted condom use and provide support for the scale. The original Asare and Sharma (2010) scale was reduced to 32-items that were specific to condom use and then tested in a sample of college students (Asare, 2015). Findings from this study demonstrated that the TPB constructs, attitudes, subjective norms, behavioral control, and behavioral intentions were effective at predicting condom use behavior in sexually active young adults (Asare, 2015). It appears that intentions were the most predictive, but the other components (attitudes, norms, and perceived control) worked synergistically to produce behavioral change (Montanaro et al., 2018).

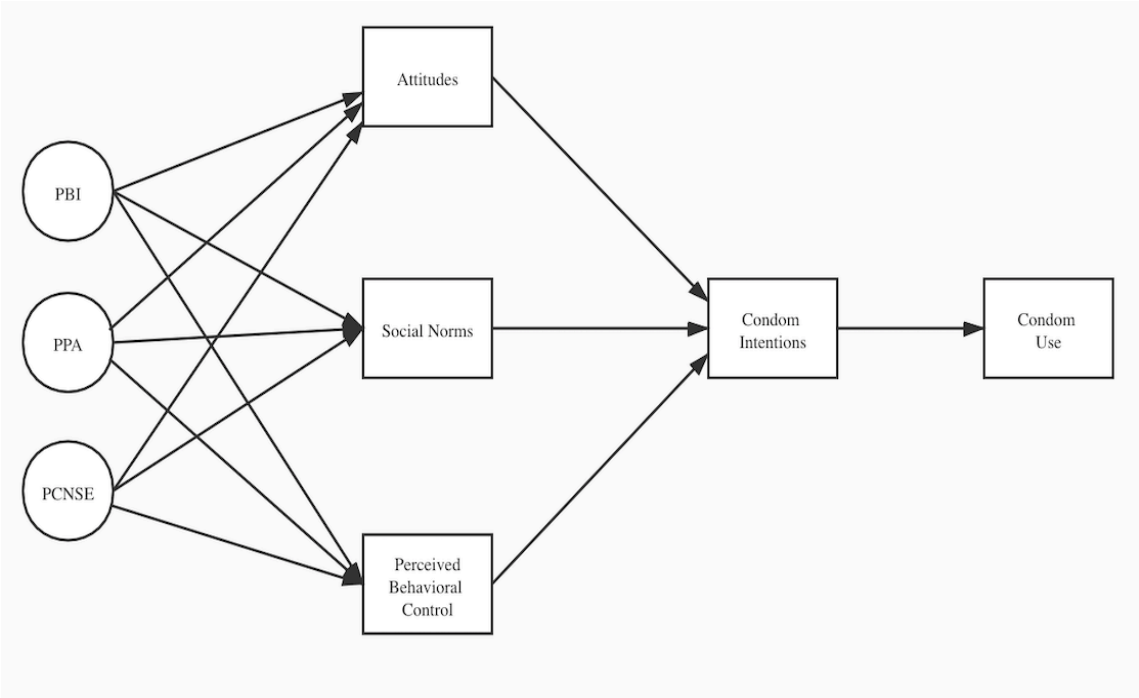
As mentioned above, Guan and colleagues (2016) have argued that perceived behavioral control as well as self-efficacy for condom use are both complicated for women since the male partner has to agree for the behavior to be carried out. Condom use is essentially a dyadic behavior rather than an individual behavior (Guan et al., 2016). These scholars also identify the role of communications and negotiations involved in initiating condom use in sexual encounters that create a more complicated sexual process for women. Research shows that especially in young Black women who have higher risk

for STDs/STIs, condom negotiation significantly predicted consistent condom use even when condom self-efficacy did not (Crosby et al., 2013). In a meta-analysis, communications regarding condom use with one's sexual partner had a larger effect on predicting use of condoms than did self-efficacy for condom use (Sheeran et al., 1999). Based on these findings, Guan and colleagues hypothesized that for Black women, condom negotiation self-efficacy would be more predictive of condom use than condom self-efficacy. They tested this hypothesis using independent and separate measures to assess the components of the TPB model, with the addition of a measure to assess fears of condom negotiation from Wingood and DiClemente (1997). Their results supported a model in which condom negotiation self-efficacy had direct effects on condom use intentions. Condom negotiation self-efficacy was positively correlated with attitudes, subjective norms, condom self-efficacy, and condom use intentions (Guan et al., 2016). Based on their structural equation model the authors concluded that self-efficacy for communication (i.e., condom negotiation) was significantly related to behavioral intent but self-efficacy for condom use was not. Given that condom use requires the consent and engagement of another person effective communication for condom use is critical.

Based on these advances in research on the TPB for condom use, the theoretical model developed in this study introduced several factors that are likely to impact attitudes for condom use, subjective norms for condom use, self-efficacy for condom use, behavioral intentions, and actual condom use. Specifically, the present study assessed internal perceptual factors (i.e., body image); interpersonal perceptual factors (i.e., perceived partner availability and perceived condom negotiation self-efficacy) as psychosocial variables that may impact the TPB constructs (see Figure 1).

Figure 1

Theoretical Model of Expanded TPB Predicting Black Women's Condom Use



The current study examined multi-level and potentially related factors within an integrative data analytic approach with the aim of providing a broader and more detailed explanatory framework for understanding the linkages among developmental and psychosocial factors related to sexual risk-taking behaviors in Black women during the transition to adulthood.

The Aims of the Current Study

The overarching purpose of the current study was to develop an integrative model (depicted in Figure 1) based upon the TPB to examine how body image, perceived partner availability, and self-efficacy for condom negotiation may impact attitudes,

subjective norms, and perceived behavioral control (or self-efficacy for condom use) as indicators of behavioral intention to use condoms and actual condom use. The first aim of the study was to use structural equation modeling (SEM) to examine the possible mechanisms by which psychosocial factors (i.e., perceived body image, perceived partner availability, condom negotiation self-efficacy) may be predictive of intention to use condoms and actual condom use in Black women. We also examined these potentially pathways in a sub-sample of highly educated Black women to determine if the model is equally predictive within the differential context afforded by higher levels of education. The goal was to determine whether advanced education confers benefits or costs in terms of sexual decision making to reduce sexual health related risks for Black women.

The second aim of this study was to examine within the latent structural equation model, the possible mediating impact of body image, perceived partner availability, and self-efficacy for condom negotiation on the components of the TPB. We sought to determine whether and where these factors may impact sexual-risk decision making and condom use in Black women. The significance of the current study was to illuminate potential predictive pathways that may differentially impact self-protective behaviors in sexual encounters to promote prevention/intervention to reduce high rates of STIs in young Black women, and in particular, highly educated Black women. This research identified potential points of intervention for psychoeducational and therapeutic assessment and intervention to increase condom use behaviors in Black women. The unique contribution of this project is the in-depth analysis of the independent and co-active effects of these developmental and psychosocial risk factors for predicting condom use in Black women and especially highly educated Black women.

Study Hypotheses

Aim 1: To identify the fidelity of the TPB and the specific components of the model (i.e., attitudes toward condoms, subjective norms for condoms, perceived behavioral controls towards condom use, behavioral intention to use condoms and condom use) in Black women. The first aim was to test the TPB in a large sample of young Black women, as well as a sub-set of the sample of highly educated Black women.

Hypothesis 1: It was hypothesized that the model would fit in both the larger sample of Black women and the sub-sample of highly educated Black women. There would be direct effects of attitudes, norms, and perceived control on intentions, and intentions would have direct effects on condom use. In this hypothesis we sought to validate the theoretical model.

Aim 2: To identify how psychosocial factors (i.e., body image, perceived partner availability, self-efficacy for condom negotiation) may impact the components of the TPB for condom use in Black women and whether there are differential interactive relations in the sub-sample of highly educated Black women.

Hypothesis 2 and Hypothesis 3*:* It was hypothesized that perceived body image, perceived partner availability, and self-efficacy for condom negotiation would each have direct effects on attitudes, norms, and perceived control, as well as intentions and condom use (H2). However, it was also hypothesized that the influence of these psychosocial variables would be indirect and it was expected that body image, perceived partner availability, and self-efficacy for condom negotiation may differentially mediate the linkages among attitudes, norms, and perceived control on intentions (H3). In this hypothesis, we sought to examine the direct and indirect effects of the psychosocial

constructs on the constructs of the TPB to identify the most powerful predictors of intention to use condoms and condom use.

Hypothesis 4: It was hypothesized that the mediation effects of perceived partner availability will be stronger in the sub-sample of highly educated Black women. In this hypothesis, we sought to validate the measurement model in a sub-sample of highly educated Black women.

CHAPTER III: METHODS

This was a primary data analysis utilizing quantitative data examining psychosocial factors impacting the TPB applied to condom use behaviors and intentions among college educated heterosexual Black women, as well as a sub-sample of highly educated Black women.

Participants

We collected data from 498 participants. Specific inclusion criteria for participants in this study included: a) aged 18 years or older, b) self-identification as Black, c) self-identification as female, d) self-reported relationship status as currently single and dating (not married), e) was enrolled in a graduate/undergraduate degree seeking program or having graduated from a graduate/undergraduate degree seeking program at the time of study, f) basic competence in reading English, and g) had at least one penile to vaginal sexual experience (to properly assess condom use). After specific inclusions criteria were met, we had a total of 338 educated Black women participants from across the U.S. Of our 338 participants, 42.6% were college educated (n=144) and 57.4% were highly educated (n=194). When asked their sexual orientation: 85.8% (n= 290) responded that they were "heterosexual (straight, not gay nor lesbian)," 9.8%

(n=33) responded that they were “bisexual,” 1.5% (n=5) responded that they were “questioning or unsure, ” 0.9% (n=3) responded that they were “lesbian,” 0.9% (n=3) responded that they were “queer,” 0.9% (n=3) responded indicated “other,” and 0.3% (n= 1) did not respond. Please see Table 1 for complete demographic information.

Table 1

Educated Black Women Demographics

	Educated				Highly Educated			
	N	%	*M*	*SD*	*N*	%	*M*	*SD*
Total	194	57.4			144	42.6		
Sexuality	194	100	2.13	.5	143	99.3	2.27	.75
Lesbian or Gay	1	.5			2	1.4		
Heterosexual	175	90.2			115	79.9		
Bisexual	13	6.7			20	13.9		
Queer	3	1.5						
Questioning or Unsure	1	.5			4	2.8		
Other	1	.5			2	1.4		
Income	184	100	3.29	1.32	143	99.3	2.5	1.75
0 - 20,000	21	10.8			57	39.6		
21,000 – 40,000	33	17			36	25		
41,000 – 60,000	56	28.9			17	11.8		
61,000 – 80, 000	43	22.2			8	5.6		

81,000+	35	18.0	5	3.5		
Prefer not to say	6	3.1	20	13.9		
Employment Status	194	100	144	100	2.21	.801
Unemployed	13	6.7	33	22.9		
Part-Time	23	11.9	49	34		
Full-Time	155	79.9	61	42.4		
Volunteer	3	1.5	1	7		

This study was conducted fully online using Qualtrics survey software for collecting survey data. Due to having a general population (educated Black women) and more specific sub-population (highly educated Black women), undergraduate participants were recruited through SONA systems at FIU. SONA is an online human subject's data collection portal that allows course credit to be awarded for university students who participate in research studies. Undergraduate participants were also recruited from other colleges and universities. For graduate participants, we recruited from graduate listservs, social media, and social connections using snowball sampling techniques. This allowed the opportunity to target a unique population of Black women who were highly educated and do not have access to SONA systems. This study had full IRB approval from the University Research Board.

To have sufficient power to conduct the SEM and LMS analyses proposed, we determined that using the recommended ratio of observations (participants) to estimated parameters (latent constructs), *N:q* of 20 to 1 as a guide (Kline, 2015), a minimum of 160

participants were needed. However, since we aimed to test multiple models, we recruited at least 320 participants for this study (Bentler & Chou, 1987; Ullman & Bentler, 2013). More specifically, we targeted 160 undergraduate participants and 160 graduate participants.

Measures

Demographic Questionnaire

The survey gathered demographic data from participants. Demographic data included the age of participants at the time of study, relationship status, income level, employment status, ethnic background, current level of education, G.P.A., and highest degree obtained. Information regarding past condom use and medical history of STD/STI and unintended pregnancy was gathered.

Risky Sexual Behaviors

Frequency of sexual intercourse is commonly used as a measure of sexual risk (Capaldi et al., 2002; Ericksen & Trocki, 1992). To assess this, participants were asked: "*In the past 60 days, how many times have you had vaginal sex?"* More specifically, the number of penile–vaginal sex partners has also been widely used as a measure of risky sexual behavior (Capaldi et al., 2002). To assess this behavior, participants were asked, "*In your entire life, how many men or boys have you had vaginal sex with*?" Engagement in risk reducing behaviors such as using condoms to prevent unintended pregnancy and STDs/STIS was also assessed. Several measures of condom use were utilized. Specifically, one measure was based on the assessment of condom use during the last penile-vaginal sex episode. Assessing condom use at last sex provided a way to assess recent use of condoms that may be less vulnerable to recall bias (Catania et al., 1990).

Participants were asked: (a) "*The last time you had sex with your boyfriend (or sexual partner), did he use a condom?"* and (b) "*The last time you had sex, did you use protection?"* Dichotomous, categorical response choices were *"yes" (1)* or "*no" (0)*. Additionally, to assess the consistency of condom use over time (representing a pattern of behavior), participants were asked, "O*f the times you've had vaginal sex in the past 60 days, how many of those times did you use a condom?"* Frequency of condom use was assessed by deriving a percent from dividing responses to this question by the total number of penile-vaginal sex events over the last 60 days.

Theory of Planned Behavior Scale

The components of the TPB were assessed using the Theory of Planned Behavior Scale (TPBS), a 55-item scale that identifies attitudes towards condom use, behavioral intentions towards condom use, and subjective norms surrounding condom use (Asare 2015; Asare & Sharma, 2009). The original TPBS includes questions to assess monogamy and condom use behavior. In this study, we only utilized the 32-items that relate specifically to condom use behavior. Items on this scale include questions regarding condom use behaviors such as *"it is important that my friends approve of my condom use."* Participants indicated their endorsement on a Likert-type scale ranging from (1) strongly disagree to (7) strongly agree. Previous research with college students and Ghanaian immigrants shows Cronbach alphas for attitudes towards condom use ($\alpha = 0.88$), for behavioral intentions ($\alpha = 0.91$), and for subjective norms ($\alpha = 0.83$). Thus, this measure showed good reliability and validity. Cronbach alphas in our sample were for attitudes towards condom use ($\alpha = 0.76$), for perceived behavioral control, ($\alpha = 0.40$), for subjective norms ($\alpha = 0.68$), and for behavioral intentions ($\alpha = 0.86$).

Several of these constructs did not show good validity and reliability as they had in the previous study (Asare, 2009). Therefore, we examined the items that comprised each subscale within each construct to try to determine what was affecting reliability. We sought to achieve a Cronbach's alpha value of $\alpha = 0.75$ or higher. Therefore, we investigated the subscale items for perceived behavioral control and social norms. We checked to see what the reliability would be on each of three scales when certain subscale items were deleted. The reliability for perceived behavioral control did not change. It remained relatively low ($\alpha = 0.40$) with no room to delete items in order to get it above a .40 alpha level. Thus, we kept that subscale as it was for this study. For subjective norms, when we deleted a subscale item that impacted the overall reliability of the scale which then improved from $\alpha = .68$ to $\alpha = 0.86$.

Body Appreciation Scale 2

Body appreciation, a key characteristic of positive body image, was assessed using the BAS -2 (Tylka & Wood-Barcalow, 2015). This is a 10-item scale that assesses the degree to which women have favorable feelings about their bodies and accept their bodies including weight, size, shape, and perceived imperfections, bodily needs, and a perspective on unrealistic prototypes and body images presented in the media. Example of scale items are *"I feel good about my body"* and *"my self-worth is independent of my body shape or weight."* Items are rated on a 5-point Likert-type scale ranging from 1 = never to 5 = always. Higher scores reflect greater body appreciation. This measure was standardized in our sample of college educated women and found to have strong internal consistency and reliability ($\alpha = .95$).

Gender Ratio Imbalance Beliefs and Behaviors Scale

The Gender Ratio Imbalance Beliefs and Behaviors Scale (GRIBBS; Thomas, 2019) is a 20-item Likert-type scale designed to assess gender ratio perceptions, perceived partner availability, and attitudes surrounding condom use within romantic relationships. Items such as *"There are fewer men than women in my community," or "to maintain my relationship, I do not use a condom when having oral, vaginal, or rectal sex"* are rated on a 5-point scale from 1 = strongly disagree to 5 = strongly agree. The scale has two subscales: beliefs (regarding gender ratio imbalances) and behaviors (regarding safe sex and condom use). This measure was originally developed by Lanier (2013) and used in a study by Thomas (2019). The Cronbach's alphas in the Lanier study were $\alpha = .71$ for the belief subscale, and $\alpha = .52$ for the behavior's subscale. However, these alpha coefficients may have been low due to the small sample size in that study. Reliability and validity are not available for the Thomas (2019) study. In the present study, this measure was adapted and standardized in a much larger sample, thereby establishing it as a standardized measure of perceived partner availability. In our sample, the Cronbach Alpha's were $\alpha = .80$ for the belief subscale, and $\alpha = .23$ for the behavior subscale. Due to the low internal reliability of the GRIBBS behavior subscale, we did not use it in our calculation of PPA. We ran a confirmatory factor analysis and found that questions 2, 3, 4, & 5, had the strongest reliability as a set of questions ($\alpha = .93$). Therefore, we utilized those four questions as a measure of partner availability.

Condom Negotiation Self-Efficacy

Condom negotiation self-efficacy was measured following Guan et al., (2016), based on three items from the Partner Communication Self-efficacy scale developed by

Wingood and DiClemente (1998b). Whereas this measure was originally designed to assess self-efficacy in communications regarding sexual encounters in general, three of the items relate specifically to self-efficacy for negotiating the use of condoms in a sexual encounter. For example, *"how hard is it for you to ask if he would use a condom?"* Answer choices range from 1 = very hard to 4 = very easy, and a higher score indicates greater condom negotiation self-efficacy. In the study by Guan et al., (2019), these three items had good reliability (α = .87). In our study, these three items had good reliability as well (α = .82).

Procedure

After the Institutional Review Board (IRB) approved the study, participants were recruited. Recruitment efforts took place through SONA systems, graduate listservs, social media recruitment, and personal connections through purposeful sampling. Participants received information regarding the study and voluntary informed consent to participate. By indicating consent, participants advanced to the survey materials in the online survey. At any point in the study, participants had the choice to no longer participate. After informed consent, participants started the online survey which took from 15 to 45 minutes. When the study ended, participants were provided with information detailing resources in which they could go for help if they have questions regarding sex and relationships (the FIU Counseling and Psychological Services center, Center for Young Women's Health; "Go Ask Alice," Love Matters website, Planned Parenthood, Callisto for anonymously reporting sexual violence; Love is respect, Get Tested, National Sexual Assault hotline; and others). Participants recruited through Sona

Systems received course credit for participation. Participants not recruited through SONA Systems were not compensated for their participation.

Chapter IV. Results

This study sought to establish the fidelity of the TPB and the specific components of the model (i.e., attitudes toward condoms, subjective norms for condoms, perceived behavioral controls towards condom use, behavioral intention to use condoms, and condom use) in Black women.

The first aim was to test the TPB using Structural Equation Modeling (SEM), an advanced multivariate approach to examine multiple relationships among variables at the same time (Singh, 2009). All SEM analyses were conducted using the AMOS 21 application.

H1: It was hypothesized that the TPB model would fit in both the larger sample of Black women and the sub-sample of highly educated Black women. It was predicted that there would be direct effects of attitudes, norms, and perceived control on intentions, and that intentions would have direct effects on condom use.

Prior to testing the SEM of the TPB, we sought to assess the associations among the constructs of the model. Therefore, a series of Pearson product-moment correlations were computed (See Table 2). The correlation between attitudes and social norms was not statistically significant ($p = .83$) However, there was a moderate, significant positive correlation between attitudes and perceived behavioral control, ($r(338) = .27$, $p < .001$). Attitudes was also significantly correlated with condom intentions ($r(338) = 0.28$, $p < .001$), and it was significantly negatively correlated with condom use, ($r(338) = -0.22$, $p < .001$). Recall that a lower score on condom use indicates greater condom use.

Therefore, higher attitudes related to stronger intentions to use condoms and higher condom use.

Table 2

Correlations of TPB Components and Psychosocial Variables

Variables	1	2	3	4	5	6	7	8
TPB Components								
1. Attitudes	--	.01	.27***	.28***	-.22***	.09	.08	.06
2. Social Norms	.01	--	.38***	.12	-.02	.00	.03	-.07
3. Perceived Behavioral Control	.27***	.38***	--	.40***	.39***	.01	.12*	.00
4. Condom Intention	.28***	.01	.40***	--	-.64***	-.59	.13*	.02
5. Condom Use	-.22***	-.02	-.39***	-.64***	--	-.12*	-.17**	.02
Psychosocial Variables								
6. Perceived Body Image	.97	.00	.13	-.59	-.12*	--	-.13*	.16**
7. Perceived Partner Availability	.80	.03	.12*	.13*	-.17**	-.13*	--	-.06
8. Perceived Condom Negotiation Self-Efficacy	.06	-.07	.00	.02	.02	.16**	-.06	--

Note: Coefficients are for sample ($N = 338$).
*p < 0.05.
**p < 0.01.
***p < 0.001.

Social norms was significantly moderately correlated with perceived behavioral control, ($r(338) = .38, p < .001$). Higher social normative beliefs related to higher levels of perceived behavioral control. Social norms was not significantly correlated with condom intention ($p = .82$) nor was it significantly correlated with condom use, ($p = .71$). Finally, perceived behavioral control showed a significant moderate, positive correlation with condom intention ($r(338) = .40, p < .001$). Higher levels of perceived behavioral control related to higher intention to use condoms. Perceived behavioral control was negatively correlated with condom use, ($r(338) = -.39, p < .001$). As perceived behavioral control increased, condom use increased. There was also a moderate, negative correlation between condom intentions and condom use, ($r(338) = -.64, p < .001$). Having a higher intention to use condoms relates to lower sexual riskiness, indicating higher condom use.

To test the first hypothesis the TPB model was first fit in the whole sample of Black women and was fully saturated (See Figure 2; See Table 3). The SEM analysis was based on the pooled correlation matrix and according to the goodness-of-fit statistics, the TPB was an adequate model to predict condom use in a large sample of Black women. Attitudes ($R^2 = .17$), social norms ($R^2 = -.14$), and perceived behavioral control ($R^2 = 0.41$), as shown by squared multiple correlations, all predicted condom intention. Condom intention ($R^2 = 0.31$) predicted condom use. Social norms predicted condom use ($R^2 = .13$) in this model. Attitudes ($R^2 = .00$) and perceived behavioral control ($R^2 = .03$) were not significant predictors of condom use.

Table 3

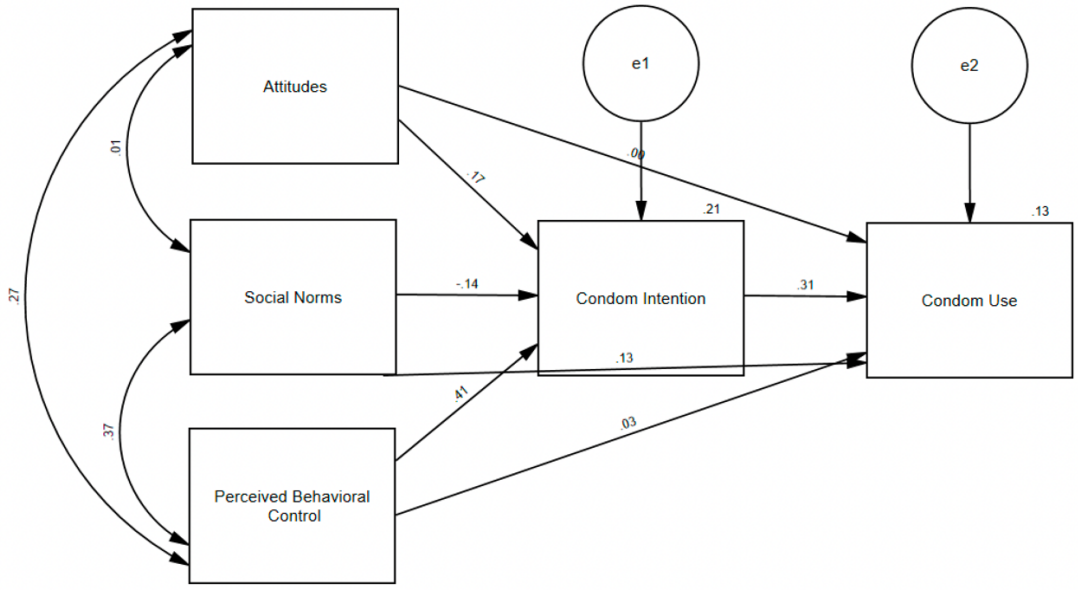
Model Fit of the TPB in Educated Black Women

Variable relationships	Standardized coefficient (b)	Unstandardized coefficients	Standard errors	Critical ratios	*p*
Full educated sample					
Attitudes→ Condom Intention	.168	.168	.016	3.313	<.001
Social Norms→ Condom intention	-.143	-.143	.015	-2.721	<.01
Perceived behavioral control→ Condom Intention	.408	.409	.016	7.485	<.001
Condom intention→ Condom use	.324	.311	.004	5.425	<.001
Attitudes→Condom use	.001	.000	.001	.028	=.978
Social norms→ Condom use	.131	.002	.001	2.352	<.05
Perceived behavioral control→ Condom use	.030	.001	.001	.477	=.633
Highly educated sample					
Attitudes→ Condom Intention	.236	.073	.021	3.488	<.001
Social Norms→ Condom intention	-.141	-.045	.022	-2.080	<.05
Perceived behavioral control→ Condom Intention	.317	.101	.022	4.483	<.001

Condom intention→ Condom use	.030	-.045	.005	4.317	<.001
Attitudes→Condom use	-.036	-.001	.001	-.519	=.604
Social norms→ Condom use	.035	.001	.002	.477	=.633
Perceived behavioral control→ Condom use	-0.10	.000	.002	-.128	=.898

Figure 2

Model Fit of the TPB in Educated Black Women

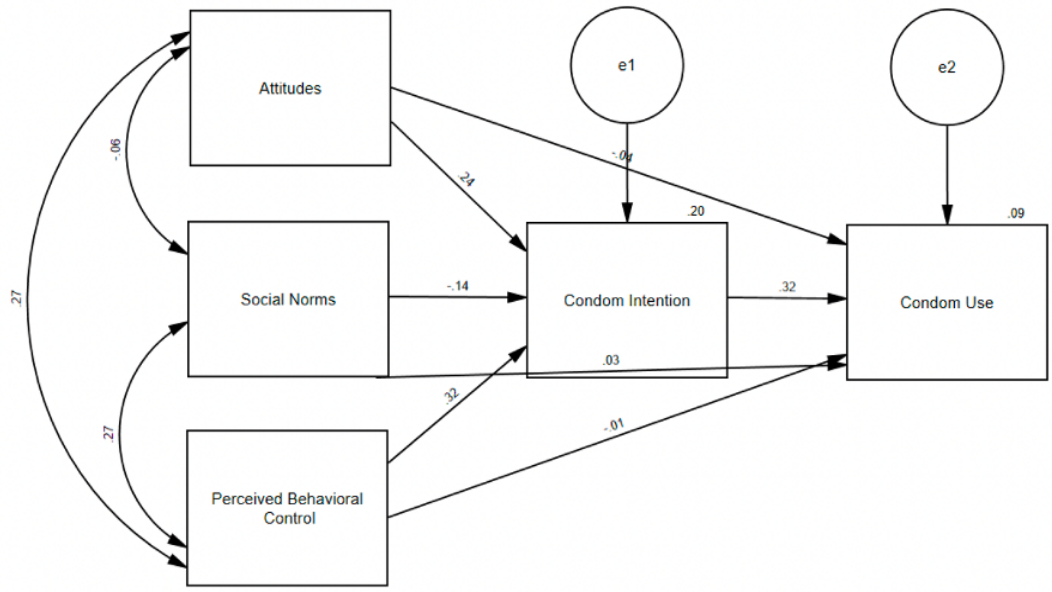


Next, the TPB model was fit again in the sample of highly educated Black women and was fully saturated (See Table 3; See Figure 3). The SEM analyses based on the pooled correlation matrix showed that according to the goodness-of-fit statistics, the TPB was an adequate model to predict condom use in the sample of highly educated Black women. Attitudes (R^2 = .24), social norms (R^2 = -.04), and perceived behavioral control (R^2 = -.10), as shown by squared multiple correlations, all predicted condom intentions.

Condom intention (R^2 = -.03) predicted condom use. Attitudes (R^2 = -.36), social norms (R^2 = .35), and perceived behavioral control (R^2 = -.01) were not significant predictors of condom use.

Figure 3

Model Fit of the TPB in Highly Educated Black Women



In summary, hypotheses regarding the direct effects of components of the TPB were fully supported. In both models, there were direct effects of the attitudes, social norms, and perceived behavioral control on condom intentions, and condom intentions on condom use. Taken together, these SEM analyses indicate that the TPB model has a good fit in samples of educated and highly educated Black women. Attitudes and perceived behavioral control were not predictors of condom use in this model for the full sample of educated Black women. Social norms, however, was a direct predictor of condom use in

this model within the full sample of Black women. For the highly educated group, the only predictor of condom use was condom intentions.

The second aim of this dissertation was to examine the role of several psychosocial factors (i.e., perceived body image, perceived partner availability, perceived condom negotiation self-efficacy) and their differential impacts on the components of the TPB for condom use in Black women. Specifically, we sought to determine whether there are differential direct and interactive relations of these variables in the whole sample and the sample of highly educated Black women.

H2 and H3: It was hypothesized that perceived body image, perceived partner availability, and condom negotiation self-efficacy would each have direct effects (*H2*) on attitudes, social norms, and perceived behavioral control, as well as intentions and condom use. (See Figure 4). It was also hypothesized that the psychosocial variables have indirect effects and would differentially mediate the linkages among attitudes, norms, and perceived control on intentions (*H3*). In this hypothesis, we sought to identify the most powerful predictors of intention to use condoms and condom use. Prior to testing these linkages, we sought to establish the relations among our variables. Correlations can be seen in Table 2. Perceived partner availability was significantly correlated with perceived behavioral control, ($r(338) = .12$; $p = .03$), condom intention ($r(338) = .13$, $p = .02$), negatively correlated with condom use ($r(338) = .13$, $p = .02$) and negatively correlated with body image ($r(338) = -.13$, $p < .00$). Body image was also significantly correlated with condom use ($r(338) = -.12$, $p = .04$) and self-efficacy for condom negotiation ($r(338) = .16$, $p < .00$). Higher perceptions of limited available partners was correlated with higher levels of perceived behavioral control increased, higher condom

intentions, lower rates of sexual riskiness (e.g., more reported condom use) and lower body image. Additionally, higher levels of body image was correlated with increased sexual riskiness (higher instances reported of not using condoms) and increased levels of perceived condom negotiation.

The TPB model along with the proposed three psychosocial variables were first fit in the whole sample of Black women and was fully saturated (See Figure 4; See Table 4). We wanted to investigate the amount of variance our psychosocial variables accounted for if we used them as mediators in the original model. We ran a SEM analysis and according to the goodness-of-fit statistics, the TPB with the three psychosocial variables, was an adequate model to predict condom use in a large sample of educated Black women. Perceived partner availability (R^2 = .13), and perceived condom negotiation self-efficacy (R^2 = .05), as shown by squared multiple correlations, both predicted condom intention. Perceived body image (R^2 = -.07) was not a significant predictor of condom intention. Perceived body image (R^2 = -.04) and perceived partner availability (R^2 = .03) were not significant predictors of condom use. Perceived condom negotiation self-efficacy (R^2 = .05) was a significant predictor of condom use.

Figure 4

Model Fit of the TPB and Psychosocial variables in Educated Black Women

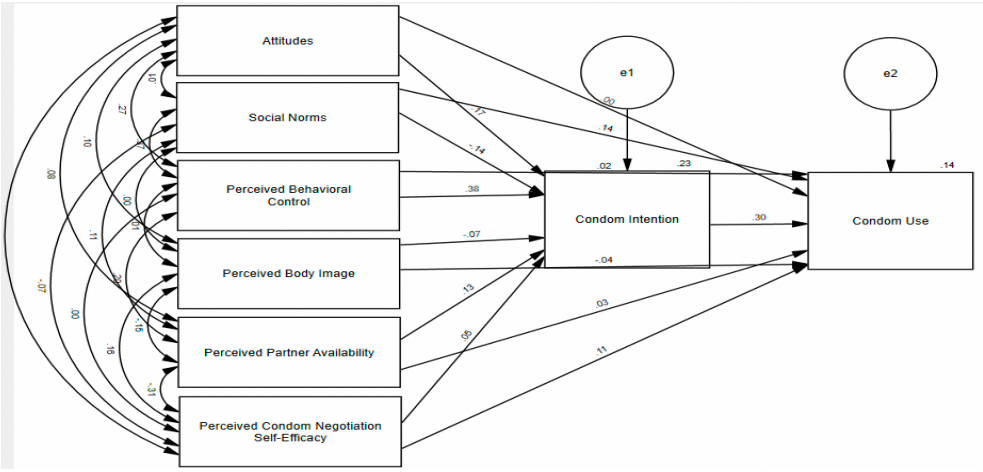


Table 4

Model Fit of the TPB and Psychosocial Variables in Educated Black Women

Variable relationships	Standardized coefficient (b)	Unstandardized coefficients	Standard errors	Critical ratios	*p*
Full educated sample					
Attitudes→ Condom Intention	.168	.054	.016	3.339	<.001
Social Norms→ Condom intention	-.144	-.041	.015	-2.769	<.01
Perceived behavioral control→ Condom Intention	.385	.115	.016	7.039	<.001
Perceived body image→ Condom intention	-.068	-.055	.039	-1.398	=.162
Perceived partner availability→ Condom intention	.127	.091	.037	2.447	<.05

Perceived condom negotiation self-efficacy→ condom intention	.051	.166	.166	.999	=.318
Condom intention→ Condom use	.324	.019	.004	5.230	<.001
Attitudes→Condom use	.001	.000	.000	-.003	=.978
Social norms→ Condom use	.131	.003	.001	2.479	<.013
Perceived behavioral control→ Condom use	.030	.000	.001	.403	=.687
Perceived body image→ Condom use	-.043	-.002	.003	-.832	=.405
Perceived partner availability→ Condom use	.033	.002	.003	.603	=.547
Perceived condom negotiation self-efficacy→ condom use	.114	.024	.011	2.120	<.05
Highly educated sample					
Attitudes→ Condom Intention	.235	.072	.021	3.471	<.001
Social Norms→ Condom intention	-.140	-.044	.022	-2.078	<.05
Perceived behavioral control→ Condom Intention	.308	.098	.022	4.395	<.001
Perceived body image→ Condom intention	-.101	-.087	.056	-1.561	=.119

Perceived partner availability→ Condom intention	.066	.055	.056	.979	=.328
Perceived condom negotiation self-efficacy→ condom intention	.037	.128	.233	.548	=.583
Condom intention→ Condom use	.311	.020	.005	4.150	<.001
Attitudes→Condom use	-.059	-.001	.001	-.813	=.416
Social norms→ Condom use	.028	.001	.001	.395	=.693
Perceived behavioral control→ Condom use	-.023	.002	.002	-.301	=.764
Perceived body image→ Condom use	-.030	.004	.004	-.440	=.660
Perceived partner availability→ Condom use	-.018	.004	.004	-.253	=.800
Perceived condom negotiation self-efficacy→ condom use	.227	.016	.016	3.196	<.001

These results show that perceived body image in this sample of college educated Black women, was not a predictor of condom intentions and condom use. In line with previous research, perceived condom negotiation self-efficacy was a predictor of condom intention and newly supported in the current study, condom use. Additionally, perceived partner availability, in this group, significantly predicted condom intention.

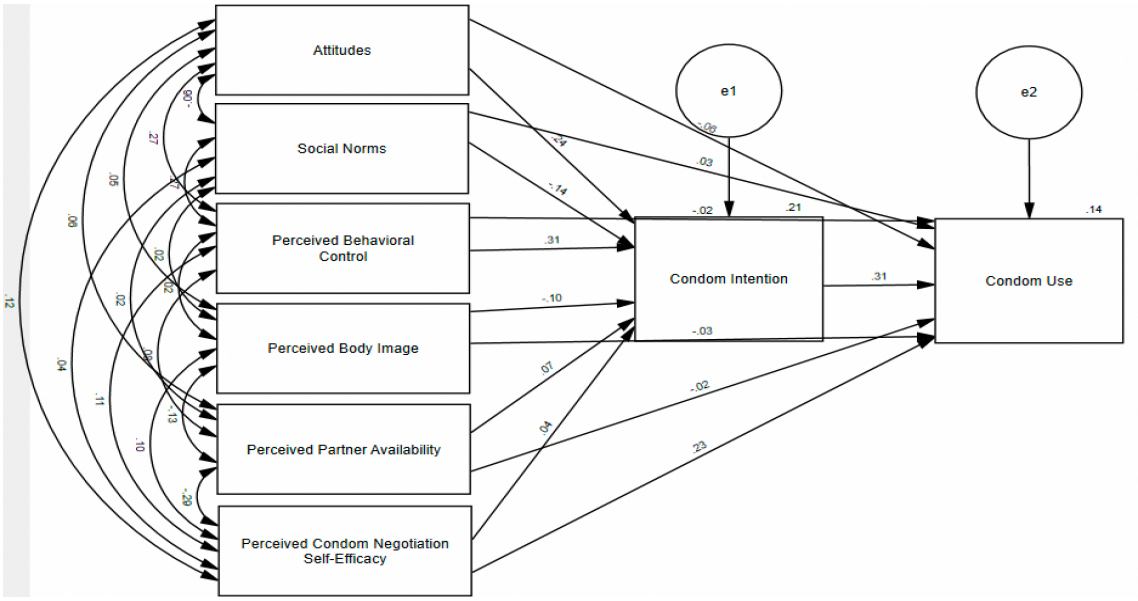
Next, the TPB model along with the proposed three psychosocial variables were fit in the highly educated sample of Black women (See Table 4; See Figure 5). We

wanted to investigate the amount of variance our psychosocial variables accounted for if we used them as mediators in the original model. We ran a SEM analysis and according to the goodness-of-fit statistics, the TPB with the three psychosocial variables, was an adequate model to predict condom use in a large sample of highly educated Black women. Perceived partner availability (R^2 = .07), perceived body image (R^2 = -.10), and perceived condom negotiation self-efficacy (R^2 = .04) were significant predictors of condom intention in this model. Perceived body image (R^2 = -.03) and perceived partner availability (R^2 = -.02) were not significant predictors of condom use. Perceived condom negotiation self-efficacy (R^2 = .23) was a significant predictors of condom use.

In this highly educated group of Black women, only perceived condom negotiation was a significant factor in condom use behaviors. More specifically, perceived condom negotiation self-efficacy had a direct effect on condom use. This suggests that for this group, perceived condom negotiation self-efficacy is an important factor along with the other three TPB components.

Figure 5

Model Fit of the TPB and Psychosocial variables in Highly Educated Black Women



***H4*:** It was hypothesized that the mediation effect of perceived partner availability would be stronger in the sub-sample of highly educated Black women. In this hypothesis, we sought to validate the measurement model in a sub-sample of highly educated Black women by comparing the fit of the measurement models (See Figure 6). Based on the analyses above, and theoretical and empirical evidence, we selected to focus on attitudes and perceived behavioral control as predictors of condom intention. Condom intention was selected as the outcome because evidence suggests that intention to use condoms may be more important and more consistently predictive of behavior than self-reported condom use. Condom intention was consistently related to condom use in the present study. Similarly, based on the correlations above and our initial hypotheses we focus specifically on perceived partner availability as the co-acting factor.

Mediators. A variable is thought to be a mediator if its presence help to account for the relations among the predictor and outcome variables (Baron & Kenny, 1986). We sought to examine whether perceived partner availability had a mediation effect on the predictors of condom intention, attitudes, and perceived behavioral control (See Figures 6 and 7). We utilized SEM to test this hypothesis. We utilized bootstrapping (2000 iterations) as suggested by Hayes (2009) to determine if these variables had mediating effects on condom intentions. Bootstrapping allows the sample to be resampled multiple times, thus, allowing a more accurate estimation of the model fit (Hayes, 2009).

To test this hypothesis, the TPB model along with the perceived partner availability were fit in the whole sample of college educated Black women (See Figure 6) and in the sub sample of highly educated Black women (See Figure 7). We wanted to investigate the amount of variance perceived partner availability accounted for if we used it as a mediator in the original model along with the other three TPB variables. We ran an SEM analysis and according to the goodness-of-fit statistics, the TPB components along with perceived partner availability, was an adequate model to predict condom use in a large sample of educated Black women and highly educated Black women. Perceived partner availability (R^2 = .12) as shown by squared multiple correlations, predicted condom intention in the whole sample of educated Black women (See Table 5). Perceived partner availability (R^2 = .068) was not a significant predictor of condom use in our full sample. That is, perceived partner availability mediated the relationship between condom intention and condom use according to our model. In our highly educated group, perceived partner availability (R^2 = -.083) as shown by squared multiple correlations, did not predict condom intention (See Table 5) additionally, perceived partner availability

(R^2 = .002) was not a significant predictor of condom use. Therefore, our hypothesis that perceived partner availability would be greater in this sample, was not supported.

Figure 6

Model Fit of the TPB and Perceived Partner Availability in Educated Black Women

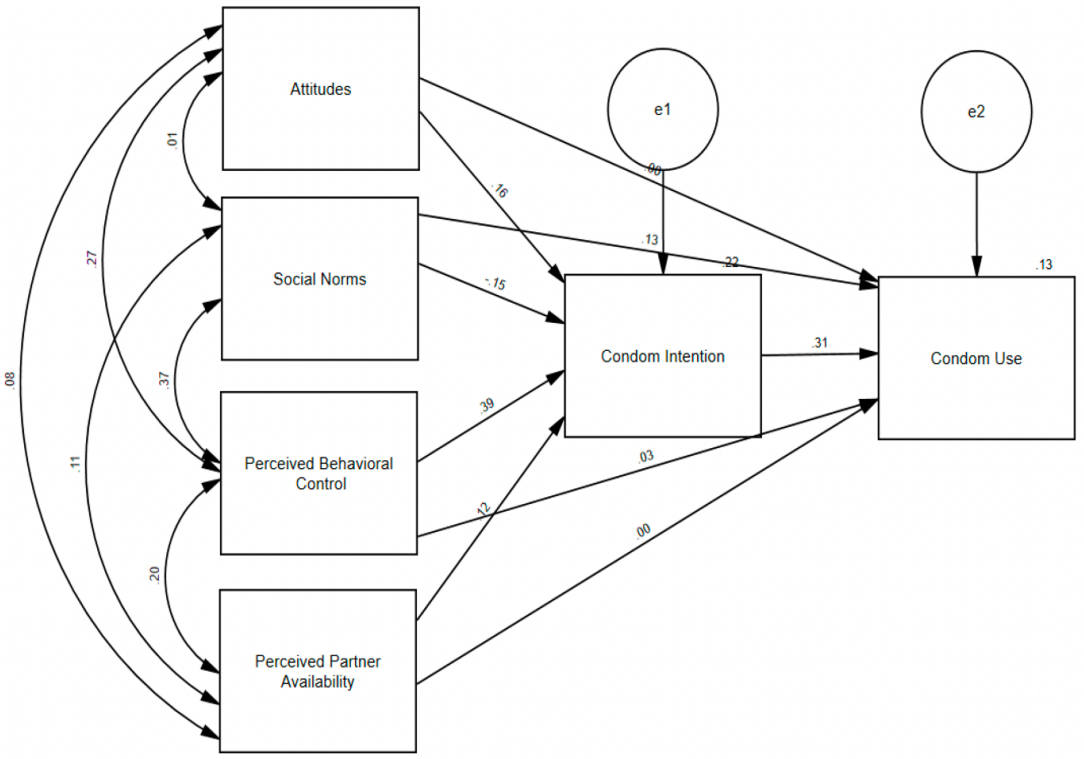


Table 5

Model Fit of the TPB and Perceived Partner Availability in Educated Black Women

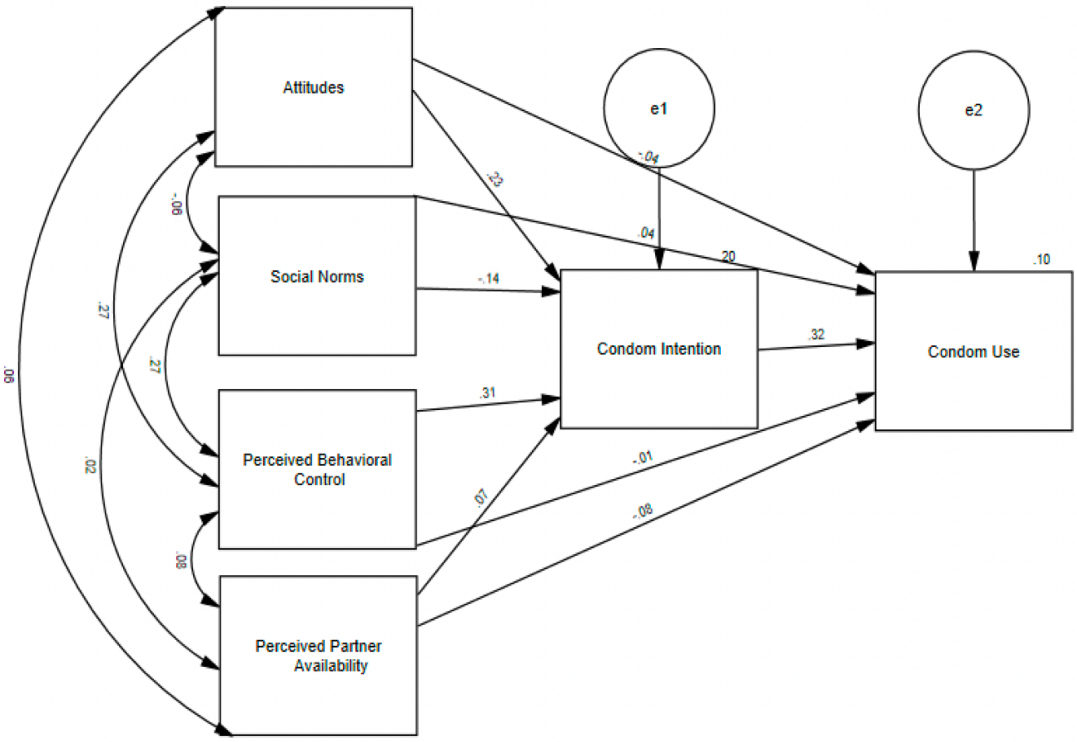
Variable relationships	Standardized coefficient (b)	Unstandardized coefficients	Standard errors	Critical ratios	*p*
Full educated sample					
Attitudes→ Condom Intention	.164	.052	.016	3.273	<.001
Social Norms→ Condom intention	-.148	-.042	.015	-2.848	<.05

Perceived behavioral control→ Condom Intention	.388	.116	.016	7.082	<.001
Perceived partner availability→ Condom intention	.122	.087	.035	2.478	<.05
Condom intention→ Condom use	.310	.020	.004	5.370	<.001
Attitudes→Condom use	.001	.000	.001	.028	=.978
Social norms→ Condom use	.131	.002	.001	2.344	<.05
Perceived behavioral control→ Condom use	.029	.001	.001	.471	=.638
Perceived partner availability→ Condom use	.002	.000	.002	.047	=.963
Highly educated sample					
Attitudes→ Condom Intention	.234	.072	.021	3.452	<.001
Social Norms→ Condom intention	-.141	-.045	.021	-2.083	<.05
Perceived behavioral control→ Condom Intention	.310	.099	.022	4.417	<.001
Perceived partner availability→ Condom intention	.068	.057	.053	1.057	=.291
Condom intention→ Condom use	.323	.021	.005	4.220	<.001
Attitudes→Condom use	-.037	-.001	.001	-.501	=.616

Social norms→ Condom use	.036	.001	.002	.484	=.622
Perceived behavioral control→ Condom use	-.006	.000	.002	-.081	=.935
Perceived partner availability→ Condom use	-.083	-.005	.004	-1.209	=.227

Figure 7

Model Fit of the TPB and Perceived Partner Availability in Highly Educated Black Women



Additional Analyses

Although initially we did not make specific hypotheses regarding perceived partner availability and level of education, we ran an independent sample t-test to determine if there were group differences between the college educated and highly

educated groups on perceived partner availability. There was significant difference between groups ($t(336) = -3.96$, $p < .00$). The highly educated group had a higher mean ($M = 13.76$, $SD = 4.28$) on perceived partner availability than the educated group ($M = 11.85$, $SD = 4.52$), suggesting that the highly educated Black women are more likely to see the dating pool as limited than the college educated Black women.

Previous research suggests that education level and age are related because in the United States typically children begin school at around the same age (kindergarten at age 5 years old), and chronological age continues to correspond to level of schooling. Therefore, we anticipated that the sub-sample of highly educated Black women would be older. To examine the linkages among age, level of education, and perceived partner availability a series of Pearson product-moment correlations were computed. There was a moderate, positive correlation between perceived partner availability and age ($r(338) = .11$, $p = .04$). That is, the older participants were at the time of study, the more likely they were to perceive fewer available partners. There was also moderate, positive correlation between perceived partner availability and level of education, ($r(338) = .14$, $p = .01$). As education levels increased, perceptions of a lower pool of available partners increased. Finally, as expected, there was a strong and significant positive correlation between education level and age ($r(338) = .38$, $p = .04$). Higher ages correspond to higher levels of education. We ran a hierarchical linear regression on perceived partner availability with age as the first predictor and education as the second predictor. We found that age was not a significant predictor of perceived partner availability ($F(1, 336) = 2.932$, $p = .88$), with an R^2 of .01. Rather, education is a predictor of lowered perceptions of perceived partners ($F(1, 335) = 12.691$, $p < .001$), with an R^2 of .036. These results hint

at the interactions among developmental pressures to find a long-term partner as well as the impact of pursuit of professional achievements on the perception that there are partners available for Black women.

Chapter V. Discussion

Health disparities among Black women continue to increase, especially regarding rates of sexually transmitted diseases (Bowen et al., 2018; Hill et al., 2022). Research shows that the riskiest behavior for Black women is choosing to have sexual intercourse without a condom (Guan et al., 2016). Therefore, understanding the predictors of sexual decision-making and behavior related to condom use in Black women are critical to developing diversity-affirming prevention/intervention.

The purpose of this study was to examine whether the TPB could explain the motivations for condom use in educated Black women. We sought to validate the theory in a subset of highly educated Black women. Results show that the TPB model fit in both samples of Black women. The replication of this theory in the sample of college-aged Black women is consistent with previous research (Asare, 2015; Asare & Sharma, 2009). We also investigated whether the psychosocial variables, specifically perceived body image, perceived partner availability, and perceived condom negotiation self-efficacy would relate the components of the TPB. Our findings shed light on how these three factors may relate to the components of the TPB. We also found support for the idea that with age and increasing levels of education, the perception of the pool of available partners diminishes significantly.

The Theory of Planned Behavior in Black Women

The TPB assumes that attitudes, social norms, and perceptions of behavioral control will impact behavioral intention and be predictive of behavior (Ajzen, 1991; 2002). The TPB has been found to be predictive of condom use in varied populations (Guan et al., 2016). The results from this study provide insight on how the components of the TPB fit in samples of educated/highly educated Black women. Studies utilizing TPB in Black women have found that the TPB model fit in samples of Black women (Asare, 2015; Guan et al., 2016; Simpson; 2000). Our findings are in line with previous research. Specifically, when the model was fit in the full sample, attitudes, social norms, and perceived control related to condom intentions and intentions related to condom use. A unique contribution of the current study is the examination of the fit of the model in a sample of highly educated Black women. Again, we find that the TPB model fits in this sample. In the full sample, only social norms was directly related to condom use. Neither attitude nor perceived behavioral control had direct paths to use. Similarly, in the highly educated sample, neither attitude or perceived control were directly related to use, and social norms was no longer related to use. These findings suggest that consistent with prior research, components of the TPB relate to behavior through their influence on intentions (Sheeran & Orbell, 2011; St. Lawrence et al., 1998). Put another way, intentions are more important for predicting actual behavior than attitudes(Albarracín et al, 2001; Ajzen, 1996; Asare, 2015; Campbell et al., 1992; Pilkington, et al., 1994; Reinecke et al., 1996; Sheeran & Taylor, 1999), norms or perceived control (Albarracín et al., 2001; Azjen, 1991; Banerjee & Ho, 2020; Hanson et al., 2015; Kanu & Kanu, 2000).

Prior literature has suggested that condom intention is a critical component in condom use behaviors in Black women (Asare, 2015; Guan et al., 2016;), especially for prevention/intervention. Our findings support previous research on the important role of attitudes, social normative beliefs, and behavioral control, and especially the importance of intention for use of condoms in educated and highly educated Black women.

Psychosocial Factors and the Theory of Planned Behavior

Recently, scholars of behavior change have been examining other psychosocial and social cognitive factors that may impact the components of the TPB. Based on the literature, in this dissertation we hypothesized that factors such as perceived body image, perceived partner availability, and perceived condom negotiation self-efficacy (Guan et al., 2016) might play a role in the model. In the full sample, when we fit an expanded TPB model to include these psychosocial factors the components of the model fit as before, perceived partner availability was found to relate to intentions, but neither body image nor condom negotiation self-efficacy were related to intentions. Condom negotiation self-efficacy was related to condom use. In the sample of highly educated Black women, the same pattern of relations emerged with the exception of perceived partner availability which was no longer related to intention. Our findings demonstrate that perceived partner availability is an important new factor that may influence Black women's condom use intentions. However, with higher levels of education the role of available partners no longer relates to intentions.

Contrary to research that shows a connection among women's body image (satisfaction or dissatisfaction) and condom use and sexual health (Cash et al., 2004; Schooler, 2012) we did not find any significant linkages. This may be because women,

especially those with higher levels of education, are able to separate their body image from their sexual decision making, which would be a positive development. Similarly, despite evidence that women who report higher condom use self-efficacy (Sterk et al., 2003) and higher perceived self-efficacy to negotiate the use of condoms (Guan et al., 2016; Nesoff et al., 2016), we did not find that condom intentions or use were influenced by condom negotiation self-efficacy but condom use was. This direct pathway is interesting and merits further examination.

One possible explanation for the current findings is that as level of education increases and one's professional accomplishments increase; women begin to feel more self-efficacious overall and in their ability to suggest or negotiate a condom in a sex act. Our findings suggest that effective communication is more important than intentions. This finding is important because negotiating condoms can be particularly challenging for women with a history of intimate partner violence (IPV) and they have been shown to have lower self-efficacy for condom negotiation than those who have no history of IPV (Champion & Shain, 1998; Swan & O'Connell, 2012). Therefore, our findings point to the potentially powerful role of perceived condom negotiation self-efficacy for reducing risk. If Black women perceive that they have over their sexual decision-making and can communicate their insistence on protection that leads to greater condom use.

In this study, we hypothesized that perceived partner availability would be a valuable addition to the TPB. We found that it was predictive of intentions in both the full group and the sub sample of highly educated Black women. We also found that perceived partner availability mediated the relationship between condom intention and condom use according to our model. Our findings are novel and suggest that the

pressures that are conferred by perceptions of a limited pool of ideal partners has an impact on Black women's sexual decision making and the actions they take to protect their sexual health. However, more research is needed to more fully explore these linkages. Other studies have shown that gender ratio imbalances, what we refer to as perceived partner availability, influence condom use behaviors in Black women (Boyd et al., 2020; Ferguson et al., 2016; Lanier, 2013; Newsome & Airhihenbuwa, 2013). Research, including studies done by the CDC (2018b), show that in Black women STIs (HIV in particular) result from heterosexual contact with high-risk sexual partners (Crosby et al., 2011; Vanterpool et al., 2021), and that compared to other racial/ethnic groups, Black women are shown to have partners who are higher risk (e.g., having multiple sex partners, engaging in unprotected intercourse (both anal and vaginal), see Tillerson 2008). Taken together, our findings fit within the frameworks of relational developmental systems theory (Ford & Lerner, 1992). and relational personhood (Mascolo, 2020). Specifically, the transition to adulthood impacts the changing dynamics of identity, goal achievement, and interpersonal relations all impact Black women's sexual decision making.

This dissertation was motivated by the notion that risk behaviors in Black women need to be considered within the sociocultural context of the Black community (Fullilove et al., 1990) and within the contextual factors that influence Black women's sexuality. This is imperative for diversity-affirming psychotherapeutic prevention/intervention to be effective. Within the United States one contextual factor that plays an important role is the ratio of Black men to Black women. This ratio has been found to relate to racial disparities in STIs (Adimora & Schoenbach, 2002; Vanterpool et al., 2021). Our findings

are consistent with recent research that showed that perceptions about the sex ratio did not influence Black women's condom negotiation self-efficacy, but it did influence (indirectly through intentions) their condom use (Vanterpool et al., 2021; see also Thomas, 2019). The lack of influence of the limited dating pool on negotiation for condoms may in part be explained by findings from Vanterpool et al. (2021), who suggest that Black women may feel less self-efficacy for condom negotiation because they are more likely to comply with their sexual partners decisions on condoms (Ferguson et al., 2006), or that they care more about their partner's needs for sexual pleasure than protecting themselves (Fullilove et al., 1990), or it may relate to the basic dyadic and structural power differential that influences relations among Black women and their partners (Guttentag & Secord, 1983). Specifically, when Black women perceive a restricted pool of partners, they may perceive that the men hold more power and they have fewer available options, which may affect sexual decision making.

Our results show that the perception of perceived partner availability, which is conceptually different from the perception that there is a sex ratio imbalance, was correlated to perceived behavioral control and to condom intention but not to condom use. Specifically, as the pool of available partners is perceived to be more limited that relates to more perceived control and greater intentions to use condoms. Our results are thus consistent with the reasoning of Vanterpool et al (2021). What was unique about the current study was the examination of level of education. Recent research has investigated the role that education plays in the perception of limited partners in educated Black women (Boyd et al., 2020; Burt, 2010; Newsome et al., 2018). Our findings show that older Black women and those with higher levels of education are more likely to perceive

lower partner availability. This would lead to the conclusion that they are therefore at higher risk for making compromises in sexual encounters that may negatively affect their sexual health.

Limitations and Future Research Directions

Interpretations of the findings from this study should be taken with several limitations in mind. We utilized purposeful sampling in this study. Purposeful sampling can lead to issues where findings are not generalizable and are not considered "at random." Although the findings regarding educated Black women are compelling, they cannot be generalized to all Black women or to other educated Black women. Moreover, purposeful sampling can cause sample bias. However, given the fact that we are looking at a specific, hard to reach, at-risk population, the benefits of purposeful sampling outweigh sample bias issues.

The cross-sectional nature of the present study precludes the ability to make conclusions about the interactions among age and the status and impact that attaining higher levels of education have on Black women's sexual decision making over time. We are gaining a clear snapshot of how these factors may influence each other and through our comparative analyses we can see that higher levels of education are related, as predicted, to differential perceptions of availability. Another limitation of this study is that the study was predominately done via the internet and social media recruitment. Therefore, it could be said that we only reached educated Black women who were connected to social networks and had technological resources, and they may be different in some ways from educated Black women who are not socially connected in this way.

A final limitation of this study was the time in which this study was conducted. The study was conducted during the height of the SARS-COVID-19 pandemic. This could have impacted participants' levels of sexual activity and engagement. Forty percent of participants reported that they had not had sexual intercourse in the last 60 days. In this case, a real determination of condom use may not have been appropriately measured. While this is a limitation on one hand, it suggests that Black women within this study were not engaging in risky behaviors during a time when there was a world pandemic on the other hand. This is important to note and could provide insight into future studies related to health protective behaviors of educated Black women. Given that the data collected are cross-sectional the findings we report must be considered within the context of the pandemic.

Our findings show that TPB model had a good fit our sample of educated and highly educated Black women. However, knowing this does not preclude the necessity that contextually grounded and culturally sensitive models of sexual risk behavior must be developed through future research. This is critical for evidence-based sexual health programs to be developed that will successfully address and reduce sexual health disparities (Dorsey et al., 2022). Currently, there are few evidence-based health interventions that are culturally responsive to the needs of certain groups (Dorsey et al, 2022), such as Black women, much less highly educated Black women. Future studies should continue to investigate the relationship between perceived partner availability and risky sexual behaviors in educated and highly educated Black women. Clearly, there are a multitude of interactive factors that influence condom use and create barriers that lead to sexual risk taking. However, given that HIV continues to spread in the U.S. and 29% of

all new cases are within the Black community (Boyd et al., 2015) innovative research to better identify factors that influence behavior are much needed and time sensitive.

In this study, we examined the components of the TPB in conjunction with three novel psychosocial factors (body image, perceived partner availability, and condom negotiation self-efficacy). However, other research on Black women points to the role of knowledge, awareness, and the gender ratio imbalance and calls for Black women to take greater control over their sexual health by adopting the female condom (Boyd et al., 2015). A study by Boyd and colleagues (2015) showed that female contraception might be an important factor to consider within the TPB for changing behavior and reducing risk. This is just one of several avenues of future research that would be beneficial and promote a feminist perspective for understanding sexual health in Black women.

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APPENDICES

Appendix A: Demographic Questionnaire

What is your age: ___ years?
Ethnic Background:
Relationship Status:

- Casual Dating
- Long-term
- Relationship
- Divorced
- Widow

Income (yearly salary)

- 0-$25,000
- $26,000-$35,000
- $36,000-$45,000
- $46,000-$55,000
- $56,000-$60,000
- $61,000+

Employment Status:

- Part-time
- Full-time
- Unemployed

Highest Level of Education *Earned*

- Doctorate
- Master's Degree
- Bachelor's degree
- Associates Degree
- Professional certificate
- High School Diploma

GPA:

- Below 2.0
- 2.0-2.5
- 2.5-3.0
- 3.0-3.5
- 3.5-4.0

Dating Preference: (choose all that apply)

- Date within a race/ethnicity
- Date outside a race or ethnicity

Appendix B: Risky Sexual Behaviors

In the past 60 days, how many times have you had vaginal sex?

In your entire life, how many men or boys have you had vaginal sex with?

The last time you had sex with your boyfriend or sexual partner, did he use a condom? Yes or No

The last time you had sex, did you use protection? Yes or No

Of the times you've had vaginal sex in the past 60 days, how many of those times did you use a condom?

Appendix C: Body Appreciation Scale (Tylka & Wood-Barcalow, 2015)

1	I respect my body
2	I feel good about my body
3	I feel that my body has at least some good qualities
4	I take a positive attitude toward my body
5	I am attentive to my body's needs
6	I feel love for my body
7	I appreciate the different and unique characteristics of my body
8	My behavior reveals my positive attitude towards my body; for example, I walk holding my head and smiling
9	I am comfortable in my body
10	I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors).

Appendix D: Theory of Planned Behavior Scale

Please circle one that reflects your Intention toward condom use	**Extremely Unlikely**						**Extremely Unlikely**
7 I intend to use a condom every time I engage in sexual intercourse	1	2	3	4	5	6	7

Please circle one that reflects your Intention toward condom use	**Definitely False**						**Definitely True**
8 I will try to use a condom every time I engage in sexual intercourse	1	2	3	4	5	6	7

Please circle one that reflects your Intention toward condom use	**Strongly Disagree**						**Strongly Agree**
9 I plan to use a condom every time I engage in sexual intercourse	1	2	3	4	5	6	7

Questions # 10 to #12 measures your behavioral beliefs about condom usage. Please circle each of the following behavioral belief about condoms that describe you

If I use a condom every time I engage in sexual intercourse…	**Strongly Disagree**						**Strongly Agree**
10. I will protect myself against HIV/AIDS	1	2	3	4	5	6	7
11. I will prevent unwanted pregnancies	1	2	3	4	5	6	7
12. I will feel safe from contracting sexually transmitted diseases (STD)	1	2	3	4	5	6	7

Questions # 13 to #15 measure your outcome evaluation about condom usage. Please circle each of the following that reflect your attitude about condom usage

During sexual intercourse the use of a condom …	**Extremely Unimportant**	**Extremely Important**

13.	to protect myself against HIV/AIDS is ….to me.	-3	-2	-1	0	+1	+2	+3
14.	to prevent unwanted pregnancies is … to me.	-3	-2	-1	0	+1	+2	+3
15.	to prevent sexually transmitted diseases (STD) is … to me	-3	-2	-1	0	+1	+2	+3

Questions # 16 to #18 measure normative beliefs about condom usage. Please circle each of the following subjective norm about condom that describe you

		Strongly Disagree						**Strongly Agree**
16.	My friends encourage me to use condoms whenever I have sexual intercourse.	1	2	3	4	5	6	7
17.	My family encourages me to use condomes whenever I have sexual intercourse.	1	2	3	4	5	6	7
18.	My partner encourages me to use a condom whenever we have sexual intercourse.	1	2	3	4	5	6	7

Questions # 19 to # 21 measure your motivation to comply with condom usage. Please circle each of the following subjective norm about condom that describe you

		Not at all Important						**Very much Important**
19.	It is important that my friends approve of my condom use.	-3	-2	-1	0	+1	+2	+3
20.	It is important that myl family approve of my condom use.	-3	-2	-1	0	+1	+2	+3
21.	It is important that my sexual partner(s) approve of my condom use	-3	-2	-1	0	+1	+2	+3

Questions #22 to #24 measure your control belief. Please circle each of the following that reflect your perceived behavior control of condom use

		Strongly Disagree						Strongly Agree
22.	It is difficult for me to use a condom every time I engage in sexual intercourse	1	2	3	4	5	6	7
23	I am confident that I can use a condom during sexual intercourse	1	2	3	4	5	6	7
24	The decision to use a condom during sexual intercourse is beyond my control	1	2	3	4	5	6	7

Questions #25 to #27 measure your influence on control belief. Please circle each of the following that reflect your perceived behavior control of condom use

		Less Likely						More Likely
25.	If it is difficult for me to use a condom every time I engage in sexual intercourse, I will …… use it	-3	-2	-1	0	+1	+2	+3
26	If I am confident that I can use a condom during sexual intercourse, I will ….. use it.	-3	-2	-1	0	+1	+2	+3
27	If the decision to use condom during sexual intercourse is beyond my control, I will ….. use it	-3	-2	-1	0	+1	+2	+3

Section 2. Definition: <u>Multiple partners</u>. (For the purpose of this study multiple partners is defined as having sexual intercourse with more than one partner.

Questions #28 to #29 are about your behavior about multiple sexual partners

28. In the past three months, have you had sex with more than one partner at different times?

Yes__ No__

29. In the past three months, what percentage of time did you have sex with more than one partner at different times? Please write your response in percentage (between 0% to 100%) ____% of the time.

Please circle one that reflects you Intention toward condom use	Extremely Unlikely						Extremely Unlikely
7 I intend to use a condom every time I engage in sexual intercourse	1	2	3	4	5	6	7

Please circle one that reflects your Intention toward condom use	Definitely False						Definitely True
8 I will try to use a condom every time I engage in sexual intercou	1	2	3	4	5	6	7

Please circle one that reflects you Intention toward condom use	Strongly Disagree						Strongly Agree
9 I plan to use a condom every ti I engage in sexual intercourse	1	2	3	4	5	6	7

Questions # 10 to #12 measures your behavioral beliefs about condom usage. Please circle each of the following behavioral belief about condoms that describe you

If I use a condom every time I engage in sexual intercourse…	Strongly Disagree						Strongly Agree
10. I will protect myself against HIV/AIDS	1	2	3	4	5	6	7
11. I will prevent unwanted pregnancies	1	2	3	4	5	6	7
12. I will feel safe from contracting sexually transmitted diseases (STD)	1	2	3	4	5	6	7

Questions # 13 to #15 measure your outcome evaluation about condom usage. Please circle each of the following that reflect your attitude about condom usage

During sexual intercourse the use of a condom …	Extremely Unimportant						Extremely Important
13. to protect myself against HIV/AIDS is ….to me.	-3	-2	-1	0	+1	+2	+3
14. to prevent unwanted pregnancies is … to me.	-3	-2	-1	0	+1	+2	+3
15. to prevent sexually transmitted diseases (STD) is … to me	-3	-2	-1	0	+1	+2	+3

Questions # 16 to #18 measure normative beliefs about condom usage. Please circle each of the following subjective norm about condom that describe you

		Strongly Disagree						**Strongly Agree**
16.	My friends encourage me to use condoms whenever I have sexual intercourse.	1	2	3	4	5	6	7
17.	My family encourages me to use condomes whenever I have sexual intercourse.	1	2	3	4	5	6	7
18.	My partner encourages me to use a condom whenever we have sexual intercourse.	1	2	3	4	5	6	7

Questions # 19 to # 21 measure your motivation to comply with condom usage. Please circle each of the following subjective norm about condom that describe you

		Not at all Important						**Very much Important**
19.	It is important that my friends approve of my condom use.	-3	-2	-1	0	+1	+2	+3
20.	It is important that myl family approve of my condom use.	-3	-2	-1	0	+1	+2	+3
21.	It is important that my sexual partner(s) approve of my condom use	-3	-2	-1	0	+1	+2	+3

Questions #22 to #24 measure your control belief. Please circle each of the following that reflect your perceived behavior control of condom use

		Strongly Disagree						**Strongly Agree**
22.	It is difficult for me to use a condom every time I engage in sexual intercourse	1	2	3	4	5	6	7
23	I am confident that I can use a condom during sexual intercourse	1	2	3	4	5	6	7
24	The decision to use a condom during sexual intercourse is beyond my control	1	2	3	4	5	6	7

Questions #25 to #27 measure your influence on control belief. Please circle each of the following that reflect your perceived behavior control of condom use

		Less Likely						More Likely
25.	If it is difficult for me to use a condom every time I engage in sexual intercourse, I will …… use it	-3	-2	-1	0	+1	+2	+3
26	If I am confident that I can use a condom during sexual intercourse, I will ….. use it.	-3	-2	-1	0	+1	+2	+3
27	If the decision to use condom during sexual intercourse is beyond my control, I will ….. use it	-3	-2	-1	0	+1	+2	+3

Section 2. Definition: Multiple partners. (For the purpose of this study multiple partners is defined as having sexual intercourse with more than one partner.)

Questions #28 to #29 are about your behavior about multiple sexual partners

28. In the past three months, have you had sex with more than one partner at different times?

Yes__ No__

29. In the past three months, what percentage of time did you have sex with more than one partner at different times? Please write your response in percentage (between 0% to 100%)____% of the time.

Questions # 30 to #32 measure your behavioral intention about multiple partners. Please circle each of the following behavioral intention about multiple partners that describe you

Please circle one that reflects your Intention toward multiple partners		Extremely Unlikely						Extremely Likely
30	I intend to have sex with more than one partner in the next three months at different times.	1	2	3	4	5	6	7

Please circle one that reflects your Intention toward multiple partners	Definitely False						Definitely True

31	I will try to have sex with more than one partner in the next three months at different times.	1	2	3	4	5	6	7

Please circle one that reflects your Intention toward multiple partners	**Strongly Disagree**						**Strongly Agrees**
32	I plan to have sex with more than one partner in the next three months at different times.	1	2	3	4	5	6	7

Questions #33 to #35 measure your behavioral beliefs about multiple partners.
Please circle each of the following behavioral belief about multiple partners that describe you

If I engage in sexual intercourse with multiple partner (more than one sexual partner)	**Strongly Disagree**						**Strongly Agree**
33. I am more likely to be infected with HIV/AIDS	1	2	3	4	5	6	7
34. I am more likely to have unwanted pregnancies	1	2	3	4	5	6	7
35. I am more likely to be infected with sexually transmitted diseases (STD)	1	2	3	4	5	6	7

Questions # 36 to #38 measure your outcome evaluation about multiple partners. Please circle each of the following that reflect your attitude toward multiple partners

Having sexual intercourse with a single partner …	**Extremely Unimportant**						**Extremely Important**
36. to protect myself against HIV/AIDS is ….. to me.	-3	-2	-1	0	+1	+2	+3
37. to prevent unwanted pregnancies is …. to me.	-3	-2	-1	0	+1	+2	+3
38. to prevent sexually transmitted diseases (STD) is ….to me.	-3	-2	-1	0	+1	+2	+3

Questions # 39 to #41 measure your subjective norm about multiple partners. Please circle each of the following subjective norms about multiple partners that describe you.

	Strongly Disagree						**Strongly Agree**
39. My friends encourage me to have sex with multiple	1	2	3	4	5	6	7

	partners (more than one sexual partners)							
40.	My family encourages me to have sexual intercourse with multiple partners (more than one partner)	1	2	3	4	5	6	7
41.	My partner encourages me to have sex with multiple partners (more than one partner)	1	2	3	4	5	6	7

Questions # 42 to # 44 measure your motivation to comply with multiple partners. Please circle each of the following subjective norms about multiple partners that describe you

		Not at all Important						**Very much Important**
42.	How important is friends' approval of having sex with multiple partners to me.	-3	-2	-1	0	+1	+2	+3
43.	How important is family's approval of having sex with multiple partners to you?	-3	-2	-1	0	+1	+2	+3
44.	How important is your sexual partner's approval of having sex with multiple partners to you?	-3	-2	-1	0	+1	+2	+3

Questions #45 to 47 measure your control belief. Please circle each of the following that reflect your perceived behavior control over multiple partners

		Strongly Disagree						**Strongly Agree**
45.	I have control over my decision to have sex with more than one sexual partner.	1	2	3	4	5	6	7
46	I am confident that I can have sex with more than one partner, if I wish.	1	2	3	4	5	6	7
47	The decision to have sex with more than one partner is beyond my control	1	2	3	4	5	6	7

Questions #48 to 50 measure your influence on control belief. Please circle each of the following that reflect your perceived behavior control over multiple partners

	Less Likely	**More likely**

48	If I can control my decision to have sex with more than one partner, I will …. do it	-3	-2	-1	0	+1	+2	+3
49	If I am confident that I can have sex with more than one partner, I will ….do it	-3	-2	-1	0	+1	+2	+3
50	If the decision to have sex with more than one partner is beyond my control, I will … do it	-3	-2	-1	0	+1	+2	+3

Appendix E: Gender Ratio Imbalance Beliefs and Behavior Scale (GRIBBS)

Participants will be given the following responses to choose from: Strongly Disagree, Disagree, Somewhat Agree, Agree, and Strongly Agree, to answer the question below.

1. There are fewer men than women in my community.

2. Fewer men in my community decrease my chances of dating.

3. Fewer men in my community decrease my chances of getting married.

4. Fewer men in my community decrease my chances of having children.

5. Fewer men in my community decrease my chances of maintaining a steady relationship.

6. To maintain my relationship, I do not use a condom when having oral, vaginal, or rectal sex.

7. I allow my male partner to have sex with other female partners to maintain our relationship.

8. I use a condom even if it causes me to lose my mate.

9. I do not have sexual relationships when I know the man has multiple partners.

10. There are not enough men for all women to be in a steady and exclusive relationship.

11. Men are in demand and I will do whatever is required to keep them as my sexual partner.

12. If I make my man use a condom, he will go to another woman who will have sex without a condom.

13. Not having a man in my life means that I cannot have children.

14. I do not use condoms in order to keep my male sexual partner.

15. I always determine condom use in my relationship.

16. To maintain my relationship, I let my partner set what is expected in our sexual relationship.

17. To maintain my relationship, I do not question my partner about his involvement with others sexually.

18. I do not ask my partner to be tested for sexually transmitted infections (STIs) prior to having sex with him.

19. I believe if I ask my man to use a condom, I will lose him.

20. I negotiate condom use with my partner.

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PUBLICATIONS AND PRESENTATIONS

Boyd. B (Accepted 2022). Perceptions and Risk: The Role of Education, Body Image, Partner Availability, and Condom Negotiation on Black Women's Sexual Risk-Taking Behaviors. Poster Presentation. for the APS Annual Convention. Chicago, IL.

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