Protecting Themselves: Toward an Understanding of Black Women’s Approaches to Encouraging A Male Partner to Test for HIV

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Dedication and Acknowledgement

For all of the support, encouragement, and love throughout the PhD process, I would like to dedicate this dissertation to my husband Matt. I began this process soon after we married, on the day that we bought a house, and as we finish this chapter we will welcome a baby. He has continued to both support and cope with my ambition. He has consistently gone above and beyond what any support team can be expected to do from making sure I am well fed to late night or early morning type editing my papers. We have joked throughout that the PhD will be half of his, because I took his name when we married. I can truly say that he has earned half of this degree and it would not have been possible without him. He also now knows more about HIV prevention and relationship dynamics than a software engineer should.

I would also like to recognize and genuinely thank my committee whose guidance and understanding has led me to a final product I am excited to share. Dr. Barbara Guthrie was my champion throughout and always encouraged me after each hurdle in the process. Dr. Tiffany Kim inspired me at the start of my doctoral education, challenging me to think differently, and instilled confidence in me during the dissertation process. Dr. John Griffith patiently supported me through each step of the analytic process in many iterations.

I would also like to acknowledge Dr. Rachel Jones, whose guidance allowed me to discover the gap in literature that ultimately became my dissertation and who taught me countless lessons during my invaluable research assistantship.

Lastly, I want to acknowledge Dan David who has been a true friend throughout the PhD program and provided endless hours of support, therapy, and research banter to get me through to this point.
Abstract

Black women are disproportionately affected by HIV and predominantly infected through heterosexual sex (Black AIDS Institute, 2009; CDC, 2014). Preventing HIV is a national priority and increasing status awareness through testing will help to identify those positive for HIV and potentially decrease rates of new infection (ONAP, 2010). Encouraging a partner to test has the potential to increase status awareness and reduce transmission (CDC, 2015a). Prevention campaigns provide general recommendations to talk to a partner about testing, but do not provide specific approaches with established efficacy. To address this gap, these studies not only identified approaches used by Black women to encourage a male partner to test for HIV and examined the relationship of approach, interpersonal context (IC), and HIV testing behavior, but also established preliminary validity and reliability of the HIV Testing Approach Scale.

Initially, focus groups were conducted with 18-29 year old Black women to examine the variety of approaches (for example ultimatum or expressing caring) used in varied ICs (for example casual/ committed or trusting/ suspicious for risk). Focus group findings, expert review, and target population review guided the adaptation of the HIV Testing Approach Scale (HTAS). The HTAS was examined with factor analysis establishing four approaches (Active Persuasion, Decisive Collaboration, Ultimatum, and Sweet Talking) to encourage a partner to test for HIV. The survey study then established that 1) elements of IC (partner type, authenticity, and sexual pressure) are related to HTAS approaches among Black women; 2) whether a partner has tested for HIV is greatest predictor of whether an individual tests for HIV, although IC factors (partner type and perceived partner risk) were also significant; and 3) the approaches associated with partner HIV testing were Active Persuasion and Decisive Collaboration. These findings provide
recommendations for practitioners to consider IC in HIV prevention counseling and promote effective approaches. Future research on HIV testing approaches with dyads is recommended.
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Chapter One: Introduction

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Introduction

Protecting Themselves: Toward an Understanding of Black Women’s Approaches to Encouraging A Male Partner to Test for HIV

Black women are disproportionately affected by Human Immunodeficiency Virus (HIV) (CDC, 2015b). Yearly testing is recommended for those at risk, although one in seven infected individuals is unaware of his or her positive status (CDC, 2014). Increasing awareness of HIV status is a key component of the national strategy to prevent HIV transmission (ONAP, 2010). Talking to a partner about testing and recommending they test has the potential to increase the likelihood that both partners will test (CDC, 2015a; ONAP, 2010; Wallace et al., 2011). Although there are no documented studies that explore the relationship between encouraging partners to test and HIV testing, several reports (CDC, 2015a; ONAP, 2010) include approaching a partner about HIV testing as a recommended HIV prevention strategy. Increasing status awareness through testing will identify those positive for HIV and potentially decrease the rates of new infections.

A theoretical framework that captures the complexity of approaching a partner about HIV testing was initially sought in current HIV prevention literature. Frameworks used in HIV prevention research have historically focused on the behavior change of an individual, with self-efficacy, behavioral intentions, or motivation as common constructs (Kaufman, Cornish, Zimmerman, & Johnson, 2014). Many frameworks however, fail to recognize the importance of the interpersonal relationship as a key environmental influence on the nature and type of communication initiated between partners. Social Penetration Theory was selected as it was thought to appropriately recognize the interpersonal context (IC) as the prelude to the nature and
type of conversations one initiates with their partner. The IC (Lewis, Mallow, & Ireland, 1997) describes the dynamics that influence decision-making regarding sex within a dyad.

Guided by SPT, the purpose of this study was to examine whether or not interpersonal context (IC) affects young Black women’s approaches to encouraging male partners to test for HIV and whether the nature of the IC and type of approach affect HIV testing behavior. The specific aims of this research were to: 1) adapt a measure to identify different approaches used by Black women to encourage a partner to test for HIV; 2) examine whether or not the IC (as measured by partner type, relationship closeness, authenticity, sexual pressure, and perceived partner risk) is related to HIV testing approaches among 18-29 year old unmarried Black women; and 3) examine IC and approaches to encourage HIV testing as predictors of testing behavior.

The results of this research are presented in three separate manuscripts. The first manuscript describes the findings of a qualitative study that sought to understand Black women’s experiences discussing testing with a male partner and the preferred approaches they used. The second details the preliminary adaption and a factor analysis study of the adapted HIV Testing Approach Scale. The third manuscript examines the relationship of interpersonal context, HIV testing approaches, and HIV testing.

**Manuscript One: Focus Group Study**

After approaching a partner about HIV testing was identified as an important gap in HIV prevention literature, a formative focus group study was conducted. The first manuscript further describes the integration of Social Penetration Theory in this research and reports the findings of the qualitative study.

This focus group study sought to understand Black women’s experiences discussing HIV testing, preferred approaches, and how interpersonal contexts influence approach. Twenty-six
18-29 year old Black women participated in focus groups. The majority of the sample was at risk for exposure to HIV through unprotected sex and believed their partner was participating in HIV risk behaviors. Most women had been HIV tested, but were unaware whether their partner had been tested.

Many viewed the discussion experience as difficult and stressful describing that men won’t test and that they were afraid to lose their partner. For others the discussion was a positive experience and was easier for more the more mature woman. Women described varied approaches depending on different interpersonal contexts including whether a relationship was casual/ committed, trusting/ suspicious for risk, and degree of reliance on the relationship. Approaches which expressed caring, an ultimatum, or asked for understanding were uniquely described. This study identified a concerning knowledge gap supported in previous literature (Siegel, Lekas, Olson, & VanDevanter, 2010) where women use personal HIV testing results as a proxy for partner status. Other women reported positive experiences when the male partner tested, shared results, and this experience led them to building a closer and more trusting relationship.

Manuscript Two: Factor Analysis Study

After the qualitative study identified varied approaches to encourage a partner to test for HIV, an adequate measure of approaches was sought for further examination in a quantitative study. The AIDS Discussion Strategy Scale (ADSS) (Snell & Finney, 1990) was identified as an adaptable measure, but given the findings of the qualitative study would require topical and cultural adaptation. The second manuscript describes the preliminary adaptation of the ADSS to the HIV Testing Approach Scale (HTAS) and the subsequent factor analysis study of the HTAS.
The process of preliminary adaptation of the HTAS included comparison of focus group content, topical and cultural adaptation, expert review, target population review, and readability examination. The HTAS was then administered to 158 Black women between the ages of 18-29 as part of the larger study. Factor analysis of the HTAS revealed a four-factor model that explained 67% of the variance. The item loadings for each factor were reviewed and themes established guided identification of what approach each factor represented. The four distinct approaches to encourage a partner to test for HIV identified were *Active Persuasion*, *Decisive Collaboration*, *Ultimatum*, and *Sweet Talking*.

**Manuscript Three: Survey Study**

Once the four unique approaches to encouraging a partner to test for HIV were established in the factor analysis study, these were used to examine the interpersonal context’s (IC) influence on approach and the relationship of IC and approach on HIV testing. The third manuscript describes the findings from a quantitative examination of IC (as measured by partner type, relationship closeness, authenticity, sexual pressure, and perceived partner risk), HTAS approaches, and whether an individual and partner had tested for HIV. A purposive sampling strategy recruited a diverse sample of 158 18-29 year old sexually active Black women from community-based settings.

Women in the sample reported low rates of consistent condom use and the majority had some suspicion their partner was at-risk related to engaging in HIV related behaviors. The majority of the sample had been tested for HIV and had approached a partner about testing, but only half knew whether their partner had been tested. Elements of the IC, namely partner type, authenticity, and sexual pressure, were significantly related to HTAS approaches. These findings were used to describe the varied relationship contexts in which Black women approach a partner.
about testing. Two HTAS approaches, Active Persuasion and Decisive Collaboration, were significantly associated with partner testing. Regardless of approach, whether the female partner had been tested for HIV was the strongest predictor of partner testing. These findings contribute additional insight to practitioners and researchers interested in increasing HIV testing and status awareness.

**Contribution to Nursing Science**

The goal of this study was to explore Black women’s approaches to encourage partners to test for HIV, an important gap in current literature. The primary contributions of this study are 1. Use of women’s narratives generated from the focus group study to describe the challenges and benefits of approaching a partner about HIV testing 2. Topically and culturally adapting the HIV Testing Approach Scale to measure varied approaches to encourage a partner to test for HIV and 3. Describing the relationship of the interpersonal context to HIV testing approaches and testing behavior. These results contribute to HIV prevention science by considering a novel concept, varied approaches to encourage testing, to increase status awareness through promoting HIV testing. Implications for nurses include considering relationship dynamics in discussions of HIV risk reduction and promoting a variety of effective approaches to clients interested in encouraging a partner to test. Knowledge of varied interpersonal contexts and approaches to encourage HIV testing will aid in nurses’ and other health care providers’ ability to provide tailored counseling to encourage HIV testing.
Chapter Two: “Taking Care of Ourselves:” The Experiences of Black Women Approaching and Encouraging Male Partners to Test for HIV

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“Taking Care of Ourselves:” The Experiences of Black Women Approaching and Encouraging Male Partners to Test for HIV

Rates of new heterosexual transmitted HIV infections among Black women are 20 times that of white women (CDC, 2014). Different levels of risky sexual behaviors cannot explain this disproportionate rate given that both groups participate in similar levels of sexual behaviors associated with HIV risk (Tillerson, 2008). Unprotected sex with a partner who is unaware of his HIV positive status, however, is responsible for greater than two-thirds of new HIV infections in Black women (Black AIDS Institute, 2009; CDC, 2014). In addition to being disproportionately affected by HIV (CDC, 2013), Black women are more likely to be diagnosed at later stages of infection, which is associated with lower treatment efficacy (Tang, Levy, & Hernandez, 2011) and greater likelihood of transmitting HIV to another person (Marks, Crepaz, & Janssen, 2006). Women and men who are aware of their HIV positive status are less likely to transmit HIV (Marks, Crepaz, & Janssen, 2006), as awareness is associated with reducing one’s risky behavior(s) that expose others to HIV (Reniers & Armbruster, 2012). Therefore, increasing HIV testing has the potential to reduce transmission, decrease risky sexual behavior, and improve treatment efficacy.

The Centers for Disease Control (CDC) (2015b) recommend yearly testing for those at-risk for HIV because of risk behaviors such as sex with a person with an unknown or positive HIV status, sex exchanged for drugs or money, diagnosis of a sexually transmitted infection, injection drug use, or a partner with HIV risk factors. Increasing awareness of HIV status is a key component of the national strategy to prevent HIV transmission (ONAP, 2015). Conversely, being unaware of one’s positive HIV status increases the likelihood of transmission. Given that
1 of 8 HIV infected individuals in the US are unaware of his or her positive status (CDC, 2015b) there is an increasing need to understand what motivates individuals to get tested for HIV.

Talking to a partner about testing has the potential to increase the likelihood that both partners will test. Although there are no published studies that have explored encouraging partners to talk with each other about HIV testing, the CDC (2013b), the Office of National AIDS Policy (ONAP) (2015), and the Black AIDS Institute (2011) have recognized the importance of approaching a partner about HIV testing as a recommended HIV prevention strategy. Increasing status awareness through testing will identify those positive for HIV and potentially decrease the rates of new infections (CDC, 2013; ONAP, 2015). Little is known, however, about what approaches are most effective for women to approach their partners about HIV testing.

As discussion of HIV testing with an intimate partner occurs within the context of an interpersonal relationship, relationship characteristics must be examined to understand why specific approaches are more effective in encouraging a partner to test. Yet, little is known about what relationship factors influence the approaches women use when discussing HIV testing with their partner. One method of understanding how women might approach their partners is to consider the interpersonal context (IC) of a relationship. The IC (Lewis, Mallow, & Ireland, 1997) describes the dynamics in a relationship that influence decision-making within a dyad.

Knowing more about approaches used to discuss HIV testing and which ones successfully result in HIV testing may further inform future interventions that promote realistic approaches to encourage HIV testing with partners. This article describes findings based on our focus group study including twenty-six 18-29 year old Black women. The guiding theoretical framework, Social Penetration Theory, will be discussed as a framework to aid in understanding
the IC. The challenging environment in which Black women must approach male partners about HIV testing will be examined including gendered relationship dynamics. A variety of approaches described by women will be differentiated and described within varied ICs. Finally, the outcome of discussing HIV testing and sharing results will be described as “a test of the relationship.”

**Theoretical Framework**

**Conceptualizing HIV Testing Discussion through Social Penetration Theory**

Frameworks used in HIV prevention research have historically focused on the behavior change of an individual, with self-efficacy, behavioral intentions, or motivation as common focal points (Kaufman, Cornish, Zimmerman, & Johnson, 2014). These frameworks often do not acknowledge the interpersonal context (IC) as the prelude to the nature and type of conversations one initiates with their partner. Due to this noted gap, the authors chose Social Penetration Theory (SPT) (Altman & Taylor, 1973) because it acknowledges the complexity of discussing sensitive information with another person.

Social Penetration Theory asserts that relationships develop through a complex process of self-disclosure where an individual weighs the risks and benefits of sharing private information. Within HIV prevention literature, self-disclosure typically refers to disclosure of HIV status but within SPT, self-disclosure refers to any information that leads to people developing positive or negative judgments about one another. SPT describes the internal processes that occur with social interactions and how these processes ultimately lead to or dissuade closeness and trust within a relationship (Altman & Taylor, 1973). Over time, a partner’s responses to disclosure establishes positive and/or negative feelings about their partner and the partner infers how this individual will behave in various circumstances (Altman & Taylor, 1973).
Incorporating Interpersonal Context into Social Penetration Theory

Social Penetration Theory describes the complexity of relationship development and factors that influence relationships, but does not use interpersonal context (IC) within its terminology. However, the term IC is theoretically consistent with SPT and provides a succinct way to describe the different relationships that individuals develop with one another. The IC (Lewis, Mallow, & Ireland, 1997) is conceptualized as the dyadic dynamics that influence decision-making regarding safer sex practices (Longmore, Johnson, Manning, & Giordano, 2013; Leukfeld et al., 2012; Jones & Oliver, 2007). There are likely countless elements that form the IC. Black women’s approaches to discussing condom use, for example, vary with their perceived level of empowerment in a relationship (East, Jackson, O’Brien, & Peters, 2011) and the level of commitment to their partner (Otto-Salaj et al, 2008). Previously the IC has been examined in relation to condom use and unprotected sex, but has not been examined from the perspective of HIV testing. Although the same relation has not yet been demonstrated with HIV testing approaches, this highlights the importance of a theoretical framework that acknowledges these and other complex interpersonal dynamics.

Disclosure of information exposing vulnerability is influenced by the risks and benefits established by previous interactions with a partner. Risks and benefits of disclosure could be shaped positively by a supportive response to vulnerable information or negatively by an angry or judgmental response. If a woman’s previous disclosures were not well received, and she perceives greater benefits in keeping her relationship with a partner than in protecting her personal health, she may forgo discussing condoms for fear of losing her partner (Jones, Hoover, & Lacroix, 2013; Jones & Oliver, 2007). Similar dynamics are likely to emerge when discussing HIV testing. From the perspective of SPT, the process of approaching a partner about HIV
WOMENS APPROACH TO ENCOURAGE HIV TEST

testing, considered to be a vulnerable topic, will be influenced by the IC which has been shaped by relationship dynamics which have led to expected responses in a given relationship.

Methods

The purpose of this study is to understand: (1) Black women’s experience with approaching a partner about HIV testing, (2) how the Interpersonal Context (IC) affects talking to a partner, and (3) the approaches used within an IC to approach a partner about HIV testing. An exploratory qualitative descriptive approach (Sandelowski, 2000) was used to initially understand women’s experience talking to their partners about HIV testing, as this experience had not been previously described. This exploratory qualitative descriptive research focused on individuals’ narratives to fully appreciate a person’s experience and interpretation of the phenomenon (Corbin & Strauss, 2008).

Recruitment and Procedures

The study protocol was approved by with Northeastern University Institutional Review Board in March 2014. A purposive sample of twenty six 18-29 year old Black women was recruited from Boston neighborhoods. Within this study, Black refers those who identify as either African American or Black and is used as an aggregate term for multiple groups of varied self-identity. The Massachusetts’s Department of Public Health’s Epidemiologic Profile of the City of Boston was used to identify neighborhoods with greater HIV prevalence in women (Massachusetts Department of Public Health (MDPH), 2013). A community health center served as the primary recruitment and data collection site. Recruitment was conducted by the researcher and health center outreach staff. Recruitment material invited possible participants to join a group discussion about women’s relationship with male partners and how they discuss HIV
testing. Interested participants were recruited in person or contacted the researcher by phone, text, or email.

Participants were eligible to participate if they self identified as Black or African American, were 18 to 29 years old, had been in a relationship with a man, and were able to speak and comprehend English. Initially the study sought to recruit women who had discussed HIV testing with a male partner. During recruitment, however, it was noted that asking possible participants whether they “had discussed testing” was often interpreted as being required to have had a formal sit down conversation, while many women used different approaches that they did not view as formal conversations. After hearing the aforementioned, the inclusion criteria was broadened to include both those who had and had not discussed HIV testing with a male partner.

Recruitment and focus group participation occurred between March 2014 and June 2014. After review of inclusion criteria with possible participants, in person or over the phone, qualifying participants were scheduled for a focus group. Participants received phone calls or text reminders, based on preference, two days before and on the day of the focus group.

No identifying personal information was collected during the focus groups. During recruitment, participants provided their first name and a phone number or email to aid in scheduling. When they arrived for the focus group, participants were asked to use a pseudonym on a demographic form and during the focus group. Initial participant contact information and focus group data were kept separately so that no connection can be made between actual names and study data.

Data Collection

A semi-structured focus group guide [Appendix A] was used to generate narratives with a range of responses (Richards & Morse, 2007). The Social Penetration Theory and current HIV
prevention literature was used to generate the focus group questions. A scripted introduction indicated that the project is interested in eliciting each woman’s thoughts, opinions, and feeling on relationships and discussing HIV testing. Questions progressed from general to more specific. The open-ended questions and prompts started with “would you tell us about a time when you or a friend talked to a male sex partner (or potential sex partner) about getting HIV tested?” This was intended to elicit narratives of approaching a partner about testing although prompts including “how did you approach him or what did you say?” were utilized. Additional questions sought to elicit how approaches differ in different types of relationships. For example, “how does a woman approach a main (committed) partner about testing?” and “If a woman thinks a man is messing around, how does she approach him about HIV testing?” The semi-structured format allowed the conversation to pursue different elements of the interpersonal context (IC) that influenced approaches to discussing testing.

An unsigned informed consent was reviewed with participants prior to starting the focus group. No personal identifying data were collected and participants were instructed to use pseudonyms during the group and on demographic forms. The informed consent also described confidentiality and participants verbally assented to not repeat any information shared within the group. All participants completed a brief paper-and-pencil survey to elicit demographic and behavioral data to provide context to focus group responses. Behavioral characteristics pertinent to HIV risk and HIV testing were collected through a questionnaire [Appendix B]. All focus groups were conducted in a private conference room at a community health center in Boston. The principal investigator moderated each focus group along with a research assistant or community health outreach worker. The focus group sessions lasted 60 to 90 minutes. Six focus groups comprised of between 3 and 6 participants yielded a total of 26 participants. At the
completion of the focus groups, participants received an honorarium of a $20 gift card. All focus groups were audio recorded and were later transcribed verbatim. The research team wrote observations during the focus group and debriefing occurred immediately after the conclusion of the group.

Data Analysis

Focus group transcripts were analyzed in NVivo for Mac version 10 (2014). Moderator notes were transcribed and included within the analysis. Content analysis was conducted with a process of open, axial, and selective coding (Corbin & Strauss, 2008). Initial coding used a line-by-line process of open coding where key concepts were identified (Corbin & Strauss, 2008). In vivo coding was used in this phase to utilize participants’ terminology to describe the themes. In vivo coding places emphasis on the importance of women’s narratives by utilizing descriptive terminology directly from the narrative (Richards & Morse, 2007). Axial coding was applied to identify relationships between the initial codes and selective coding identified core variables that provided a coherent summative description of the data (Corbin & Strauss, 2008).

The investigator initially met regularly with a PhD prepared researcher, with qualitative analysis experience, to arrive at consensus on the coding structure and process. Coding was compared between reviewers to achieve clarity in themes and subthemes. A qualitative analysis consultant subsequently collaborated to confirm coding and content analysis.

Results

The focus on young, Black women living in Boston area neighborhoods with higher prevalence of HIV was intended to yield a sample at-risk for HIV through unprotected sex. The total number of Black participants was 26. All participants self-identified as Black or African American, while specific race and ethnicity in the sample included Caribbean (n=6, 23%), Latina
(n=4, 15%), Mixed (n=2, 8%), African (n=1, 4%), and White (n=1, 4%). The participants’ ages ranged from 18-29 years old with the mean of 24.3 years old (SD 4.85). Table 1 describes selected demographic and behavioral characteristics of participants. Half of the sample (n=14, 54%) reported being in a committed relationship while 42% (n=11) of participants reported that they were not currently seeing anyone, but had been in a relationship within the past year.

Table 1

<table>
<thead>
<tr>
<th>Focus Group Participant Demographic and Behavioral Characteristics (N=26)</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td>24.3</td>
<td>4.85</td>
</tr>
<tr>
<td>Years of education completed</td>
<td>13.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Employed outside the home</td>
<td>13</td>
<td>50%</td>
</tr>
<tr>
<td>Receives public assistance</td>
<td>11</td>
<td>42.3%</td>
</tr>
<tr>
<td>Have children</td>
<td>13</td>
<td>50%</td>
</tr>
<tr>
<td>Relationship status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>3</td>
<td>11.5%</td>
</tr>
<tr>
<td>Living with a committed partner</td>
<td>4</td>
<td>15.4%</td>
</tr>
<tr>
<td>Committed partner, not living together</td>
<td>7</td>
<td>26.9%</td>
</tr>
<tr>
<td>Seeing someone casually</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>Not seeing anyone</td>
<td>11</td>
<td>42.3%</td>
</tr>
<tr>
<td>Lives with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My male partner (boyfriend or husband)</td>
<td>5</td>
<td>19.2%</td>
</tr>
<tr>
<td>Alone (or with my child)</td>
<td>5</td>
<td>19.2%</td>
</tr>
<tr>
<td>With family members</td>
<td>13</td>
<td>50%</td>
</tr>
<tr>
<td>With a friend or friends</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td>Latest HIV test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 3 months ago</td>
<td>4</td>
<td>15.4%</td>
</tr>
<tr>
<td>3-6 months ago</td>
<td>10</td>
<td>38.5%</td>
</tr>
<tr>
<td>6 months- 1 year ago</td>
<td>3</td>
<td>11.5%</td>
</tr>
<tr>
<td>More than 1 year ago</td>
<td>7</td>
<td>26.9%</td>
</tr>
<tr>
<td>Never been tested</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td>HIV test results (2 participants hadn’t been tested, 1 omitted response)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV negative</td>
<td>20</td>
<td>76.9%</td>
</tr>
<tr>
<td>HIV positive</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td>Didn’t return for results</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>Unprotected sex in the past year</td>
<td>17</td>
<td>65.4%</td>
</tr>
<tr>
<td>Discussed HIV testing with sex partner in the past</td>
<td>11</td>
<td>42.3%</td>
</tr>
<tr>
<td>Partner HIV testing in the past year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner tested</td>
<td>9</td>
<td>34.6%</td>
</tr>
<tr>
<td>Partner not tested</td>
<td>6</td>
<td>23.1%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>9</td>
<td>34.6%</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>2</td>
<td>7.7%</td>
</tr>
<tr>
<td>HIV risk of current or last partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male partner had sex with other women</td>
<td>9</td>
<td>34.6%</td>
</tr>
<tr>
<td>Male partner had sex with men</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>Male partner used drugs (non-injection)</td>
<td>1</td>
<td>3.8%</td>
</tr>
<tr>
<td>Don’t know if partner had sex with other women</td>
<td>8</td>
<td>30.8%</td>
</tr>
<tr>
<td>Don’t know if partner had sex with men</td>
<td>7</td>
<td>26.9%</td>
</tr>
<tr>
<td>Don’t know if partner used drugs (non-injection)</td>
<td>7</td>
<td>26.9%</td>
</tr>
<tr>
<td>Don’t know if male partner injected drugs</td>
<td>8</td>
<td>30.8%</td>
</tr>
</tbody>
</table>
The majority of the women (n=17, 65%) had engaged in unprotected sex within the past year. Of the 17 women who had unprotected sex, 94% reported that they knew their partner was engaging in HIV risk behavior (n=8) or didn’t know whether they had (n=7). Specific partner risk behaviors elicited were sex with other women, sex with men, and intravenous drug use. The majority of women had been tested for HIV within the past year (n=17, 65.4%) but only one-third knew whether or not their partner had tested (n=9). Participants were asked about their own personal HIV testing results but not their partner’s results. The majority of participants were HIV negative (n=20), 2 were HIV positive, 1 tested but didn’t return for results, 2 participants hadn’t been tested, and 1 didn’t respond. Women were asked about their partners’ risk behaviors for HIV, both ‘yes’ and ‘don’t know’ responses are reported in Table 1, as ‘don’t know’ can be interpreted as a potential risk for HIV since they are unsure whether their partner is participating in risk.

Five important distinct concepts were identified that explicitly described the process of approaching a partner about HIV testing. These five concepts were: experience discussing HIV testing, interpersonal context, approaches to discuss HIV testing, discussion outcome, and sharing results. These concepts were associated with 22 primary themes that are displayed in Figure 1. Additionally, three subthemes were identified, which aid in describing the major themes but were not consistent for all participants. The theme titles surrounded by single quotes represent in vivo codes which came directly from women’s narratives or are paraphrased terminology used in the focus groups. Each participant is referred to by a pseudonym and her age is provided for context.
Experience of Discussing HIV Testing

In general, discussing HIV testing was acknowledged as a ‘difficult and stressful’ experience primarily because discussing testing and getting tested required acknowledging risk for HIV. Both women and men have fear about receiving positive HIV test results, which may be even greater with greater risk behaviors, as described by Destiny (age 29) whose partner was having sex with multiple other women.

I’m like, why are you doing that? You don’t know her history. Did you use protection?

Sometimes he do, sometimes he don’t and I’m like you need to go get tested but he is
afraid to go get tested because he is afraid about what those results are going to be because he participated in a lot of unhealthy situations and it is scary.

Fear of positive results was described as an important barrier to testing, but bringing up a conversation about testing was also contentious as it implies ‘someone is messing around’ which was identified as a subtheme of ‘difficult and stressful.’ Women described instances where starting a conversation about testing was incorrectly interpreted by men as an accusation that ‘someone is messing’ around:

So when you bring that on to them, they are not looking at that. They are looking at the whole, you don’t trust me kind of. Where a woman might just be concerned and she just wants a test (Alyah, age 29).

As well as situations where because a woman brought up testing, it was inferred that the female partner must be having sex with other people:

Now they are starting to come at you like ‘what you been doing something.’ So now you are feeling like oh man, now this man is going to think that I’m cheating on him and so on (Imani, age 28).

Bringing up testing also requires acknowledging risk for HIV, which was concerning to some women that it may interfere with starting a new sexual relationship because it may indicate promiscuity:

…people might delay that (HIV testing), whether it is because you are just seeing someone, friends with benefits- it is kind of that initial fear like okay I don’t want to ruin this relationship. I don’t want to be perceived as nasty or whatever it might be and that is a big factor (Ni, age 19).
Women’s experiences were that ‘women bring it up’ and ‘men won’t test.’ A rationale for this was described as ‘women take care of ourselves’ and our health more. This was thought to be related to women being more “alert to health than men” and women’s greater access to healthcare services:

I noticed I never hear boys talking about doctor appointments. I can never remember a boy telling me I’m about to go to my doctor’s appointment. You know how girls go and talk to their doctor and she'll be like oh how is your partner doing? Is he treating you well? I never heard a boy going to the doctor (Isis, age 18).

In a related subtheme, women described that men often ‘brush it under the rug’ where they often avoid acknowledging their risk for HIV despite having risk factors like having sex with other women and using intravenous drugs:

They brush it under the rug, they don’t want to talk about HIV and AIDS because they think that it can’t happen to them. Especially a lot of men that I know, like my daughter’s father he has never gotten tested for HIV. He hardly ever goes to get tested for STDs (Destiny, 29).

Throughout the focus groups discussing testing with a partner was described as difficult but also as becoming ‘easier with maturity’:

When you’re younger it is really embarrassing to bring it up. How do I ask this? We are both 13 or 14, how do you ask this to each other? It is scary. I never brought it up when I was young until I started getting the concept. My mother was like ‘you’re going to catch something’ and I was like ‘whoa wait let me ask this question so ‘have you gotten tested?’ (Tiana, age 23).
Despite the challenges, most of the women described overcoming the difficulty of discussing testing, which led to positive experiences:

I think the most important thing… stay honest with each other… I think the partner testing is a good thing too because it relieves both of you. You don’t have to think ‘is he being honest?’ (Jasmine, age 27).

In committed or beginning relationships being able to discuss testing served as a ‘test of the relationship’ and if they responded in a supportive way to a request for testing, that allowed couples to ‘build something together.’ Between casual sex partners, who may have other sex partners as well, being up front about needing HIV testing allowed them to appropriately acknowledge the casual nature of their relationship and establish limits, which led to a positive experience.

**Interpersonal Context and Approaches to Discussing HIV Testing**

Women described varied ICs and different approaches to discussing testing based on these different contexts. The approaches and IC themes will be described together to highlight the narratives and ICs brought up by participants. Women in committed and developing relationships tended to use the same approaches where there was a distinction between those approaches and casual relationships. Fear of losing a relationship, partner risk, and trust were also important distinctions in what approach would be used.

**Committed or Developing Relationships.** Discussing testing can serve as a ‘test of the relationship’ in committed relationships or developing relationships that may progress to committed relationships. Approaches which used an ‘I care about you’ approach were often leveraged:
‘I always use ‘do you love me?... If you love me then come on it is for both of our protection. I love you why can’t you do this for me.’ That is basically what it boils down to. ‘Listen, we are going to have protected sex because if we are going to get serious with each other and move further on, then we need to get tested because I don’t know what your past people gone did and you don’t know what my past people did’ (Imani, age 28).

In other committed or beginning relationships, women used ‘let’s get informed together’ approaches which offered testing together as a step in developing the relationship. For example, “this is what I want for both of us to go though and it is more like a mission together with someone you regularly see or are beginning to see” (Alyah, age 29). Getting tested together, supporting each other through the process, and then sharing results became an important part of the developing relationship. After recommending testing together to a partner, women hoped the outcome would be to ‘make a commitment to me’ which was demonstrated through the partner getting tested.

Casual partners. A casual partner was described in a few different situations. Primarily a casual partner is one where there is no emotional commitment, although some women described caring for or seeing casual partners regularly. A one-night stand (single sexual encounter) or a regular weekly “friend with benefits” (regular sexual encounters) could both be casual relationships. Women described that often they wouldn’t take the opportunity to discuss HIV testing with a one-night stand partner with the exception of one participant who said she expected to see test results before having sex and keeps a copy of her testing results on her smart phone. Women seemed to feel it was good to discuss safety with a one-night stand partner, but didn’t describe specific approaches to approach this type of partner.
With casual partners who they see regularly, women described being able to ‘leave the emotions’ from their discussion of HIV testing because there were clear expectations that their relationship was based upon sex and not emotional connection or commitment. “If it is a casual someone… I think the conversation would just flow. You would just be like, hey you know what, I’m concerned about myself” (Alyah, age 29). Echoed throughout the focus groups was that it was easier to discuss testing with a casual partner when you weren’t emotionally invested in keeping the relationship.

By being able to ‘leave the emotions’ women described strong approaches in which they would ‘hear no excuses’ and demand a partner get tested. For example, “it is either my way, we both get this done (HIV testing), or adios I will see you when I see you” (Hailey, age 26). A casual partner who didn’t want to get tested also was undesirable to women, “you don’t care about yourself. You know you don’t want to treat yourself (well)” (Jayla, age 25). If a casual relationship was going to happen women still wanted to make sure that they were with someone who took care of himself.

‘Afraid of Being Alone.’ Women described experiences where they were worried about their partner’s behavior or that they didn’t want to be in the relationship any longer but felt compelled to stay in the relationship. In some cases they ended the relationship when they found out a partner was participating in HIV risk behavior but women who were ‘afraid of being alone’ and losing the relationship were unlikely to approach a partner directly:

You could be the prettiest girl in the world but no (other) boy is trying to get at you and that's the only person that is there for you at the moment in time so if you’re not... so if a girl doesn’t have parents or doesn’t have anybody there for her and this guys the only one there for her, she’s going to think, I don’t want to ruin this because he’s the only one
who’s there for me. It doesn’t always have to be self-esteem it could just be not having a relationship outside of that relationship (Kiara, age 18).

Women also described financial reasons, like having a child together or being dependent on money from the partner, that would make it more difficult to bring up HIV testing as they were afraid of losing what the partner provides.

In cases where women wanted to approach a partner about HIV testing but were afraid of losing the relationship they often wouldn’t discuss testing but in some cases women described more subtle or indirect approaches where they would ‘feel them out.’ Destiny (age 29) suggested “bring home a brochure about testing… leave them on the table and then… be looking over them and be like ‘oh yeah I got these at the clinic.’” After Lisa’s preceding statement there was some discussion about whether this would be feasible for a woman who was truly scared to lose the relationship. Another participant said, “I would ask them ‘how do you feel about getting tested?’” (Alyssa, age 28) to start a conversation.

Other ‘feel them out’ approaches included bringing a partner to an event (like a community barbeque) where they knew testing was offered and bringing it up when they got there. In one case a participant described research where there were incentives offered for HIV testing and using the incentive as the reason that they should get tested.

**Partner Risk and Trust.** Women described multiple instances of finding out a partner who they thought was committed was engaging in behaviors that put them at risk for HIV, including having unprotected sex with other women or using injection drugs. In some instances women knew their partner was participating in risk and not being honest and consistently women described never being able to fully trust. The theme ‘not on his net 24/7’ describes the challenges of trusting a partner fully. Hailey (age 26) explains, “I haven’t strayed, but I’m not on
his net 24/7. I can’t be sure what he is doing when he is not around me so yeah we still use protection. We still get tested about once a year.” Other participants reiterated similar agreements they made early on with their partners to test yearly to remove the insinuation that requesting testing is an accusation that ‘someone is messing around.’

Some women approached a partner at the beginning of a relationship with clear requirements regarding trust. This was often a result of having been hurt by infidelity in the past:

For me it is that simple. If any time during the relationship I felt like I can’t trust my partner than it is time for me to move on. Yeah it is just that simple because I have been in relationships where I have had that gut wrenching feeling but I was afraid to move on because I didn’t want to be alone. Like he wont be my friend anymore- all that BS and then I think it was my mom who said to me one time, because I was discussing it with her- ‘I’m having these feelings what should I do with them?’ And she said to me ‘baby, listen to your gut and listen to your first instinct.’ And she was right. Come to find out he had 3 kids and another girlfriend and they were planning a wedding and all this other shit. Yeah. The Angela Bassett in me came straight out (Hailey, age 26).

For participants who found out that their partner was participating in risk they typically used forceful approaches that addressed the risk and asked partners to ‘put yourself in my shoes:’

I’d tell him flat out, are you fucking around? And if he says yes or no- he might be intimidated by what I say but if he even hesitates… Maybe he is not mature in that way and that is a complete turn off to me. A turn off, like it doesn’t even matter what he says after that. If he hesitates or looks at me weird, no it is done (Diamond, age 25).

Women often described resistance to getting tested when they approached their partner about the risk, but felt it was still critical to address. If the partner was resistant, women asked partners to
‘put yourself in my shoes’ by considering how they feel, namely worried about contracting HIV from their partner. Jada (age 20) described a situation when she was pregnant and found out that her partner, who was resistant to getting tested, got another woman pregnant, reporting she encouraged her partner to ‘‘look at it from my side for once’ ‘it is something that is beneficial for both of us…’ turn the tables around and point to the other person.”

Women described in general that abusive partners could not be approached about HIV testing safely regardless of the approach employed even though these partners are often not trusted and/or participating in HIV risk behaviors.

**Discussion Outcomes**

The ideal outcome of discussing testing with a partner was ‘we both got tested.’ Women used varied approaches to start a discussion and there was no clear common approach that led to the partner testing. Jayla (age 25) described a ‘let’s get informed together’ approach that resulted in both of her and her partner getting tested:

Because I’m not going to let him slide like that and he decided to go together and when we went and he got his, I got mine. So I looked at his, he looked at mind, so boom. It was a great idea and it was a good experience.

With the exception of ‘feel them out’ approaches, all of the approaches to discussing testing featured in Figure 1 were described in circumstances where both partners tested.

For partners who were resistant to discussing testing or refused to get tested for HIV, many women ended the relationship, as evidenced by the theme ‘I’ll see you when I see you.’ Diamond (age 25) described, “If they’re reluctant at all and they’re like what do you mean, have you? I’m like no thank you, stop calling, stop texting.” Women who described ending the sexual relationship because a partner wouldn’t test often conveyed that they had set a standard
for partners needing to test. Brianna (age 25) described that although some partners were no longer interested when she wanted them to test, “but others they want to be a relationship with me they know and they do that (get tested).”

Women who wanted to keep their relationship despite their partner refusing to test often conclude ‘he won’t test so I will.’ At times this was described as a one time HIV test to ensure they were negative after being sexually active with them or it led to frequent testing:

I brought the question up to my child’s father and he was like ‘yeah I got tested over a year ago.’ And I’m like what about now since we are starting to date- it was before we had her (a child). He was like well I’m not into all that poking, needles, and drawing blood. So while he is saying that I’m like ‘yeah about that,’ I was like I’m going to get tested every time I get my depo (every 3 months) because I trust him but it is like he is not going to the doctors like he is suppose to so I don’t know what he is doing and he is not around me so I am just being real careful about the situation. I get checked every time I get my depo because I don’t know what he is doing. And he is not into all that. He is like ‘I don’t like the doctors’ so I’m like- one of us has got to go and be responsible about the situation (Tiana, age 23).

In another similar scenario, a participant described “he got very defensive” when she brought up testing but that when she tested she concluded “he was seeing somebody else and the doctors test proved that to me” (Destiny, age 29). She had tested positive for chlamydia when she decided to get STI/ HIV testing after she became concerned her partner was having sex with other people.

An identified subtheme associated with ‘he won’t test so I will’ was ‘my negative means he wasn’t messing around.’ Often a male partner’s resistance to getting HIV tested raised suspicions about their partner’s HIV risk and led them to get tested. Isis (age 18) describes:
I feel like now the way people go about testing is it's usually one person getting tested and if they don't have nothing then they’re like they don't have nothing. Its like they use their self- OK I'm going to go get tested and just because I don't have nothing that's the only way I know he doesn't have anything I don't think they really go and talk about it like ‘Oh yeah we should go get tested together.’ So basically its like they use their self. Without being able to get a partner’s results, women often concluded that their negative testing meant that a partner was not participating in HIV risk behaviors, like having sex with other women, men, or using injection drugs: “you already had sex and worry about how you have to get tested and you realize you don’t have anything so apparently he doesn’t have anything” (Kiara, age 18). The themes ‘he won’t test so I will’ and ‘my negative means he wasn’t messing around’ were reiterated in women’s narratives across focus groups. After describing a situation like this, often other focus group participants, usually older women and/or those that used definitive approaches, would advise the participant that they should leave the relationship if he won’t test.

**Sharing Results**

Often after testing, partners would ‘share papers’ in which men and women showed one another the results form that indicated their negative HIV status. This was such a common practice that often a partner wasn’t believed to have tested unless they shared their papers:

…before we started having a relationship he told me he was fine or whatever but I didn’t see the papers so I couldn’t really believe him. I knew he was fine but I wanted that proof. Eventually he got it after I told him when we were in the relationship, and that was just more relief for me (Adela, age 19).
‘Sharing papers’ also enabled building trust with one another, as Jasmine (age 27) described “seeing the paper because that right there is honesty written down. I feel like it helps build the trust a lot.”

Building trust in the relationship through testing together or sharing results enabled partners to ‘build something together’ in committed relationships or developing relationships. It was an opportunity to be caring toward one another during a stressful time, described by Alexis (age 19) as “going with each other is good because you’re supporting each other at the same time.” ‘Build something together’ occurred in two ways; being honest with one another and following through on HIV testing when it was important to a partner.

Women reported that getting tested and sharing negative results with partners ‘provided relief’:

So we both went together to get tested and we both was HIV negative and I felt like I won the lottery, but it was scary. I was so scared to take the test, I really was. I didn’t want to take it because I was afraid. Not that I was promiscuous or anything like that but just you never know. You have sex with one person and that person can have it. It was very scary. And I’m glad that I did it (Alyssa, age 29).

Although two participants indicated on their demographic form that they are HIV positive, no participant described discussing a positive HIV status with a partner.

Discussion

Approximately two-thirds of new HIV infections in Black women are related to heterosexual sex with a male partner unaware of his positive status (Black AIDS Institute, 2011). Despite this, little attention has been placed on approaches used to encourage partners to get tested for HIV, which holds potential as a means to augment current effective HIV prevention
interventions. This study examined Black women’s experienceapproaching a partner about HIV testing and how the interpersonal context (IC) of their relationships influenced the approach they used.

The novel contribution of this study is the description and differentiation of the approaches used by Black women to encourage a male partner to test for HIV. Approaches were used in unique and different IC. Specifically, approaches varied with committed partners, casual partners, fear of being alone, perceived partner risk, and trust. Consistent with the SPT framework, the findings establish that Black women utilized varied approaches to encourage a partner to test for HIV based on the IC of their relationship and previous interactions with their partner.

The IC factor which seemed to have the greatest influence on the type of approach used was whether it was a committed partner or a casual partner. In committed relationships women described more caring (‘I care about you’) and partnership (‘let’s get informed together’) approaches. With casual partners, women often described more direct and self-assured approaches such as ‘I value my life’ and ‘hear no excuses.’ Caring was used in two different approaches but differed dramatically between committed (‘I care about you’) and casual relationships (‘I value my life’). Although both approaches use caring, the difference is stark. In a committed relationship the focus is on the partnership, while in a casual relationship women were able to ‘leave the emotions’ and place more emphasis on protecting their personal health.

In prevention campaigns, which provide suggested approaches for women to encourage a partner to test for HIV, the most frequently recommend approaches use an ultimatum (CDC, 2015a; MTV, 2014). These recommended approaches encourage women to tell partners that they won’t have sex unless the partner is tested for HIV. A similar approach was described by
women as evidenced by the ‘hear no excuses’ theme, but primarily this was used with casual partners with which women had little emotional connection and therefore were likely less invested in maintaining that relationship. During the study women described that they knew they could find another casual partner and therefore were ready to move on if the partner wasn’t interested in testing. However, women are more likely to use condoms in casual relationships as opposed to committed relationships. Without the emotional connection to a partner, women put themselves first and were willing to forgo the sexual relationship if their need to be protected from HIV wasn’t met.

Women may be motivated both emotionally and/or financially to stay in relationships that are not healthy for them emotionally or physically (Dunkle, Wingood, Camp, & DiClemente, 2010). The theme ‘afraid to lose’ him echoed previous literature which describes women’s motivations to stay in a relationship despite personal risk. Similar to previous condom use research, women may perceive greater benefit in avoiding conflict with or losing her partner than protecting her personal health (Jones & Oliver, 2007). This was evident within the theme ‘afraid of being alone’ in which women described wanting to hold on to their relationship with their partner despite knowledge of their HIV risk, dishonesty, or unwillingness to get tested.

Findings highlight gendered relationship dynamics in women’s relationships with men. Specifically, the themes ‘women bring it up,’ ‘men don’t test,’ and ‘he won’t test so I will’ demonstrated the challenging gendered expectations women face in discussing HIV testing with male partners. Similar gendered dynamics have been observed in regards to condom use (DePadilla, Windle, Wingood, Cooper, & DiClemente, 2011; Jones & Oliver, 2007; Eyre, Flythe, Hoffman, & Fraser, 2012; Bingham, Harawa, & Williams, 2013). This highlights the
importance of considering the influence of gender within HIV prevention initiatives and research.

A concerning phenomenon was the discussion outcome ‘he won’t test so I will’ and the associated subtheme ‘my negative means he wasn’t messing around.’ This theme was included as an outcome because women described this as a conclusion to their attempts to discuss testing with a partner. Women using their own results as a proxy for a partner’s test result and as an indication that their partner isn’t at risk for HIV is of concern as it may lead to new infections. Similar findings have been described in adolescents (Siegel, Lekas, Olson, & VanDevanter, 2010). Dismissing a concern about a partner’s HIV risk may put a woman at risk, as she is likely to continue to engage in unprotected sex and may have not been infected yet.

This is the first identified study which utilized the Social Penetration Theory (SPT) to understand interpersonal communication about HIV prevention, although its utility has previously been suggested (Hanan, 2009). Support for SPT for relational communication about HIV testing, as a sensitive subject, was evident. Specifically the risks and benefits of self-disclosure described by Taylor and Altman (1973) is consistent with the theme ‘afraid of being alone.’ Approaching a partner about HIV was considered to be a disclosure of information exposing vulnerability, an important SPT element, which was demonstrated within the theme ‘difficult and stressful.’ Relationship closeness being a critical element to a woman’s interpersonal connection was evident in the variation in approaches described between committed and casual relationships. SPT states that responses to disclosures of sensitive information, in this case discussion of HIV testing, develops or dissuades relationship closeness. This was identified in the themes ‘test of the relationship’ and ‘build something together.’
Similarly, Siegel et al. (2010) identified that whether a partner got HIV tested after discussing testing with them could be a test of a relationship.

**Implications**

As with most qualitative research, the findings of this study are not generalizable without significant caution. The small sample size recruited from one geographic area and the purposive inclusion criteria of 18-29 year old Black women does not allow these results to broadly represent other Black women or other ethnic groups. Nevertheless, this study provides insight into approaches this sample of Black women use to approach a partner about HIV testing in varied interpersonal contexts.

During discussions of HIV prevention, healthcare practitioners should incorporate discussion of relationship dynamics, assumptions about personal and partner risk for HIV, and discussion of HIV testing with partners. Additional education is needed to address women’s misconception that their negative HIV testing result indicates that their partner is also negative and does not engage in risk behavior.

Increasing HIV status awareness is crucial to preventing transmission of HIV. Approaching a partner about HIV testing represents an underutilized prevention strategy. As the majority of new HIV transmission in Black women occurs through heterosexual sex, encouraging women to test for HIV and encourage their partners to do so may serve to increase status awareness. This study is the first known study to identify the approaches Black women use to encourage a male partner to test for HIV. Identified approaches were described in varied interpersonal contexts, which demonstrates that further exploration of approaches must also include relationship context. Although these approaches are culturally and contextually appropriate, it remains unclear whether each approach is effective in encouraging a partner to...
test or in discussing HIV test results. Prior to integration of these different approaches into prevention campaigns, further research should examine the effectiveness of varied approaches.

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Chapter Three: A Factor Analysis Study of The HIV Testing Approach Scale

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A Factor Analysis Study of The HIV Testing Approach Scale

The CDC (2015) recommends yearly testing for those at-risk for HIV because of their risk behaviors (for example sex with multiple partners or intravenous drug use). However, one of seven HIV infected individuals are unaware of his or her positive status (CDC, 2014). Increasing awareness of HIV status is a key component of the national strategy to prevent HIV transmission (ONAP, 2010). Talking to a partner about testing and recommending they test has the potential to increase the likelihood that both partners will test (CDC, 2013; ONAP, 2010; Wallace et al., 2011). Although there are no studies that explored the relationship between encouraging partners to test and HIV testing, several reports (CDC, 2013; ONAP, 2010) include approaching a partner about HIV testing as a recommended HIV prevention strategy. Given that the vast majority of new HIV cases in Black women are attributed to a male partner unaware of his HIV positive status, effective approaches to encourage a partner to test for HIV have the potential to increase status awareness.

Black women are disproportionately affected by HIV. Unprotected sex with a male partner who is unaware of his HIV positive status is responsible for greater than two-thirds of new HIV infections in Black women (Black AIDS Institute, 2009; CDC, 2014). Rates of new HIV infections among Black women related to heterosexual transmission are 20 times that of white women (CDC, 2014), although both groups participate in similar levels of sex-risk behaviors (Tillerson, 2008). Increasing status awareness through testing will identify those positive for HIV and potentially decrease the rates of new infections (ONAP, 2010).

The choice of approach used to encourage a partner to test for HIV is important. Despite not being focused specifically on approaching a partner about HIV testing, previously Snell and Finney (1990) constructed a theoretical-based measure of strategies used to discuss AIDS which
holds the potential to be adapted. Hence, a qualitative focus group study of 26 18-29 year old Black women was conducted with the goal of identifying the approaches women use to discuss HIV testing and how the nature of their relationships influenced the approaches used (Nolte, Kim, & Guthrie, 2016). Building on the narratives of women-elicited focus groups, the purpose of this study was to topically and culturally adapt the AIDS Discussion Strategy Scale into the HIV Testing Approach Scale to measure approaches used by 18-29 year old unmarried Black women to encourage a male partner to test for HIV.

**Background**

**Safer Sexual Communication and Condom Use**

HIV transmission most frequently occurs in the context of a relationship. Ninety percent of new infections in young, Black women are attributed to unprotected heterosexual sex with a male partner (CDC, 2013). As discussion of HIV testing with an intimate partner occurs within the context of an interpersonal relationship, a variety of approaches may be used in varied relationships.

Although no documented research specific to approaches to discuss HIV testing with a partner was found, the long history of safer sexual communication (SSC) research and its relation to condom use has the potential to inform inquiry into HIV testing approaches. Condom use literature indicates that women vary their approaches to discuss condom use based on a variety of factors such as power dynamics and level of commitment (East et al., 2011; Otto-Salaj et al., 2010; Broaddus & Dickson-Gomez, 2013; Otto-Salaj et al., 2008). Further, a meta-analysis (Noar, Carlyle, & Cole (2006) of the relationship between safer sexual communication and condom use reviewed 53 articles and identified communication about condom use ($r=.25$) and sexual history ($r=.23$) as significantly ($p<.05$) associated with condom use. A sub-analysis
of the meta-analysis determined that use of informational exchanges \( r = .29 \) and persuasion attempts \( r = .28 \) were both statistically significant in increasing condom use. Although the measured outcome in this meta-analysis was condom use, the result demonstrates the significant impact SSC has on safer sexual practices.

In a predominantly unmarried (87%) African American sample of 250 ‘at-risk’ women in the southeastern United States, women who communicated more with a sex partner about sensitive issues, like HIV and sexual history, participated in less risk behavior (Klein, Elifson, & Sterk, 2004). This study provides support for a connection between partner communication and HIV at-risk behavior. The partner communication, however was measured ‘generally’ by how often individuals communicated about sensitive topics (drug use, HIV/AIDS, previous sexual partners, et al.) and items were not specific to a particular partner but rather ‘partners’, in general terms.

Similarly, among a sample of 701 14-20 year old African American women, a structural model demonstrated partner communication to be the strongest predictor of condom use (DePadilla, Windle, Wingood, Cooper, & DiClemente, 2011). Physical risks, such as fear of physical abuse or retribution, were identified as affecting communication. Physical risks were the strongest predictors of negative personal affect and negative personal affect was the strongest predictor of partner communication. The aforementioned studies provide empirical support for greater sexual communication increasing condom use among partners. The studies, however, failed to focus on specific approaches women used to discuss HIV testing specifically.

**The AIDS Discussion Strategy Scale.** Previous research has shown that women use different approaches to discuss AIDS (Snell & Finney, 1990; Oser et al., 2008), although these did not specifically concern approaches to encourage HIV testing. The 1990 study by Snell and
Finney developed and examined the AIDS Discussion Strategy Scale (ADSS) to measure preferences for six different strategies used by men and women to discuss AIDS with an intimate partner. As Snell & Finney’s initial work was conducted in the early 1990s, references to AIDS in this section is specific to their work in particular, although HIV is recognized as the more current terminology to be used in the current study. The ADSS items were developed from a review of literature and based on multiple theories of interpersonal communication. The sample included 453 college aged men and women who were participants in entry-level college psychology classes. Snell & Finney did not report race and ethnicity of study participants. Although the development of the ADSS could now be considered irrelevant because of its publication date, terminology, and creation from a literature review as opposed to from qualitative work, this represents a key piece of work that initially established variable strategies to discuss AIDS.

The six strategies defined by Snell & Finney (1990) and later assessed by Oser et al. (2008) were rational, manipulative, withdrawal, charm, subtlety, and persistent strategies. Rational strategies assume that individuals use a logical decision making process in their discussion. For example, a woman may directly advise a partner that she wants to discuss AIDS. Individuals who use a manipulative strategy are likely to use deception in their discussion to motivate a partner to discuss HIV/ AIDS. For example, they may get angry with a partner to encourage the conversation. Withdrawal strategies use withholding a connecting experience, such as sex or conversation until a partner will discuss HIV/ AIDS. Individuals may also use charm, including being sweet, to persuade a partner to discuss HIV/ AIDS. Subtlety strategies incorporate dropping hints about wanting to have a conversation. The sixth strategy, persistent is
viewed as the most aggressive strategy and involves repeatedly bringing up the topic of HIV/AIDS in such a way that may annoy or bother a partner (Snell & Finney, 1990).

In a study including 336 incarcerated women, the ADSS was administered to assess racial differences in HIV/AIDS discussion strategies (Oser et al., 2008). The dominant strategies reported in both groups were rational strategies. The dominant strategies reported by African American (AA) women were rational, subtlety, and persistent strategies. AA women were also more likely than White women to use manipulative and withdrawal strategies (Oser et al., 2008). Oser et al. (2008) hypothesized that the rational strategy would be the strategy most likely to relate to increased condom use and decreased sex risk: White participants who indicated use of a rational strategy were, in fact, more likely to use condoms (Oser et al., 2008). Conversely, condom use was not significantly different in AA participants who reported use of a rational strategy. As AA and white women indicated preferences for different strategies, these findings support the importance of tailored approaches for these two distinct groups.

Although, these strategies were studied in regards to awareness about AIDS, analogous strategies have not been examined in regard to approaches to encouraging a partner to test for HIV. Hence, the purpose of this study was to adapt the AIDS Discussion Strategy Scale (ADSS) to the HIV Testing Approach Scale (HTAS).

**Methods**

**Preliminary Adaptation Process of the HIV Testing Approach Scale (HTAS)**

In formative work, Black women described a variety of approaches to encourage a male partner to test for HIV (Nolte, Kim, & Guthrie, 2016) and the preliminary comparison of focus group demonstrated congruence. Prior to the current study, the ADSS was thought to hold potential to be topically adapted as an instrument to measure HIV testing approaches instead of
AIDS discussion strategies. The themes identified in the initial qualitative work did not completely align with the themes identified in focus groups. For this reason, after item adaptation and testing, factor analysis was used to examine whether the factor structure aligned with the original ADSS strategies or whether a new factor structure was indicated.

The process of preliminary adaptation of the HTAS consisted of (1) Initial comparison of focus group content to the ADSS; (2) Topical and cultural adaptation that included changing original item terminology from ‘discuss AIDS’ to ‘test for HIV’ and adaptation of items based on focus group data; (3) Expert review; (4) Target population review and modification through ‘thinking aloud’ (Johnson, 1998); and (5) Readability examination.

1. Initial Comparison of Focus Group Content to AIDS Discussion Strategies.

Content analysis from the focus groups was initially related to the six strategies described by Snell & Finney (1990) to examine feasibility prior to the adaptation process. The ADSS measure utilizes items including ‘I would tell my partner we are close enough to discuss AIDS’ and ‘I would explain the reason that it is important for us to discuss AIDS’ to measure use of rational strategies. Relatable responses from the focus groups included ‘we are in a time when we should be taking care of ourselves and checking ourselves regularly’ and ‘this is something that is beneficial for both of us.’

Despite the typical negative connotation of using manipulation, the ADSS manipulation items describe a range of approaches from promising rewards, sharing knowledge, or deceiving a partner into getting testing. Participants reported various relatable approaches including “you can meet me at work, I will get you in” (for a participant who worked at a clinic) and “listen to how I manipulate him… ‘then you ain’t doing nothing without a condom until you test’” (Nolte, 2014).
Withdrawal strategies were also reported by focus group participants, for example “I would tell him get your paper or you ain’t getting none.” This is similar to ADSS withdrawal items, for example “I would tell my partner we couldn’t have sex until we discussed AIDS.”

The theme ‘I care about you’ most closely aligns with the ADSS charm items. An item from the original ADSS is “I would appeal to my partner’s love/ affection for me as a basis for our discussing AIDS,” while similarly a focus group participant reporting using “I love you so why can’t you do this for me.”

Subtlety items from the ADSS can be related to the theme ‘feel them out’ (Nolte, Kim, & Guthrie, 2016). Participants described “I would bring home a brochure about testing” and “when they’re in a class then go ‘hey that’s interesting, let’s get tested.’” The latter response was described in the context of stopping by an event with a partner where you knew testing would be offered but without describing this motivation beforehand.

The ADSS’s persistence items describe “I would repeatedly remind my partner that I want to discuss AIDS.” The ‘hear no excuses’ theme from the focus group resonates most closely with these items. For example, a participant reported approaching a partner with “‘have you ever been tested?’ … because you gotta get your answer either way, instead of beating around the bush about it.” Also the ‘put yourself in my shoes’ theme seemed to be aligned with ADSS’s persistence theme: One participant described advising her partner “‘look, put yourself in my shoes…’ you should turn the tables… if you’re still saying no, I am sure there is another partner that is willing to do it.” Although the themes varied from the ADSS strategies, adaptability was verified by this initial review.

2. Topical and Cultural Adaptation. The first phase of adaptation changed the basic terminology used in the ADSS from ‘AIDS’ to ‘HIV testing.’ For example the original item “I
would drop subtle hints about wanting to discuss the topic of AIDS” was adapted to “I would drop hints in conversations with my partner about HIV testing.” As a minor cultural adaptation the word subtle was omitted in the adapted item as this was not used in focus groups by women, although subtlety could easily be inferred within the approaches described.

Each survey item by cross-referencing related focus group excerpts from the formative qualitative work (Nolte, Kim, & Guthrie, 2016) to review terminology and context described by young Black women. Cultural adaptation was performed when the terminology used in the ADSS items did not reflect terminology used to describe HIV testing approaches employed by women in the focus groups. When possible, terminology used in the focus groups was used in the adapted HTAS items. For example, one item in the ADSS rational subscale ‘I would explain the reason that it is important for us to discuss AIDS,’ was adapted to ‘I would explain that it is important for us to take care of our health by getting tested for HIV.’ “Taking care of our health” was a phrase directly adapted from the focus groups.

A table of the original item, related focus group content, and suggested items were developed. The 5-point Likert scale utilized by the ADSS was initially retained and then subsequently modified in expert review. This original Likert scale asks respondents to indicate their agreement with each item approach from -2 (definitely would not do this) to 2 (definitely would do this), with 0 indicating “not sure whether I would do this.”

3. Expert Review. A chart was created that included the original item, adapted item, and excerpts from the focus groups. This table of preliminary items was reviewed by two PhD prepared nursing researchers prior to the target population review. Experts provided feedback on adapted items and recommendations for modifications that led to selected revisions.
For example, the Likert scale was modified from a 5-point scale to a 4-point scale and the response choices were revised. The revised 4-point scale was used in an attempt to eliminate ambiguity (Roberts, Laughlin, & Wedell, 1999) by omitting the middle option of “not sure whether I would do this”. The revised response terminology was changed to “I definitely would not,” “I probably would not,” “I might do,” and “I definitely would do.”

4. Target Population Review. The original ADSS instrument was developed for a primarily White, middle class population of both genders; therefore, the target population review was used to ensure external validity. Although the HTAS items was adapted from the focus groups of young, Black women, ‘thinking aloud’ was used to elicit feedback about the items and their meaning. The ‘thinking aloud’ procedure acknowledges that words and phrases in a young, Black sample may have different interpretations (Johnson, 1998). Review of survey items requires acknowledgement of ‘etic’ and ‘emic’ meanings. Etic refers to the degree to which items are universal or understood across cultural boundaries, while emic indicates they resonate with a specific group and have little cross-cultural applicability (Johnson, 1998).

After expert review, preliminary items were then reviewed with six 18-29 year old unmarried Black women utilizing a ‘thinking aloud’ methodology. This was conducted in two separate groups with revision between reviews. The adapted items were provided to participants and a semi-structured focus group guide was used to guide the conversation. Initially the group opened with general questions to focus on the topic of approaching a male partner about HIV testing. Focus group participants were then asked to ‘think aloud’ about the survey items of the HTAS. Prompts included “please tell me in your own words what this item means,” “are there other possible meanings,” and “looking at the set of items, what do these approaches have in common or do any not fit?” Women’s feedback was used to gauge whether the women’s
interpretations of each item’s meaning are similar to the researcher’s. Feedback on possible modifications was elicited if any items were viewed as difficult to understand or interpreted in divergent ways.

Focus group participants also were asked to complete the measure and indicate if the approach they would use to discuss HIV testing is represented in the HTAS. Each participant’s verbal response to how they would approach a partner about HIV testing and agreement was assessed with their response on the HTAS as a form of parallel-forms reliability. This procedure was meant to ensure “interpretive equivalence” which is necessary for appropriate interpretation of measures cross-culturally (Johnson, 1998). After target population review, proposed changes to the HTAS were reviewed again by nursing research experts to achieve consensus on the final form of the HTAS.

5. Readability Examination. The HTAS was assessed for readability through evaluation of the instrument with the SMOG formula (Hedman, 2008). This evaluation was completed through an online evaluation tool (Child, 2015), which revealed the terminology to be at a 5th grade reading level. Based on this evaluation, no further modifications were made for readability.

Recruitment and Procedures

The study sample was comprised of 158 sexually active Black women between the ages of 18-29 recruited from community-based sites. Within this study, Black refers to those who identify as either African American or Black and is used as an aggregate term for multiple groups of varied self-identity. Women were eligible to participate if they self identified as Black or African American, were 18 to 29 years old, had been in a relationship with a man, and were
able to speak and comprehend English. Participants were excluded from the study if pregnant or married.

Interested participants were recruited in person at multiple community-based sites in neighborhoods of Boston. Sites were located in neighborhoods of greater prevalence of HIV infection in Black women (Massachusetts Department of Public Health, 2013). Recruitment by the researcher or a research assistant was conducted at two community health centers and a community college. Flyers were also distributed at sites and participants could schedule a time to participate in the study or request a secure link to their personal email to complete the survey.

A total of 239 women answered the inclusion criteria items, however 65 were disqualified based on one or more inclusion criteria; not currently sexually active (n=25), married (n=21), age greater than 29 (n=20), pregnant (n=8), and did not identify as Black or African American (n=6). In addition, 2 met inclusion criteria but declined participation and 14 consented to participate but did not complete the survey, resulting in a total sample of 158 completing the survey.

The focus on young, Black women living in Boston area neighborhoods with higher prevalence of HIV was intended to yield a sample at-risk for HIV through unprotected sex.

The study protocol was approved by with Northeastern University Institutional Review Board in June 2015. Data collection occurred between August 2015 and December 2015. No identifying personal information was collected during the survey. During recruitment, participants provided an email if they were unable to complete the survey in person based on personal or site constraints.
Data Collection

Possible participants were provided a flyer, which included the purpose of the study and inclusion criteria, as part of initial screening. After reviewing the flyer, interested participants were asked to complete the audio-computer assisted self interview (ACASI) survey programmed on a tablet device. The use of ACASI has been demonstrated as a valid method of assessing HIV risk and other sensitive topics (Jones, 2012), as it is thought to increase comfort and perceived confidentiality when questions are of a personal nature. The ACASI survey allowed participants to listen to each survey question and response, to aid in understanding of low literacy and English as a Second Language participants.

The inclusion criteria were reviewed on the tablet and if women met inclusion criteria they were invited to participate and shown the study consent automatically on the tablet. A total of 239 women were further screened, however 65 were disqualified based on one or more inclusion criteria. In addition, 2 met inclusion criteria but declined participation and 14 consented to participate but did not complete the survey, resulting in a total sample of 158 completing the survey.

Use of ACASI allowed piping of previous responses into subsequent survey items. The HTAS items described in this article utilized this feature by piping in a nickname assigned to the partner by the participant. Each HTAS item features a reference to ‘(my partner)’ where the partner’s nickname was piped into the question. This was thought to aid in accurate recall regarding one specific partner.

The HTAS adaptation is part of a larger study to examine whether interpersonal context (IC) (as measured by sexual pressure, perceived partner risk, authenticity, and relationship
closeness) is related to HIV testing approaches and HIV testing behavior among 18-29 year old unmarried Black women.

On average, the survey took participants 15-20 minutes to complete. Upon completing the survey, participants were provided with a $10 gift card as an honorarium for participating.

**Sample**

Table 1 features demographic and behavioral risk characteristics of the sample. All participants self-identified as Black or African American. A specific breakdown included Haitian (n=59, 37.3%), Caribbean (n=31, 19.6%), African (n=9, 5.7%), Puerto Rican (n=7, 4.4%), Latina (n=5, 3.2%), Native American (n=4, 2.5%), White (n=2, 1.3%), and Honduran (n=1, 0.6%). The participants’ ages ranged from 18-29 years old with a mean of 23.9 (SD 3.58). The mean years of education for the sample was 13.4 (SD 1.87) with the majority of the sample having at least some post high school education. The majority of the sample had employment outside the home (n=122, 77.2%) with most of those indicating that they work 30 or more hours per week (n=58, 47.5%). Approximately 30% of the sample (n=47) received public assistance: MassHealth (n=40), WIC (n=32), SNAP (n=30), and housing assistance (n=13) were the most common types of assistance reported. Approximately 40% of the sample (n=62) had children, with the mean number of children 2 (SD 1.12).
Most women (n=123, 77.8%) had engaged in unprotected sex within the past year. Participants reported M 1.8 (SD 1.56) sex partners within the past year, with the majority (n=102, 64.6%) reporting only one partner in the past year. 85% (n=133) of women had been
tested for HIV in the past. The majority of women had discussed HIV testing with at least one male sex partner (n=113, 71.5%), but only half (n=87, 55.1%) knew that their partner had been tested. Most women (n=103, 65.2%) had some concern that their partner was participating in behaviors which put them at risk for HIV (sex with other women, sex with men, or injection drug use).

**Data Analysis**

The HTAS data were analyzed in SPSS version 23. Initially the internal consistency was measured with alpha coefficients of the adapted scale based on the six original ADSS strategies. The HTAS alpha coefficients were compared to the use of the original AIDS Discussion Strategy Scale (ADSS) from two previous studies (Snell & Finney, 1990; Oser et al., 2008). Each subscale of the HTAS/ADSS was reviewed separately as the instrument measures propensity toward use of a specific strategy/approach rather than a composite score. Item analysis was also computed to assess whether omission of items would improve the subscale reliabilities.

Exploratory factor analysis was used to analyze what factor structure represented the best fit to explain the greatest proportion of variance. Creation of the original ADSS did not include exploratory factor analysis but rather was theoretically guided so direct comparison of original factor analysis is viable. Prior to performing PCA, the suitability of data for factor analysis was assessed through review of item correlation coefficients, variance, the Kaiser-Meyer-Olkin value, and Bartletts’ Test of Sphericity. Multiple iterations of the PCA results were reviewed to assess the best fit. As the HTAS is not intended to provide a composite score, items with no strong loading on a single factor were omitted.

Varied rotation methods were utilized and the variance explained was compared in each iteration. Varimax rotation was compared to unrotated, direct oblim, and promax rotations.
Factors with an Eigenvalue of greater than 3 with rotation (1 without rotation) were retained. Factor loadings were reviewed after a parsimonious model was achieved.

Alpha coefficients were computed for each factor (HIV testing approach) by including only the items loading on each factor.

Results

Internal Consistency

Alpha coefficients for the 26-item adapted HIV Testing Approach Scale (HTAS) were compared against previously reported alpha coefficients for the AIDS Discussion Strategy Scale (ADSS). Table 1 shows the comparison of alpha coefficients. It is important in interpreting these results to note that considerable topical and cultural adaptations were made in adapting the HTAS. Each strategy subscale alpha was reviewed to assess whether omission of an item improved the alpha coefficient. Although there were two items that could have improved the coefficient, neither substantially improved the coefficient. For example, omitting Manipulation Item 2 (I would promise sexual rewards to (my partner) after he got tested for HIV) improved the alpha from .741 to .746. Similarly, removal of Subtlety Item 2 (I would tell (my partner) that if he cared about our relationship then he would get HIV tested) improved the alpha from .839 to .844.
Exploratory Factor Analysis

Inspection of the correlation matrix of the 26 initial HTAS items demonstrated many correlation coefficients of .3 and above. One item was omitted from subsequent analysis due to minimal correlation coefficients > .3 (“I would promise sexual rewards to (my partner) after he got tested for HIV”). Two items with minimal variance were removed (“I would be direct and tell (my partner) that I want both of us to discuss HIV testing” and “I would tell (my partner) HIV testing is important to being healthy”). The Kaiser-Meyer-Olkin value was .92, exceeding the recommended value of .6 (Kaiser, 1974) and Bartletts’ Test of Sphericity (Bartlett, 1954) was statistically significant at <.001, supporting the factorability of the data.

The remaining 23 items of the HTAS were subjected to principal components analysis (PCA). Two items did not load strongly on any one factor and their omission improved the amount of variance explained (“I would tell (my partner) that if he cared about our relationship then he would get HIV tested” and “I would keep reminding (my partner) that it is important to get tested for HIV”). Unrotated, varimax, direct oblim, and promax rotations were compared and
evaluated for the rotation method with the greatest variance explained. Principal components analysis with varimax rotation demonstrated the best fit and was retained.

The final factor model featured in Table 2 demonstrates the presence of four factors with eigenvalues greater than 3 under rotation (1 without rotation). The four-factor structure explains 67% of the variance. The first factor explained 19% of the variance and contained six items. Entitled Active Persuasion approaches, the items in the first factor indicate taking an active role in encouraging a partner to get tested for HIV including being persistent, preparing for the discussion, and providing assistance like scheduling an appointment. The second factor, Decisive Collaboration approaches, explained 16% of the variance and includes approaches which are firm but often use terminology like offer or suggest which indicate collaboration. The third factor, explained 16% of the variance, and encompasses Ultimatum approaches that provide a specific consequence if the partner does not test. The forth factor, Sweet Talking approaches, describes approaches which utilize charm and caring in attempts to encourage a partner to get tested for HIV and explained 15% of the variance.
Table 3

*Exploratory Factor Analysis of the HIV Testing Approach Scale*

<table>
<thead>
<tr>
<th>I would…</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Active Persuasion Approaches</strong></td>
<td></td>
</tr>
<tr>
<td>keep bugging (my partner) to get tested for HIV until he did</td>
<td><strong>0.77</strong></td>
</tr>
<tr>
<td>force (my partner) into getting an HIV test</td>
<td><strong>0.73</strong></td>
</tr>
<tr>
<td>bring up HIV testing frequently (like every week or month) until (my partner) got tested</td>
<td><strong>0.73</strong></td>
</tr>
<tr>
<td>ask (my partner) to go to an event where testing is offered and bring it up when we were there</td>
<td><strong>0.63</strong></td>
</tr>
<tr>
<td>do what I can to help, like schedule an appointment for (my partner), to get him to test for HIV</td>
<td><strong>0.62</strong></td>
</tr>
<tr>
<td>leave brochures or flyers to interest (my partner) in HIV testing</td>
<td><strong>0.57</strong></td>
</tr>
<tr>
<td><strong>Decisive Collaboration Approaches</strong></td>
<td></td>
</tr>
<tr>
<td>tell (my partner) that we should be taking care of ourselves by getting tested for HIV</td>
<td><strong>-0.08</strong></td>
</tr>
<tr>
<td>offer to (my partner) that we could go get tested together</td>
<td>0.15</td>
</tr>
<tr>
<td>suggest to (my partner) that before we have sex we need to have HIV testing</td>
<td>0.11</td>
</tr>
<tr>
<td>take no excuses from (my partner) and insist he get HIV tested</td>
<td>0.16</td>
</tr>
<tr>
<td>tell (my partner) that I know a lot about HIV testing to encourage him to listen to me</td>
<td>0.44</td>
</tr>
<tr>
<td>bring (my partner) to an event where I knew HIV testing is offered to get him to test</td>
<td>0.51</td>
</tr>
<tr>
<td><strong>Ultimatum Approaches</strong></td>
<td></td>
</tr>
<tr>
<td>take our relationship no further until (my partner) got HIV tested</td>
<td>0.12</td>
</tr>
<tr>
<td>tell (my partner) that we can’t go further anymore unless he gets HIV tested</td>
<td>0.16</td>
</tr>
<tr>
<td>tell (my partner) if you don’t get HIV tested, we aren’t having sex</td>
<td>0.30</td>
</tr>
<tr>
<td>tell (my partner) that we aren’t having sex until I see that paper with HIV testing results</td>
<td>0.33</td>
</tr>
<tr>
<td>be angry (mad) and not talk to (my partner) anymore unless he gets tested for HIV</td>
<td>0.42</td>
</tr>
<tr>
<td><strong>Sweet Talking Approaches</strong></td>
<td></td>
</tr>
<tr>
<td>be really sweet to (my partner) so he will want to make me happy by getting tested</td>
<td>0.20</td>
</tr>
<tr>
<td>tell (my partner) our relationship is important, to put him in a good mood to encourage him to test</td>
<td>0.27</td>
</tr>
<tr>
<td>be caring and nice to (my partner) to encourage him to test for HIV</td>
<td>0.21</td>
</tr>
<tr>
<td>drop hints in conversations with (my partner) about HIV testing</td>
<td>0.42</td>
</tr>
</tbody>
</table>

Eigenvalue | 4.05 | 3.45 | 3.43 | 3.12 |
% of Varianace Explained (67% total) | 19.27 | 16.43 | 16.32 | 14.87 |
Alpha Reliability Coefficient | .89  | .82  | .89  | .85  |

Varimax Rotated Factor Matrix for Principal Components Analysis (N=158)

Factor loadings in bold to indicate which factor the item loads on
Discussion

This study provides preliminary evidence that the HIV Testing Approach Scale (HTAS) has adequate construct validity and reliability. As the HTAS is an adaptation of the AIDS Discussion Strategy Scale (ADSS), comparison demonstrated that the four-factor structure indicated by EFA as a better model fit with greater variance explained and higher alpha coefficients. Alpha coefficients for the six-factor model of the ADSS were adequate (.74-.90), but the four-factor model demonstrated alpha coefficients greater than .80 (.82-.89) which is preferable.

During initial assessment of item suitability for factor analysis, two items with low variability were excluded from the factor analysis (“I would be direct and tell (my partner) that I want both of us to discuss HIV testing” and “I would tell (partner name) HIV testing is important to being healthy”). Both items were skewed as respondents most often responded “I definitely would do this,” although with poor variability they were unlikely to contribute to differentiating approaches. These may still represent important and effective approaches to approach a partner about HIV testing, but were thought to be too broad instead of being indicative of a specific approach.

The results indicated four primary approaches used by Black women to discuss HIV testing with male partners: Active Persuasion, Decisive Collaboration, Ultimatum, and Sweet Talking approaches. During examination of factor loadings, it was noted that one item loading in Decisive Collaboration approaches seemed to be conceptually different as it was very concrete (“I would take no excuses from (my partner) and insist he gets tested”) with terminology similar to Ultimatum items. Further analysis identified that unlike the Ultimatum
approaches, this item lacked a specific consequence. Examination of this item in subsequent studies may aid in further interpretation of this item.

The ADSS structure measured use of six strategies and the HTAS indicates four distinct approaches. The process of adapting the ADSS to the HTAS included both topical and cultural adaptation considerations, hence it is unclear whether the four factor structure is particular to Black women. The original development of the ADSS measured six strategies based on multiple communication theories but did not incorporate factor analysis (Snell & Finney, 1990). There is clear overlap between the original six strategies and the four HTAS approach model. The HTAS Active Persuasion approach most closely aligns with the ADSS Persistent strategy as they share three items. The HTAS Decisive Collaboration approach includes the four retained ADSS Rational items. The Ultimatum approach in the HTAS appears consistent with the ADSS Withdrawal strategy. Finally, the HTAS Sweet Talking approach incorporates the three remaining ADSS Charm items. Items from the ADSS Subtlety and Manipulation strategies loaded into separate factors.

The primary limitations of this study is its wider interpretability as the sample was purposefully 18-29 year old Black women, who were sexually active with men, and recruited in neighborhoods of higher HIV prevalence. This was intentional to yield a sample at greater risk for HIV through unprotected sex, but therefore is likely only valid for this specific group. Recruitment was only conducted in the Boston area and was a convenience sample given the nature of in person recruitment at study sites. Also of note, half of the sample identified as Haitian or Caribbean, which likely indicates the HTAS is valid for use in these groups but almost certainly influenced overall analysis if approaches used by Haitian and Caribbean women differ.
from African American women. It is also unknown whether women identified as Haitian because of heritage or had immigrated from Haiti, which would aid in interpretability.

**Conclusions**

The novel contribution of this research is the identification of distinct approaches used to discuss HIV testing with partners. This builds upon qualitative work that identified a variety of approaches employed by Black women to discuss HIV with male partners (Nolte, Kim, & Guthrie, 2016). As it is unclear whether a variety of approaches are effective in encouraging partners to get tested for HIV, the HTAS may serve as a tool for further inquiry.

The process of preliminary adaptation and exploratory factor analysis utilized in this study was key to develop a culturally appropriate measure of HIV testing approaches. The HIV Testing Approach Scale (HTAS) demonstrated preliminary validity and reliability in this examination of the adapted AIDS Discussion Strategy Scale (ADSS). The 21 items featured in Table 2 comprise the HTAS and four response options are recommended for administration (“I definitely would not,” “I probably would not,” “I might do,” and “I definitely would do”). Further research to assess the predictors of these approaches and whether multiple approaches are effective is recommended.

The HTAS was developed to measure approaches used by Black women to encourage a male partner to test for HIV, although it is possible a similar factor structure could be identified in other populations. Examining the HTAS in different populations may yield an instrument to examine approaches to encouraging a partner to get tested for HIV in different populations.

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Chapter Four: Black Women’s Approaches to Encourage Male Partners to Get Tested for HIV:

Predictors of Approaches and Partner Tests

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Black Women’s Approaches to Encourage Male Partners to Get Tested for HIV:

Predictors of Approaches and Partner Tests

The CDC (2015b) recommends yearly testing for those at-risk for HIV due to their risk behaviors (sex with multiple partners, intravenous drug use). However, one of seven infected individuals is unaware of his or her positive status (CDC, 2014). Increasing awareness of HIV status is a key component of the national strategy to prevent HIV transmission (ONAP, 2010). Talking to a partner about testing and recommending they test has the potential to increase the likelihood that both partners will test (CDC, 2015a; ONAP, 2010; Wallace et al., 2011).

Although there are no studies that explore the relationship between encouraging partners to test and HIV testing, several reports (CDC, 2015a; ONAP, 2010) include approaching a partner about HIV testing as a recommended HIV prevention strategy. Given that the disproportionate numbers of new HIV cases in Black women are attributed to a male partner unaware of his HIV positive status, effective approaches to encourage a partner to test for HIV have the potential to increase status awareness.

Black women are disproportionately affected by HIV. Unprotected sex with a male partner who is unaware of his HIV positive status is responsible for greater than two-thirds of new HIV infections in Black women (Black AIDS Institute, 2009; CDC, 2014). Rates of new HIV infections among Black women related to heterosexual transmission are 20 times that of white women (CDC, 2014), although both groups participate in similar levels of sex-risk behaviors (Tillerson, 2008). Increasing status awareness through testing will identify those positive for HIV and potentially decrease the rates of new infections (ONAP, 2010).

Frameworks used in HIV prevention research have historically focused on the behavior change of an individual, with self-efficacy, behavioral intentions, or motivation as common focal
points (Kaufman, Cornish, Zimmerman, & Johnson, 2014). Many frameworks fail to recognize the importance of the interpersonal relationship as the environment influencing communication. Social Penetration Theory was selected as it was thought to appropriately recognize the interpersonal context (IC) as the prelude to the nature and type of conversations one initiates with their partner. The IC (Lewis, Mallow, & Ireland, 1997) describes the dynamics that influence decision-making regarding sex within a dyad. SPT acknowledges that the complexity of discussing sensitive information with another person is influenced by varied relationship dynamics. Knowing how IC influences HIV testing approach may inform future interventions aimed at promoting effective approaches that encourage HIV testing in relationships.

The choice of approach used to encourage a partner to test for HIV is important and likely varies based on the IC. A qualitative focus group study of 26 18-29 year old unmarried Black women was conducted with the goal of identifying the approaches women use to discuss HIV testing and how the nature of relationships influenced the approach used (Nolte, Kim, & Guthrie, 2016). Findings established multiple approaches used to encourage a partner to test for HIV. These findings were used to inform the adaptation of the AIDS Discussion Strategy Scale. This included topical and cultural adaptation of the scale to make it more sensitive to HIV testing. The adapted scale was titled the HIV Testing Approach Scale (HTAS) and was used to measure approaches used by 18-29 year old unmarried Black women to encourage a male partner to test for HIV (Nolte, Griffith, Guthrie, & Kim, 2016). The findings from the aforementioned studies provided the foundation for the current study.

The purpose of the current study is to 1) examine whether the interpersonal context (IC) is related to the HIV testing approaches used by Black women; 2) determine what IC factors are
predictive of a person testing for HIV; and 3) examine whether varied approaches to discuss HIV testing with a partner are associated with the partner testing.

**Social Penetration Theory**

This study was guided by the Social Penetration Theory (SPT) (Altman & Taylor, 1973) framework, which describes development of interpersonal relationships. SPT identifies ‘risks and benefits of self disclosure,’ ‘disclosure of information exposing vulnerability,’ and ‘relationship penetration’ as key concepts which frame sensitive conversations. SPT describes the internal processes that occur with social interactions and how these processes ultimately lead to closeness and trust within the relationship (Altman & Taylor, 1973).

The central concepts of SPT include penetration, vulnerability, and depenetration. Penetration is the process of becoming closer to another person and is synonymous with relationship closeness. Penetration is typically compared to peeling the layers of an onion, where layers are peeled back by sharing personal information that exposes vulnerability (Bylund, Peterson, & Cameron, 2012). Vulnerability refers to sharing personal information, which may be positively or negatively viewed by the partner and this, in turn, makes one vulnerable. Thoughts, feelings, or emotions are all possible disclosures which may expose vulnerability. Depenetration occurs when an individual closes off part of their personality, beliefs, or feelings after they perceive that these are not supported by the partner.

Over time, a partner’s response to disclosure establishes positive and/or negative feelings about their partner and infers how this individual will behave in various circumstances. If honest disclosure of sensitive information prompts a positive response, such as understanding or compassion, the relationship ‘layers’ are peeled back and the relationship progresses to more intimate levels.
The SPT framework also guided choice of predictor variables (Altman & Taylor, 1973). This framework has previously been suggested as a novel framework to consider in HIV prevention (Hanan, 2009). Additionally, the SPT framework has been used to guide a qualitative study that included a mirror image population (Nolte, Kim, & Guthrie, 2016). The relevant elements of SPT are depicted in Figure 1 with ‘risks and benefits of self disclosure,’ ‘disclosure of information exposing vulnerability,’ and ‘relationship penetration’ all influencing the interpersonal context (IC) of the relationship. The IC is represented as the common thread that incorporates all of the concepts of SPT, as these are thought to collectively influence the approach a woman would employ to encourage a male partner to get tested for HIV.

![Figure 1: Social Penetration Theory and Influence of Interpersonal Context on Approach to Encourage and HIV Testing](image)

**Methods**

This study protocol was reviewed and approved by the Institutional Review Board (IRB) of Northeastern University in June of 2015. Data Collection occurred between September and December 2015.

**Sample**
The study sample was comprised of 158 sexually active Black women between the ages of 18-29 recruited from community-based sites. Within this study, Black refers to those who identify as either African American or Black and is used as an aggregate term for multiple groups of varied self-identity. Women were eligible to participate if they self identified as Black or African American, were 18 to 29 years old, had been in a relationship with a man, and were able to speak and comprehend English. Participants were excluded from the study if pregnant or married. The study used a purposive sample of young, Black women living in Boston area neighborhoods with higher prevalence of HIV to yield a sample at greater risk for HIV transmission through unprotected sex.

Data Collection

Interested participants were recruited in person at multiple community-based sites in neighborhoods of Boston. Sites were located in neighborhoods of greater prevalence of HIV infection in Black women (Massachusetts Department of Public Health, 2013).

Participants were recruited by flyers distributed at study sites or in person by a member of the study team. Participants completed the survey in person on a tablet device at the study site or could elect to have a secure link sent to their personal email to complete the survey. One site allowed flyer and in person recruitment but not on-site data collection. No identifying personal information was collected during the survey and for those participants who completed the survey via a secure link, email addresses were not paired with study data.

After reviewing the flyer, which included the purpose of the study and inclusion criteria, interested participants were asked to complete the audio-computer assisted self interview (ACASI) survey programmed on a tablet device or at a link emailed to the participant. The ACASI survey allowed participants to listen to each survey question and response, to aid in
understanding of low literacy and English as a Second Language participants. The use of ACASI has been demonstrated as a valid method of assessing HIV risk and other sensitive topics (Jones, 2012), as it is thought to increase comfort and perceived confidentiality when questions are of a personal nature.

The ACASI survey initially reviewed inclusion criteria and if women met the criteria to participate, they were automatically invited and shown the study consent. A total of 239 women answered the inclusion criteria items, however 65 were disqualified based on one or more inclusion criteria; not currently sexually active (n=25), married (n=21), age greater than 29 (n=20), pregnant (n=8), and did not identify as Black or African American (n=6). In addition, 2 met inclusion criteria but declined participation and 14 consented to participate but did not complete the survey, resulting in a total sample of 158 completing the survey.

Use of ACASI allowed skip patterns and piping of previous responses into subsequent survey items. During the majority of the survey, women were asked questions about one partner in particular. A nickname designated for the partner was piped into survey items. This was thought to aid in accurate recall regarding that one specific partner. References to (my partner) below indicate the placement of the nickname for the partner piped into the survey.

On average, the survey took participants 15-20 minutes to complete. Upon completing the survey, participants were provided with a $10 gift card as an honorarium for their participation.

Measures

There may be countless elements that form the IC. Therefore, variables that have previously been demonstrated as crucial to HIV prevention were included within the study. The selected research variables reflect the proposed operationalization of the Social Penetration
Women's Approach to Encourage HIV Test

Theory (SPT) concepts and therefore, what a woman has come to expect based upon previous disclosures. As understood through SPT, sexual pressure, perceived partner risk, authenticity, and relationship closeness are also interrelated and together have the potential to describe the IC and affect the approach to encourage a partner to be tested for HIV. These factors can serve to threaten or enhance disclosure within a relationship thereby affecting the approach to discussing HIV testing.

**Partner Type.** In order to make inferences about how the IC affects approach and testing, participants were asked to identify a specific partner about whom they would answer the majority of survey items. Partner type is thought to be an important marker of ‘relationship penetration’. Participants indicated whether their partner was a main partner (a regular partner or a boyfriend) or a casual partner. As indicated in qualitative work, partner type was the primary relationship element described by women that affected approach to discuss HIV testing (Nolte, Kim, & Guthrie, 2016).

**Unidimensional Relationship Closeness Scale (URCS).** Relationship penetration is a key element of SPT and was measured by the URCS. The URCS is a reliable (α = .93) instrument to assess the degree to which one individual feels close to another. The original 12-item scale was developed to assess closeness in a variety of different relationships. An 11-item version of the URCS was utilized with one item thought to reflect relationship satisfaction and certainty omitted (Dibble et al., 2012). Items include “my relationship with (partner name) is close” and “(partner name) and I have a strong connection.” The URCS was modified to use a 4-point Likert scale to remain consistent with other study instruments and eliminate the ambiguous middle option (Roberts, Laughlin, & Wedell, 1999). Individuals responded to each of the 11-items on a 4-point scale ranging from strongly disagree (1) to strongly agree (4). Analysis
included a composite URCS score, computed as a mean of responses and reflecting a continuum from total lack of meaningful relationship closeness (1) to high relationship closeness (4).

**Authenticity in Relationships Scale (AIRS).** The AIRS was utilized to measure the SPT concept of ‘disclosure of information exposing vulnerability.’ The AIRS is a 24-item self-report questionnaire with established reliability and validity (Lopez & Rice, 2006). It is made up of two independent factors; the Unacceptability of Deceptions (UOD) and Intimate Risk Taking (IRT) which are distinct, although moderately correlated. The first factor, UOD ($a = .88$) assesses the personal motivations and value placed on honest exchanges within a relationship and accurate self-disclosure. The second factor, IRT ($a = .85$) includes items that assess comfort with taking the risk of disclosing personal information to a partner even if they might not understand or react against the disclosure.

The original instrument utilized a 9-point Likert scale from “Not at all descriptive” to “Very descriptive.” The response choices were modified to a 4-point Likert scale to remain consistent with other study instruments and eliminate the ambiguous middle option. The 4-point Likert scale ranged from “does not describe the relationship” (1) to “definitely describes the relationship” (4). Response choice options were modified from the original instrument during pilot testing of the instrument. Responses were summed for a composite AIRS score and two subscale scores (Unacceptability of Deception and Intimate Risk Taking). The composite and subscales were evaluated for inclusion in analysis.

**Sexual Pressure Scale in Women-Revised (SPSW-R).** The SPSW-R was a construct used to measure the ‘risks and benefits of self disclosure’ consistent with SPT. The SPSW-R is an 18-item reliable and valid instrument ($a = .88$) to assesses female-specific factors related to sexual pressure including fear of not engaging in sex leading to losing perceived benefits,
abandonment, and coercive threats or force (Jones & Gulick, 2009). Participants respond to each item on a 5-point response format ranging from never (1) to always (5) for items addressing sexual experiences (Show Trust items and Men Expect Sex items). Items addressing sexual views (Women’s Sex Role items and Sexual Coercion items) are rated from definitely do not feel (1) to definitely feel (5). The total score was calculated from a mean of all scores with a possible range of 1-5.

The SPSW-R measures four distinct factors related to sexual pressure; Show Trust, Women’s Sex Role, Men Expect Sex, and Sexual Coercion. Show Trust items (a = .83) reflect the belief that unprotected sex is proof of trust and commitment including “I do not ask my partner to use a condom because he may think I had sex.” Women’s Sex Role items (a = .77) reflect the expectation that a woman’s desire to have sex demonstrates that she is the best partner for him and that a woman’s role is to satisfy her partner. For example, “a woman needs to please her man sexually to hold onto him.” Men Expect Sex items (a = .76) reflect the expectation that a male partner’s priorities are to have sex and to be with a woman for her body including “My partner makes me feel like I owe him something.” Sexual Coercion items (a = .86) indicate whether a woman was pressured by the fear of verbal or physical threats if the male partner was not desired by the woman. For example, “my partner has physically hurt me after I told him I would not have sex.” Both the total SPSW-R score and each of the four subscales were evaluated for inclusion in analysis.

**Perceived partner risk (PPR).** The study also measured perception of a partner’s participation in risk behaviors that may expose them to HIV. Measurement of PPR was similar to the method developed by Jones, Hoover, & Lacroix (2013) with items about their a partner’s participation in three HIV risk behaviors: “How much of a chance is it that (partner name) had
sex with another woman?” “How much of a chance is it that (partner name) had sex with men?” “How much of a chance is it that (partner name) used injection drugs (like heroin)?” Each question was responded to with a four options (“none,” “don’t know,” “possibly,” and “definitely”). A PPR variable was computed which recognized the maximum response of the three items as the level of perceived risk for the partner. Validity of the original measure has been established (Jones, Hoover, & Lacroix, 2013), although the use of a maximum perceived risk instead of designation of high risk or low risk differed in this study. Validity for the target population was conducted during pilot testing of the survey and no modifications to item terminology were recommended.

**HIV Testing Approach Scale (HTAS).** Approaches used by Black women to encourage a male partner to test for HIV were measured by the HTAS. The HTAS was culturally and topically adapted (Nolte, Griffith, Guthrie, & Kim, 2016) from the AIDS Discussion Strategy Scale (ADSS) (Snell & Finney, 1990). The HTAS is a 21-item self-report questionnaire that measures the use of four different types of approaches used by women to discuss HIV testing with a male partner (*Active Persuasion, Decisive Collaboration, Ultimatum, and Sweet Talking*). Responses are indicated with a 4-point scale from *I definitely would not* (1) to *I definitely would do* (4).

The HTAS is designed to measure use of different approaches and therefore no composite score is provided and each of the four approaches was analyzed separately. The *Active Persuasion* approach (*a* = .89) is measured by six items related to taking an active role in encouraging a partner to test. These include preparing, being persistent, and providing assistance like scheduling an appointment (ex “I would keep bugging (my partner) to get tested for HIV until he did”). Women using *Decisive Collaboration* approaches (six items; *a* = .82) are firm in
a desire for a partner to test but include terminology indicative of collaboration (ex “I would tell (my partner) that we should be taking care of ourselves by getting tested for HIV”). *Ultimatum* approaches \((a = .89)\) provide a specific consequence if the partner does not test (ex “I would tell (my partner) that if you don’t get HIV tested, we aren’t having sex”) and are designated by five items. *Sweet Talking* approaches (four items; \(a = .85\)) are approaches that utilize charm and caring in attempts to encourage a partner to test (ex “I would be caring and nice to (my partner) to encourage him to test for HIV”). Scores were calculated for each approach as a mean of responses to items aligned with each of the four approaches.

**Personal and partner HIV testing.** Participants were asked whether they have been tested and if their partner has been tested. In addition, the length of time since last tested, the timeframe of testing within their relationship, and the results of their last HIV test were assessed.

For the partner about whom they are answering items, participants were asked whether their partner had been HIV tested and whether the partner’s testing occurred at the beginning of the sexual relationship or during the sexual relationship. Testing within the context of the relationship has been used to assess HIV testing behavior of a sexual partner (Longmore et al., 2013). Partner testing was defined in the context of the sexual relationship; whether the respondent knew the partner had been tested and knew that the time interval of testing was just prior to or since starting the sexual relationship.

Respondents were considered to have tested for HIV in the context of the relationship if they had been tested within the last three months, prior to the start of the sexual relationship, or during the sexual relationship.

**Demographics and personal characteristics associated with HIV testing.**

Demographic, personal HIV risk factors, and sex risk behavior known to influence HIV risk and
HIV testing were collected and assessed for inclusion in analysis. Age, children, education, employment, and public assistance are known to be associated with HIV testing. Personal risk factors for HIV included number of partners in the past year, unprotected sex, age at sexual debut, sex for drugs or money, and alcohol and drug use, which have previously been associated with greater risk for HIV (Brown, Taylor, Mulatu, & Scott, 2007; CDC, 2015b; Onyeabor, Iriemenan, Adekeye, & Rachel, 2013; Sormanti & Shibusawa, 2007).

**Data Analysis**

Data analyses were performed in SPSS version 23. All testing was two-sided with a nominal type 1 error of 0.05. Missing data was minimal given the ACASI interface, although rare missing values in scale predictor variables were identified. Missing values in scale variables were <1% and were imputed with a predicted means analysis based on a participant’s responses to other items. Descriptive statistics were analyzed to describe respondent demographics and behavioral characteristics, partner characteristics, HIV testing approaches, interpersonal context measures (relationship closeness, authenticity, sexual pressure, and relationship closeness), and HIV testing behavior (respondent and partner testing).

All analyses were conducted to ensure no violation of the assumptions of normality, linearity, non-multicollinearity, and homoscedasticity. Two separate regression analyses were conducted: Multiple regression was used to predict approaches used to encourage a partner to test for HIV and logistic regression was used to predict respondent and partner HIV testing.

Separate multiple regression analyses were carried out for each of the HTAS approaches (Active Persuasion, Decisive Collaboration, Ultimatum, and Sweet Talking) as the dependent variable. Predictor variables (interpersonal context, sex risk, and respondent demographics) with p < .05 bivariate correlations were considered for inclusion in multiple regression modes.
Multicollinearity between IC variables was anticipated and variables demonstrating a tolerance of less than 0.1 were removed from the regression models.

Logistic regression analyses of respondent HIV testing incorporated predictor variables with significant \( p < 0.05 \) univariate odds ratios. Intercorrelations of predictors were reviewed to minimize redundancy of the models. Separate logistic regression analyses of partner HIV testing were conducted with each of the HTAS approaches. The final multivariate logistic regression models incorporated HTAS approaches and predictor variables (interpersonal context, sex risk, and respondent demographic variables) with significant univariate odds ratios.

Predicted probability and group membership was computed for each logistic regression analysis to compare predicted probability of each model. The area under the receiver operator characteristic (ROC) curve was calculated for each logistic regression model to assess model discrimination.

**Results**

Characteristics of the sample are presented in Table 1. These data indicate that the majority of participants had greater than a high school education, were employed outside the home, and did not receive public assistance. Participants all self identified as Black or African American women between the ages of 18-29 (mean = 23.9, SD =3.58). A specific breakdown of race and ethnicity (not reported in Table 1) included Haitian (n=59, 37.3%), Caribbean (n=31, 19.6%), African (n=9, 5.7%), Puerto Rican (n=7, 4.4%), Latina (n=5, 3.2%), Native American (n=4, 2.5%), White (n=2, 1.3%), and Honduran (n=1, 0.6%). Of the 39.2% of the sample that had children, the mean number of children was 2.0 (SD 1.12).

Most participants indicated participation in sexual risk with the potential to expose them to HIV [Table 1]. The majority (n=122, 77.2%) engaged in unprotected sex and 11.4% had sex in
WOMENS APPROACH TO ENCOURAGE HIV TEST

exchange for drugs or money. 64.6% of the sample (n=102) reported only one partner in the past year, with a mean of 1.8 partners in the sample. The majority of women (n=143, 90.5%) had been tested for HIV in the past and had tested within the context of their most recent relationship (n=128, 81%). Most of the women had discussed HIV testing with at least one male sex partner (71.5%), which included both main and casual partners [Table 1].

Table 1

Demographic and Behavioral Characteristics of Study Participants (N=158)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in Years</td>
<td>23.9</td>
<td>3.58</td>
</tr>
<tr>
<td>Years of Education</td>
<td>13.4</td>
<td>1.87</td>
</tr>
<tr>
<td>Number of Sex Partners in Past Year</td>
<td>1.8</td>
<td>1.56</td>
</tr>
<tr>
<td>Age at Sexual Debut</td>
<td>16.7</td>
<td>2.48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed Outside the Home</td>
<td>122</td>
<td>77.2</td>
</tr>
<tr>
<td>Receive Public Assistance</td>
<td>47</td>
<td>29.7</td>
</tr>
<tr>
<td>Have Children</td>
<td>62</td>
<td>39.2</td>
</tr>
</tbody>
</table>

Lives With

- Family members
- Alone or with my child(ren)
- Boyfriend/ partner
- Friends/ roommates
- Shelter/ Residential Program

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Drink Alcohol in Last 3 Months</td>
<td>88</td>
<td>55.7</td>
</tr>
<tr>
<td>Used Drugs in Last 3 Months</td>
<td>17</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Unprotected Sex Within the Past Year | 122 | 77.2

Sex in Exchange for Drugs or Money | 18  | 11.4

Last HIV Test

- Less than 3 months ago | 48  | 30.4
- 3-6 months ago         | 31  | 19.6
- 6 months-1 year ago    | 32  | 20.3
- 1-2 years ago          | 21  | 13.3
- 3-4 years ago          | 3   | 1.9
- More than 5 years ago  | 8   | 5.1
- Never                  | 15  | 9.5

HIV Test Before or During Relationship a | 128 | 81

HIV Test Results

- HIV negative          | 134 | 84.8
- HIV positive          | 1   | 0.6
- Don't Know            | 8   | 5.1

Discussed HIV Testing With Sex Partner in Last Year

- 0 Partners           | 45  | 28.5
- 1 Partner            | 86  | 54.4
- 2 Partners           | 17  | 10.8
- 3 or More Partners   | 10  | 6.3

Share Your Results with Partner b | 121 | 84.6

a Determined by number of women tested within the past 3 months, or before/ during sexual relationship with partner
b Percentage based on number of women tested for HIV
Women were asked to report partner characteristics for their most recent partner [Table 2]. The majority (88.6%, n = 140) reported on a main partner. Only 20.3% of the women (n=32) reported consistent condom use with their main or casual partner over the past year. Although most women (74.7%, n = 118) reported having approached their partner about HIV testing, only half (51.9%) reported that their partner had been tested before or since their sexual relationship started. Most women (n=103, 65.2%) had some concern that their partner was participating in behaviors which put them at risk for HIV (sex with other women, sex with men, or injection drug use).

Table 2

<table>
<thead>
<tr>
<th>Partner Characteristics (Reported for One Partner) (N=158)</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Partner (regular partner or a boyfriend)</td>
<td>140</td>
<td>88.6</td>
</tr>
<tr>
<td>Casual Partner (not a boyfriend or regular partner)</td>
<td>18</td>
<td>11.4</td>
</tr>
<tr>
<td>Frequency of Condom Use With Partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>50</td>
<td>31.6</td>
</tr>
<tr>
<td>Less than Half the Time</td>
<td>26</td>
<td>16.5</td>
</tr>
<tr>
<td>Half the Time</td>
<td>25</td>
<td>15.8</td>
</tr>
<tr>
<td>More than Half the Time</td>
<td>25</td>
<td>15.8</td>
</tr>
<tr>
<td>Always</td>
<td>32</td>
<td>20.3</td>
</tr>
<tr>
<td>Discussed or Encouraged HIV Testing for Partner</td>
<td>118</td>
<td>74.7</td>
</tr>
<tr>
<td>Partner Tested for HIV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>87</td>
<td>55.1</td>
</tr>
<tr>
<td>Tested in the context of the relationship a</td>
<td>82</td>
<td>51.9</td>
</tr>
<tr>
<td>Don't Know</td>
<td>54</td>
<td>34.2</td>
</tr>
<tr>
<td>Partner Discussed Results b</td>
<td>80</td>
<td>70.7</td>
</tr>
<tr>
<td>HIV negative</td>
<td>88</td>
<td>94.6</td>
</tr>
<tr>
<td>Didn't Return for Results</td>
<td>5</td>
<td>5.4</td>
</tr>
<tr>
<td>Perceived HIV risk of male partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had sex with other women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't Know</td>
<td>50</td>
<td>31.6</td>
</tr>
<tr>
<td>Possible</td>
<td>32</td>
<td>20.3</td>
</tr>
<tr>
<td>Definitely Yes</td>
<td>16</td>
<td>10.1</td>
</tr>
<tr>
<td>Had sex with men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't Know</td>
<td>17</td>
<td>10.8</td>
</tr>
<tr>
<td>Possible</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Definitely Yes</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Used injection drugs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't Know</td>
<td>10</td>
<td>6.3</td>
</tr>
<tr>
<td>Possible</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Definitely Yes</td>
<td>2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

a Determined by number of partners tested within before or during sexual relationship

b Percentage based on number that had discussed testing with a partner
Interpersonal Context (IC) was assessed by measures of partner type, relationship closeness, authenticity, sexual pressure, and perceived partner risk. Descriptive statistics for all scales and variables aligned with theoretical concepts are reported in Table 3. Means, standard deviations, and alpha coefficients are included where appropriate. Alpha coefficients of scales ranged from .79 to .93 and were similar to those reported in previous studies (Dibble et al., 2012; Lopez & Rice, 2006; Jones & Gulick, 2009).

Descriptive statistics of the four approaches of the HIV Testing Approach Scale (HTAS) are reported in Table 3. In this study, Decisive Collaboration and Sweet Talking approaches were the most frequently reported HIV testing approaches.

Table 3

<table>
<thead>
<tr>
<th>Descriptive statistics for measurement of theoretical concepts (N=158)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
</tr>
<tr>
<td>Relationship Penetration</td>
</tr>
<tr>
<td>Partner Type</td>
</tr>
<tr>
<td>Unidimensional Relationship Closeness Scale</td>
</tr>
<tr>
<td>Disclosure of Information Exposing Vulnerability</td>
</tr>
<tr>
<td>Authenticity in Relationships Scale</td>
</tr>
<tr>
<td>Intimate Risk Taking Subscale</td>
</tr>
<tr>
<td>Unacceptability of Deception Subscale</td>
</tr>
<tr>
<td>Risks and Benefits of Self Disclosure</td>
</tr>
<tr>
<td>Sexual Pressure Scale in Women- Revised</td>
</tr>
<tr>
<td>Show Trust Subscale</td>
</tr>
<tr>
<td>Men Expect Sex Subscale</td>
</tr>
<tr>
<td>Women's Sex Role Subscale</td>
</tr>
<tr>
<td>Sexual Coercion</td>
</tr>
<tr>
<td>Perceived Partner Risk</td>
</tr>
<tr>
<td>Approach to Encourage HIV Testing</td>
</tr>
<tr>
<td>Active Persuasion</td>
</tr>
<tr>
<td>Decisive Collaboration</td>
</tr>
<tr>
<td>Ultimatum</td>
</tr>
<tr>
<td>Sweet Talking</td>
</tr>
</tbody>
</table>

a Partner Type Casual/ Non-Main = 0, Main = 1

**Approaches to Encourage a Partner to Test for HIV**

The predictors of the approaches used by women to encourage a male partner to test for HIV were evaluated. Prior to multiple regression analyses, correlations of HTAS approaches
with interpersonal context, sex risk, and demographic variables were examined for statistical significance (p < .05) [Table 4]. Correlating variables differed across approaches indicating variable approaches used in different relationship contexts. Use of the Active Persuasion approach was associated with a main partner, increased age, greater frequency of condom use, greater Show Trust subscale score, and having children. The Decisive Collaboration approach had significant correlations with greater relationship closeness (URCS score), greater authenticity but specifically Intimate Risk Taking subscale score, and lesser Sexual Coercion. Women were more likely to use Ultimatum approach if they were older, used condoms more frequently, or had children. Sweet Talking approaches were more likely to be used with main partners, with greater relationship closeness, and greater authenticity but specifically the Intimate Risk Taking subscale score. The Intimate Risk Taking subscale was included in analysis instead of the composite Authenticity in Relationships Scale because the Unacceptability of Deception subscale (the second component of the AIRS) had no significant correlation with any of the HTAS approaches. The Sexual Pressure Scale in Women- Revised composite score, Perceived Partner Risk, and multiple subscales (Men Expect Sex, Women’s Sex Role, and Unacceptability of Deception) did not have a significant correlation with any HTAS approach and were not included in the regression analyses. Demographic and behavioral characteristics that were not associated with any approach were not included in the multiple regression analysis.
Correlations between the predictors were reviewed prior to multiple regression analysis [Table 5]. Upon reviewing the correlations between predictors, the URCS was omitted from the multiple regression analysis due to its correlation with IRT and partner type. Having children also was removed from the multiple regression analysis due to its association with age.

Table 5

Bivariate Correlations of Predictor Variables of Approach

<table>
<thead>
<tr>
<th></th>
<th>Partner Type</th>
<th>URCS</th>
<th>IRT</th>
<th>ST</th>
<th>SC</th>
<th>Age</th>
<th>Condom Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>URCS</td>
<td>.39***</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRT</td>
<td>.26**</td>
<td>.71***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>.12</td>
<td>-.11</td>
<td>-.12</td>
<td>.35***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>.07</td>
<td>-.22**</td>
<td>-.11</td>
<td>.11</td>
<td>.20*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.08</td>
<td>.02</td>
<td>-.02</td>
<td>.15</td>
<td>.28***</td>
<td>.59***</td>
<td>.04</td>
</tr>
<tr>
<td>Condom Frequency</td>
<td>-1.15</td>
<td>-.01</td>
<td>-.12</td>
<td>.08</td>
<td>-.04</td>
<td>.04</td>
<td>1</td>
</tr>
<tr>
<td>Children</td>
<td>.04</td>
<td>.05</td>
<td>.03</td>
<td>.15</td>
<td>.28***</td>
<td>.59***</td>
<td>.04</td>
</tr>
</tbody>
</table>

*p<.05  **< .01  ***<.001

URCS= Unidimensional Relationship Closeness Scale; IRT= Intimate Risk Taking; ST= Show Trust; SC= Sexual Coercion
Predictors of each HTAS approach were analyzed with separate multiple regression analyses [Table 6]. A consistent set of independent variables were utilized for comparability across models. Overall the models did a modest job of explaining the variation across approaches with all models $R^2$ passing statistical significance ($p<.05$). The set of predictors was low in predicting the *Ultimatum* approach score ($R^2=.085$) and the *Decisive Collaboration* approach ($R^2=.095$). The regression model was more successful in predicting the *Sweet Talking* approach ($R^2=.171$) and the *Active Persuasion* approach ($R^2=.149$). Each HTAS approach had two or three varied predictors that made a unique statistically significant contribution ($p<.05$) in predicting that approach. Associations between the independent variables are described in order of importance according to their beta values for each approach. *Active Persuasion* approaches were related to greater frequency of condom use, greater age, and whether approaching a main partner. *Decisive Collaboration* approaches were related to greater *Intimate Risk Taking* scores and lesser *Sexual Coercion* scores. Approaches using an *Ultimatum* were related to increased age and increased frequency of condom use. *Sweet Talking* approaches were related to greater *Intimate Risk Taking* scores and greater frequency of condom use.

### Table 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Active Persuasion</th>
<th>Decisive Collaboration</th>
<th>Ultimatum</th>
<th>Sweet Talking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$</td>
<td>$\beta$</td>
<td>$B$</td>
</tr>
<tr>
<td>Constant</td>
<td>.796</td>
<td>.510</td>
<td>.239</td>
<td>.414</td>
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<tr>
<td>Interpersonal Context Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main or Casual Partner</td>
<td>.414</td>
<td>.202</td>
<td>.164*</td>
<td>.048</td>
</tr>
<tr>
<td>Intimate Risk Taking Score</td>
<td>.015</td>
<td>.008</td>
<td>.141</td>
<td>.017</td>
</tr>
<tr>
<td>Show Trust Score</td>
<td>.112</td>
<td>.065</td>
<td>.140</td>
<td>.084</td>
</tr>
<tr>
<td>Sexual Coercion Score</td>
<td>-.007</td>
<td>.105</td>
<td>.005</td>
<td>-.201</td>
</tr>
<tr>
<td>Sex Risk Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Condom Use</td>
<td>.107</td>
<td>.040</td>
<td>.203**</td>
<td>.040</td>
</tr>
<tr>
<td>Respondent Demographic Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.038</td>
<td>.017</td>
<td>.171*</td>
<td>.012</td>
</tr>
</tbody>
</table>

*R* $^2$ values: $140***$, $.095*$, $.085*$, $.171***

*p<.05  **< .01  ***<.001
Predictors of Personal and Partner HIV Testing

Prior to multivariate logistic regression analysis odds ratios from univariate logistic regression analysis of HTAS approaches, HIV testing behavior, interpersonal context (IC), sex risk, and demographic variables were examined [Table 7].

Both respondent and partner HIV testing were significantly associated with all four approaches, although primarily partner HIV testing’s association with approach is of interest in this study. Decisive Collaboration had the greatest odds (OR = 3.24) of a partner testing for HIV, followed by Active Persuasion (OR = 2.13), then Sweet Talking (OR = 2.03), and Ultimatum (OR = 1.86).

Table 7

| Univariate Logistic Regression Analysis of Predictors of Personal and Partner HIV Testing |
|---------------------------------|-------------------------------------------------|-------------------------------------------------|
| **Approach to Encourage HIV Testing** | **Respondant HIV Tested** | **Partner HIV Tested** |
| | **OR** | **95% CI** | **OR** | **95% CI** |
| Active Persuasion | 1.73* | [1.06-2.81] | 2.13** | [1.39-3.26] |
| Decisive Collaboration | 2.57** | [1.41-2.68] | 3.24*** | [1.78-5.91] |
| Ultimatum | 2.28** | [1.38-3.77] | 1.86** | [1.24-2.81] |
| Sweet Talking | 2.10** | [1.25-3.53] | 2.03** | [1.27-3.24] |

<table>
<thead>
<tr>
<th><strong>HIV Testing Behavior</strong></th>
<th><strong>Respondent HIV Tested</strong></th>
<th><strong>Partner HIV Tested</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Main or Casual Partner</td>
<td>4.29**</td>
<td>[1.52-12.08]</td>
</tr>
<tr>
<td>Relationship Closeness (URCS)</td>
<td>1.31</td>
<td>[.74-2.32]</td>
</tr>
<tr>
<td>Authenticity in Relationships (AIRS)</td>
<td>1.03</td>
<td>[.99-1.06]</td>
</tr>
<tr>
<td>Unacceptability of Deception (UOD)</td>
<td>1.03</td>
<td>[.98-1.08]</td>
</tr>
<tr>
<td>Intimate Risk Taking (IRT)</td>
<td>1.03</td>
<td>[.98-1.09]</td>
</tr>
<tr>
<td>Sexual Pressure (SPSW-R)</td>
<td>.62</td>
<td>[.35-1.09]</td>
</tr>
<tr>
<td>Show Trust</td>
<td>.83</td>
<td>[.58-1.21]</td>
</tr>
<tr>
<td>Men Expect Sex</td>
<td>.67</td>
<td>[.42-1.06]</td>
</tr>
<tr>
<td>Womens Sex Role</td>
<td>.82</td>
<td>[.55-1.23]</td>
</tr>
<tr>
<td>Sexual Coercion</td>
<td>.65</td>
<td>[.38-1.11]</td>
</tr>
<tr>
<td>Perceived Partner Risk</td>
<td>.92</td>
<td>[.63-1.37]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sex Risk Variables</strong></th>
<th><strong>Respondent HIV Tested</strong></th>
<th><strong>Partner HIV Tested</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Condom Use With Partner</td>
<td>.85</td>
<td>[.66-1.11]</td>
</tr>
<tr>
<td>Year Sex Partners</td>
<td>.92</td>
<td>[.73-1.16]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Respondent Demographic Variables</strong></th>
<th><strong>Respondent HIV Tested</strong></th>
<th><strong>Partner HIV Tested</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.17*</td>
<td>[1.04-1.32]</td>
</tr>
<tr>
<td>Years of Education</td>
<td>1.19</td>
<td>[.97-1.47]</td>
</tr>
<tr>
<td>Work Outside the Home</td>
<td>1.04</td>
<td>[.81-1.32]</td>
</tr>
<tr>
<td>Public Assistance</td>
<td>1.89</td>
<td>[.72-4.97]</td>
</tr>
<tr>
<td>Have Children</td>
<td>2.48</td>
<td>[.99-6.18]</td>
</tr>
</tbody>
</table>

*p<.05 **< .01 ***<.001
Whether a woman in the study had tested for HIV was associated with partner HIV testing, reporting a main partner, and increased age [Table 7].

Factors associated with whether a male partner was tested for HIV were partner HIV testing, being a main partner, greater relationship closeness, greater authenticity but specifically greater *Intimate Risk Taking* score, lesser perceived partner risk, and increased respondent age [Table 7].

Table 8 demonstrates correlations between the possible predictors for logistic regression analysis. These were reviewed to consider removal of redundant predictors from the logistic regression models with high inter-correlations with other predictors. The AIRS score was omitted from subsequent analysis given the IRT score functioned as an equivalent measure in the context of its predictive value. The logistic regression results for respondent [Table 9] and partner HIV testing [Table 10] demonstrate the variables retained in the final models.

Table 8

**Bivariate Correlations Between Predictor Variables for Personal and Partner HIV Testing**

<table>
<thead>
<tr>
<th>Partner</th>
<th>URCS Type</th>
<th>URCS</th>
<th>AIRS</th>
<th>IRT</th>
<th>PPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>URCS</td>
<td>.39***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIRS</td>
<td>.14</td>
<td>.57***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRT</td>
<td>.26**</td>
<td>.71***</td>
<td>.78***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PPR</td>
<td>-.24**</td>
<td>-.32***</td>
<td>-.28**</td>
<td>-.27**</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>.08</td>
<td>.02</td>
<td>-.09</td>
<td>-.02</td>
<td>-.01</td>
</tr>
</tbody>
</table>

*p<.05  **<.01  ***<.001*

URCS= Unidimensional Relationship Closeness Scale; AIRS= Authenticity in Relationships Scale; IRT= Intimate Risk Taking; PPR= Perceived Partner Risk

The logistic regression analysis of respondent testing [Table 9] included partner HIV test, partner type, age, and years of education as predictors given their significant correlations. The only variable with a significant association in this model was partner HIV test. This finding was
expected given the odds ratio identified of partner HIV testing (OR 14.51) in univariate analysis [Table 7].

Table 9

Analysis of Respondent HIV Testing by Predictors

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV Testing Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner HIV Test a</td>
<td>2.38***</td>
<td>0.66</td>
<td>10.85</td>
<td>[3.00-39.18]</td>
</tr>
<tr>
<td>Interpersonal Context Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner Type b</td>
<td>0.70</td>
<td>0.57</td>
<td>2.02</td>
<td>[0.66-6.14]</td>
</tr>
<tr>
<td>Respondent Demographic Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.09</td>
<td>0.07</td>
<td>1.09</td>
<td>[0.96-1.25]</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.99</td>
<td>1.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

χ²                         32.45***
Nagelkerke R²                .299
*p<.05  **< .01 ***<.001

a Respondent HIV Test Indicates before or during relationship; ‘No’ identified as reference category

Table 10 provides the results from four separate logistic regression analyses of Partner HIV Testing with each of the four approaches. Five predictors were included in the logistic regression analysis but given the specific interest in whether approach influences partner testing, each model included one of the four HTAS approaches. Multiple logistic regression models were examined which also included relationship closeness (as measured by URCS) and Intimate Risk Taking score, although given their correlations with perceived partner risk and age they were not included in the final model.

Table 10

Analysis of Partner HIV Testing Predicted by HTAS Approach and Predictors

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach to Encourage HIV Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Persuasion</td>
<td>.58*</td>
<td>0.25</td>
<td>1.79</td>
<td>[1.09-5.38]</td>
</tr>
<tr>
<td>Decisive Collaboration</td>
<td>1.09**</td>
<td>0.36</td>
<td>3.01</td>
<td>[1.48-6.02]</td>
</tr>
<tr>
<td>Ultimatum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet Talking</td>
<td>4.3</td>
<td>0.25</td>
<td>1.92</td>
<td>[0.95-4.85]</td>
</tr>
<tr>
<td>HIV Testing Behavior</td>
<td>2.52***</td>
<td>0.68</td>
<td>12.48</td>
<td>[3.18-47.43]</td>
</tr>
<tr>
<td>Interpersonal Context Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner Type</td>
<td>1.76*</td>
<td>0.87</td>
<td>5.81</td>
<td>[1.07-31.70]</td>
</tr>
<tr>
<td>Perceived Partner Risk</td>
<td>-.49*</td>
<td>0.20</td>
<td>0.61</td>
<td>[0.42-0.90]</td>
</tr>
<tr>
<td>Respondent Demographic Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.13*</td>
<td>0.06</td>
<td>1.14</td>
<td>[1.02-1.26]</td>
</tr>
<tr>
<td>Constant</td>
<td>-.90</td>
<td>1.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

χ²                         56.63***
Nagelkerke R²                .610***
ROC Curve Predicted Probability| 0.832*** | 0.795*** | 0.805*** | 0.737-0.873 | 0.798*** | 0.728-0.868 |

*a Respondent HIV Test Indicates before or during relationship; ‘No’ identified as reference category

*p<.05  **< .01 ***<.001
Regardless of which approach was included in each model, whether the respondent (woman) had been HIV tested was the greatest predictor of whether the (male) partner tested. Consistently associated with partner HIV testing, significant betas were seen in each model when the respondent was older, if the male was a main partner, and with lower levels of perceived partner risk. Only *Decisive Collaboration* and *Active Persuasion* approaches had significant associations with partner testing when included in the multivariate logistic regression models model.

The area under the receiver operator characteristic (ROC) curve of the predictor models was analyzed to assess the predictive discrimination of the logistic regression models. An ROC curve was initially calculated for the logistic regression predictor variables (respondent HIV test, partner type, perceived partner risk, and age) without including HTAS approach. This revealed the predictor model excluding approach correctly ranked partner HIV testing for 77.4% (CI 70-84.9%) of the sample. The addition of HTAS approach improved the area under the ROC for all four HTAS approaches. In order of greatest predicted probability; addition of the *Decisive Collaboration* approach to the predictive model correctly ranked 83.2% (CI 76.9-89.5%), including *Active Persuasion* approach correctly ranked 81.4% (CI 74.7-88.2%) of cases, with *Ultimatum* approach included 80.5% (CI 73.7-87.3%) were correctly ranked, and including *Sweet Talking* approach correctly ranked 79.8% (CI 72.8-86.8%). Figure 2 shows the ROC curves with the reference line at 0.5, which corresponds to a model with no discriminatory capability.
Discussion

The purposive sampling strategy was successful in recruiting a sample of Black women at risk for HIV from heterosexual sex due to personal or partner behaviors. The Black sample was diverse in terms of race and ethnicity. Half of the sample identified as Haitian or Caribbean which supports validity of these findings for these sub-groups, although this may bias data. A key finding was that although most women have been tested for HIV in the context of their relationship with a male partner and have approached their partner about testing, only half reported that their partner had been tested and had discussed the results with them. This finding is important given that only one-fifth of the sample reported consistent condom use thereby increasing the likelihood of HIV transmission. These findings are consistent with previous findings (Jones & Oliver, 2007), of women who engaged in unprotected sex with partners despite
their suspicion or knowledge of partner risk (sex with other women, sex with men, or injection drug use).

The other significant findings of this study are 1) elements of the interpersonal context (IC), such as partner type, authenticity, and sexual pressure, are related to HIV testing approaches among Black women; 2) whether a partner has tested for HIV is the most significant predictor of whether an individual tests for HIV, although IC factors including partner type and perceived partner risk were also significant; and 3) the approaches associated with partner HIV testing were *Active Persuasion* and *Decisive Collaboration*.

This study builds upon formative qualitative work, which established varied approaches to encourage a partner to test for HIV in different interpersonal contexts (Nolte, Kim, & Guthrie, 2016). Similar to the qualitative findings, the current study identified partner type, relationship closeness, and elements of authenticity and sexual pressure as related to differing approaches. In the qualitative work, perceived partner risk (PPR) was described as an important element of the IC leading varying approaches (Nolte, Kim, & Guthrie, 2016). In the current study, PPR was not found to be associated with any of the four different approaches to encourage a partner to test for HIV, although it was associated with whether a partner tested for HIV.

**Interpersonal Context and HTAS Approaches**

Trust and communication within a relationship are important to approaching a partner about testing (Nolte, Kim, & Guthrie, 2016). This was measured by relationship closeness and authenticity. Relationship closeness and partner type were associated with the *Sweet Talking* approach where women would use charm to address testing with a partner. Additionally, whether the partner was a main or casual partner was a more efficient predictor than relationship closeness in multivariate analyses. Authenticity, the importance of trust in a relationship, was
associated with Decisive Collaboration and Sweet Talking approaches. Intimate Risk Taking, a measured subscale of authenticity and indicative of honest disclosure despite a negative response from a partner, was the primary element of authenticity associated with varied approaches. This indicates that within relationships where honest communication is more important than possibly upsetting a partner, Decisive Collaboration and Sweet Talking approaches are more likely to be used and a partner is more likely to get tested for HIV.

Feeling emotional, financial, or other pressures to stay in a relationship influenced condom use (Jones & Gulick, 2009) and has been described as influencing the type of approach used to talk to a partner about HIV testing (Nolte, Kim, & Guthrie, 2016). The current study assessed sexual pressure, which measures pressure to engage in unprotected sex with a partner to assess its relatedness to approaching a partner about HIV testing. The composite Sexual Pressure Scale in Women- Revised was not associated with any of the approaches or with HIV testing behavior. However, the Show Trust and Sexual Coercion subscales were correlated with Active Persuasion and Decisive Collaboration approaches, respectively. Show Trust is indicative of unprotected sex being a sign of commitment and closeness within a relationship. Although associated with an Active Persuasion approach in univariate analysis, the Show Trust score was not significantly associated with any approach in multivariate analysis. Because the relationship of Show Trust is unclear and it is likely an important component of the IC, it is important to explore further. Sexual Coercion, pressure to engage in unprotected sex related to fear of physical or verbal threats, was negatively associated with use of the Decisive Collaboration approach. The more pressure that a women perceives to engage in unprotected sex, the less able she feels to collaborate with a partner about HIV testing.
The primary impetus for examining the influence of an IC and selection of research variables was Social Penetration Theory. Findings were generally consistent with SPT although some variables included within interpersonal context were excluded from analysis while other sex risk and behavioral characteristics were added to analysis. Although this could be interpreted as the theoretical constructs not matching the findings, given the exploratory nature of the study the author determined it was important to incorporate sex risk and demographic variables to provide context for the model. Frequency of condom use, age, and having children were additional variables associated with varied HTAS approaches. In addition to these variables not initially proposed as IC variables, partner HIV testing was the dominant predictor of HIV testing. Together these variables contribute to a broader context of approaches and upon reflection could also be considered additional interpersonal context variables.

**Promoting Effective Approaches to Encourage HIV Testing**

The greatest predictor of HIV testing, for both female respondents and their male partner, was whether the partner had tested. This indicates that encouraging a female to test may act as a motivator for a partner to get tested. Regardless of the approach used to encourage a partner to test, whether their female partner tested was a much stronger predictor of whether a male partner tested for HIV.

*Active Persuasion* and *Decisive Collaboration* approaches were the only approaches significantly associated with a male partner testing for HIV. Further examination of the ICs associated with these approaches and testing behavior may provide a better picture of how these results can guide HIV prevention initiatives. *Ultimatum* and *Sweet Talking* approaches were not associated with partner testing beyond the variance explained by other predictors, namely partner testing.
**Active Persuasion.** An *Active Persuasion* approach was more likely used when approaching a main partner about testing, with greater frequency of condom use, and greater age. In univariate analyses *Active Persuasion* was also associated with the *Show Trust* subscale of sexual pressure, indicating that unprotected sex within a relationship demonstrates trust to a partner. This provides a picture of a more mature woman in a committed relationship where condoms are not used (note the sample is between 18 and 29 years old). Use of an *Active Persuasion* approach incorporates being persistent, preparing for the discussion, and providing assistance like scheduling appointments (Nolte, Griffith, Guthrie, & Kim, 2016). Specific approaches that could be promoted include bringing up testing frequently until a partner tested, inviting a partner to an event where testing is offered and bring it up when there, or offering to set up an appointment for testing.

**Decisive Collaboration.** *Decisive Collaboration* approaches were more likely to be used in contexts with greater *Intimate Risk Taking* and lesser *Sexual Coercion*. Univariate analyses also showed associations with greater relationship closeness. This describes a relationship where trust is important and the female partner doesn’t feel pressured to engage in sex. A woman using a *Decisive Collaboration* approach is firm in desire for partner to test but may include other terminology like “offer” or “suggest” to indicate willingness to collaborate with the partner (Nolte, Griffith, Guthrie, & Kim, 2016). Items associated with this approach included “I would tell (my partner) that we should be taking care of ourselves by getting tested for HIV” and “I would offer to (my partner) that we could go get tested together.”

**Ultimatum.** Approaches that utilized an *Ultimatum* were not significantly associated with partner testing nor did they correlate with IC measures. Unlike the qualitative work that indicated *Ultimatum* approaches were often used in casual relationships (Nolte, Kim, & Guthrie,
2016), this was not substantiated in the current study. Given that only 18 participants reported on a casual partner, these insignificant findings may be attributed to the small sample size that was not adequately powered/stratified to evaluate this relationship.

**Sweet Talking.** Use of a *Sweet Talking* approach was significantly associated with IC measures (main partners, greater relationship closeness, and greater intimate risk taking), but was not demonstrated in multivariate analysis to be associated with partner testing. *Sweet Talking* approaches utilize charm and caring to appeal to a partner to test. The use of caring in a committed and/or closer relationship is understandable, although the lack of significance of this approach with testing is unclear and should be further explored.

**Limitations**

Acknowledged limitations include the self-report of relationship and partner variables, cross-sectional design, greater number of main partners reported, and broader applicability of the findings. Further examination in a longitudinal design with male and dyadic perspectives on HIV testing approaches is recommended. The majority of women reported on a main partner in this study, so although some results demonstrate important differentiations between main and casual partners, stratifying the sample to allow for adequate comparisons is advisable. The sampling strategy sought a diverse Black population, but nearly half of the sample reported being Haitian or Caribbean, which may not be representative of all Black women. It is unclear whether women who identified as Haitian, Caribbean, or another foreign origin were foreign-born and therefore findings must be interpreted with caution for African American women.

**Conclusions**

Encouraging men and women to get tested for HIV protects the individual and is an important predictor of partner testing. The results further support the importance of an
individual’s own testing behavior representing the best way to motivate a partner testing. The *Active Persuasion* and *Decisive Collaboration* approaches also were associated with a partner getting tested for HIV and used in interpersonal contexts that included trust and commitment. Promoting individuals testing and effective approaches, like *Active Persuasion* and *Decisive Collaboration*, has the potential to increase status awareness.

Through demonstrating the interpersonal context as associated with approaches to discussing HIV testing and partner testing, this study supports the use of Social Penetration Theory in HIV prevention research.

What remains unclear, however, is what approach could be utilized effectively in relationships where trust, sexual pressure, or perceived partner risk are issues. A specific opportunity for further research would be to examine interpersonal contexts that included low authenticity, high sexual pressure, and/ or greater perceived partner risk. These types of relationships are more tenuous and therefore a woman may avoid approaching a partner about HIV testing. If an effective approach in unstable relationships can be identified this would have even greater potential to improve status awareness.

These findings have the potential to support practitioners in their practice by augmenting HIV risk reduction counseling through encouraging testing, suggesting specific approaches to talk to a partner, and considering varied interpersonal contexts. In sexual relationships where a woman desires her male partner to test, encouraging her to test and using that to motivate his testing may be the most effective approach. Counseling advocating *Decisive Collaboration* or *Active Persuasion* approaches may further increase the likelihood of a partner testing. These findings also demonstrate the importance of considering varied interpersonal contexts (including partner type, relationship closeness, authenticity, sexual pressure, and perceived partner risk) in
HIV prevention initiatives. Practitioners may consider eliciting more about the nature of a client’s relationships with sexual partners to better understand the risks and benefits of approaching the partner about HIV testing.

Acknowledgements

This study was funded by the Sigma Theta Tau International Honor Society Doris Bloch Award. Kerry Nolte is a Jonas Nurse Leader Alumni and would like to thank the Jonas Foundation for their generous support.
Chapter Five: Summary and Conclusions

Kerry Nolte

School of Nursing
Bouvé College of Health Sciences
Northeastern University
Summary and Conclusions

Preventing transmission of HIV is a national priority (ONAP, 2010). Within the United States, Black women are disproportionately affected by HIV and predominantly infected through heterosexual sex (Black AIDS Institute, 2009; CDC, 2014). Despite the higher rates of HIV, Black women do not necessarily participate in greater risk behavior (Tillerson, 2008). Increasing status awareness through testing will identify those positive for HIV and potentially decrease the rates of new infections (ONAP, 2010). Talking to a partner about testing and recommending they test has the potential to increase the likelihood that both partners will test (CDC, 2015a; ONAP, 2010; Wallace et al., 2011). Although prevention campaigns provide general recommendations to talk to a partner about testing, no current studies identified specific approaches or established the efficacy of this recommendation. To address this gap, these studies sought to identify approaches used by Black women to encourage a male partner to test for HIV and examine the relationship of approach, interpersonal context, and HIV testing behavior.

The three manuscripts describe a trajectory of inquiry into HIV testing approaches. Initially, focus groups were conducted with 26 18-29 year old Black women to understand the experience of approaching a partner about testing, approaches used, relationship elements that influence approach, and the outcome of discussion. The second manuscript describes preliminary adaptation of a measure of HIV testing approaches. This measure was then administered to a sample of 158 women, and the results were examined with factor analysis. The final study examined the association of HIV testing approaches with interpersonal context and HIV testing behavior.
Theoretical Framework: Social Penetration Theory

The framework guiding these studies was Social Penetration Theory (SPT). SPT was selected for its potential to understand the interpersonal context as the prelude to conversations between sexual partners about sensitive topics, such as HIV testing. Frameworks used in HIV prevention research have historically focused on the behavior change of an individual, with self-efficacy, behavioral intentions, or motivation as common focal points (Kaufman, Cornish, Zimmerman, & Johnson, 2014). Many frameworks fail to recognize the importance of the interpersonal relationship as the environment influencing communication.

Social Penetration Theory appropriately recognizes the interpersonal context (IC) as the prelude to the nature and type of conversations one initiates with their partner. SPT describes the internal processes that occur with social interactions and how these processes ultimately lead to closeness and trust within a relationship (Altman & Taylor, 1973). The IC (Lewis, Mallow, & Ireland, 1997) describes the dynamics that influence decision-making regarding sex within a dyad. SPT acknowledges that the complexity of discussing sensitive information with another person is influenced by varied relationship dynamics.

The use of SPT within HIV prevention research was novel. The findings of both the qualitative and quantitative studies provided preliminary support for the use of SPT in HIV prevention research. Both the focus group and survey study demonstrated that the interpersonal context is associated with variable approaches to encouraging HIV testing.

Manuscript 1: Focus Group Study

The focus group study sought to understand Black women’s experiences discussing HIV testing, preferred approaches, and how elements of the interpersonal context influence approach. Twenty-six women between the ages of 18-29 (age mean = 24.3) participated. The
majority of the sample engaged in unprotected sex, believed their partner was participating in HIV risk behaviors, had been HIV tested, and were unaware whether their partner had been tested. As intended, the sampling strategy achieved a sample of young women at possible risk for HIV through unprotected sex with (a) male partner(s). A process of open, axial, and selective coding was used in analysis (Corbin & Strauss, 2008) and in vivo codes were used for theme titles to emphasize women’s words.

Many women described the discussion experience as ‘difficult and stressful’ describing ‘men won’t test’ and were ‘afraid to lose him.’ For others, discussion was positive, ‘easier with maturity’ and ‘provided relief.’ Key discussion approaches included ‘I care about you,’ ‘let’s get informed together,’ ‘I value my life,’ ‘hear no excuses,’ ‘put yourself in my shoes,’ and ‘feel them out.’ Women described varied approaches depending on different interpersonal context factors including whether a relationship was casual/committed, trusting/suspicious for risk, and degree of reliance on the relationship. The testing discussion led to ‘we both got tested,’ ‘he won’t test so I will,’ or ‘no test, we are done.’ After both partners tested, ‘sharing papers’ developed trust and could ‘build something together.’ With resistance, some ended the relationship (‘see you when I see you’) while others reported ‘my negative means he wasn’t messing around.’ The latter finding represents a concerning knowledge gap, supported in previous literature, where women use personal HIV testing results as a proxy for partner status.

In the focus group study approaches which expressed caring, an ultimatum, or asked for understanding were uniquely described. Given that Black women described a variety of approaches to discuss HIV testing in different interpersonal contexts, further examination differentiating approaches was warranted.
Manuscript Two: Factor Analysis Study

Building on the findings of the focus group study, in the subsequent factor analysis study the AIDS Discussion Strategy Scale (ADSS) was topically and culturally adapted to measure Black women’s approaches to encourage a male partner to test. The adapted measure was named the HIV Testing Approach Scale (HTAS). The process of preliminary adaptation of the HTAS consisted of (1) Initial comparison of focus group content to the ADSS; (2) Topical and cultural adaptation that included changing original item terminology from ‘discuss AIDS’ to ‘test for HIV’ and adaptation of items based on focus group data; (3) Expert review; (4) Target population review and modification through ‘thinking aloud’ (Johnson, 1998); and (5) Readability examination. Preliminary adaptation of the HTAS led to a 26-item survey instrument.

The HTAS was administered to 158 18-29 year old Black women who had been in a sexual relationship with a man in the past year. Initial examination compared the HTAS to the original factor structure of the ADSS. Comparison of alpha coefficients for the six-strategy structure (rational, manipulation, withdrawal, charm, subtlety, persistence) showed comparable and acceptable alpha coefficients ($\alpha = .74-.90$). Item analysis and factor analysis resulted in retaining 21 items of the preliminary HTAS. This, in turn, resulted in a four-factor model which explained 67% of the variance. The four-factor model of the HTAS demonstrated greater reliability and explained variance than the original ADSS six-strategy structure.

The four approaches established by factor analysis were Active Persuasion, Decisive Collaboration, Ultimatum, and Sweet Talking. Active Persuasion approaches demonstrate an active role in encouraging a partner to get tested for HIV including being persistent, preparing for the discussion, and providing assistance like scheduling an appointment. Decisive
Collaboration approaches include approaches that are firm but often use terminology like ‘offer’ or ‘suggest’ which indicate collaboration. Ultimatum approaches provide a specific consequence if the partner does not test. The final factor, Sweet Talking, describes approaches which utilize charm and caring in attempts to encourage a partner to get tested for HIV.

Given the findings of the factor analysis study, the HTAS demonstrated preliminary validity and reliability as an adaption of the ADSS to measure approached used to encourage HIV testing. The factor analysis study builds upon the focus group study, which identified a variety of approaches employed by Black women to encourage male partners to test for HIV. The 21 items featured in Chapter 3, Table 2 comprise the HTAS and four response options are recommended for administration (“I definitely would not,” “I probably would not,” “I might do,” and “I definitely would do”). Further research to assess the predictors of these approaches and whether multiple approaches are effective is recommended based on these findings.

Manuscript Three: Survey Study

After the factor analysis study demonstrated preliminary validity and reliability of the adapted HIV Testing Approach Scale (HTAS), the HTAS was used to examine the influence of the interpersonal context (IC) on approach and whether approach was associated with HIV testing behavior. Based in the SPT framework, the choice of approach to encourage a partner to test for HIV was important and likely varies based on the IC. The survey study built upon both the focus group and factor analysis study, which identified and described varied approaches employed by Black women to encourage a male partner to test for HIV.

The survey study established that 1) elements of the interpersonal context (IC), such as partner type, authenticity, and sexual pressure, are related to HIV testing approaches among Black women; 2) whether a partner has tested for HIV is the most significant predictor of
whether an individual tests for HIV, although IC factors including partner type and perceived partner risk were also significant; and 3) the approaches associated with partner HIV testing were *Active Persuasion* and *Decisive Collaboration*.

Encouraging men and women to get tested for HIV protects the individual and is an important predictor of partner testing. The results further support the importance of an individual’s own testing behavior representing the best way to motivate a partner to test. The *Active Persuasion* and *Decisive Collaboration* approaches were associated with a partner getting tested for HIV and used in interpersonal contexts that included trust and commitment. Promoting individuals testing and effective approaches, like *Active Persuasion* and *Decisive Collaboration*, has the potential to increase HIV status awareness.

This study was successful in establishing that the type of approach is varied in different interpersonal contexts (IC) and is an important predictor of whether a partner gets tested for HIV. These results may serve to guide further inquiry into approaches or could be considered in development of HIV prevention interventions.

**Limitations**

Acknowledged limitations of these studies include the self-report of interpersonal and partner data, cross-sectional designs, single city sampling strategy, and broader applicability of the findings. These studies were focused on women’s approaches and elicited partner’s testing status and information about the relationship without confirming these findings with partners. Further examination with longitudinal designs incorporating male and dyadic perspectives on HIV testing approaches is recommended. Although a variety of sites participated in these studies, all sites were in the Boston area. It is unclear whether these findings would be similar if replicated in other locales. In additional to the concern about broader applicability based on the
locale, the majority of women in the survey study reported on a main partner despite both casual and main partner relationships being described in the focus group study. The sampling strategy sought and included a diverse Black population, but nearly half of the sample reported being Haitian or Caribbean, which may not be representative of all Black women. It is unclear whether women who identified as Haitian, Caribbean, or another foreign origin were foreign-born and therefore findings of the survey study must be interpreted with caution for African American women.

Another acknowledged limitation of these studies is that comprehensive measurement of IC is very challenging. The IC was hypothesized and demonstrated to be an important influence on HIV testing approaches and partner testing. Variables used to measure the IC were selected from a literature review to consider IC variables associated with HIV risk, condom use, and HIV testing. The focus group study also influenced selection of IC variables. However, it is acknowledged that there may be countless elements that affect the IC. More important elements of the IC may have greater associations than the research variables included within the study and should be further explored in future inquiry.

Implications for Future Research and Practice

The study findings provide implications for health care practitioners to address HIV prevention in practice and implications for additional future research. Understanding how IC influences HIV testing approaches may also inform future interventions aimed at promoting effective approaches that encourage HIV testing in varied ICs. This is important given that increasing status awareness through testing will identify those positive for HIV and potentially decrease the rates of new infections (ONAP, 2010).
Future research can utilize the HIV Testing Approach Scale (HTAS) as a measure of approaches. These studies utilized exploratory factor analysis, but confirmatory factor analysis in subsequent studies utilizing the HTAS is recommended. The HTAS may lend itself to further examination of approach in groups of differing age, race and ethnicity, geography, and gender with adaptation.

Given the limitations of the current study, future research should consider male and dyadic perspectives of the IC and discussing HIV testing. Specifically, additional inquiry should focus on the casual partners and relationships where trust, sexual pressure, and/or perceived partner risk are issues. The majority of women in the survey study reported on a main partner as opposed to a casual partner. Additional research to understand the discussion of HIV testing among casual partners would aid in establishing whether other approaches are effective in different types of relationships. The current studies did not identify what approaches could be effective in relationships where trust, sexual pressure, or perceived partner risk are issues. These types of relationships are more tenuous and therefore a woman may avoid approaching a partner about HIV testing. If an effective approach in unstable relationships can be identified this would have even greater potential to improve status awareness.

These findings can support healthcare practitioners by augmenting HIV risk reduction counseling through encouraging testing, suggesting specific approaches to talk to a partner, and considering varied interpersonal contexts. In sexual relationships where a woman desires her male partner to test, encouraging her to test and using that to motivate his testing may be the most effective strategy. Counseling advocating Decisive Collaboration or Active Persuasion approaches may further increase the likelihood of a partner testing. These findings also demonstrate the importance of considering varied interpersonal contexts (including partner type,
relationship closeness, authenticity, sexual pressure, and perceived partner risk) in HIV prevention initiatives. Practitioners may consider eliciting more about the nature of a client’s relationships with sexual partners to better understand the risks and benefits of approaching the partner about HIV testing.
Appendix A:
HIV Testing Discussion Focus Group Guide

We are interested in your thoughts, opinions, and feelings on relationships with men. We also hope to learn more about how you or your friends talk about HIV testing with men.

1. Would you tell us about a time when you or a friend talked to a male sex partner (or potential sex partner) about getting HIV tested?

   Follow with: How did you or your friend approach him or what did you or your friend say?

2. How does a woman approach a main partner about testing? What about a non-main partner?

3. Have you or a friend ever found out that her male partner had sex with other women? Had sex with men? Was using needles? Would you tell us more about this experience?

4. If a woman thinks a man is messing around, how does she approach him about HIV testing?

5. Tell us about how trust and honesty play out in a woman’s relationship with a man.

6. What does a conversation about HIV testing sound like if you trust your man? What if you don’t?

7. Would you share any experiences where you or a friend felt pressured to have sex to keep a man?

8. If a woman feels pressured to stay in a relationship, how does that affect the way she talks to her partner about HIV testing?

9. Aside from the things we’ve brought up, what other relationship factors affect the way a woman approaches a man about testing?

10. Anything else you would like to add?
Appendix B: Focus Group Study Demographics Form

Study Participant Demographic Form

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name you want to call yourself today (alias or fake name is fine)</td>
<td></td>
</tr>
<tr>
<td>1. How old are you?</td>
<td>__________</td>
</tr>
<tr>
<td>2. What is your background? (Please check one)</td>
<td></td>
</tr>
<tr>
<td>__________________ African American</td>
<td></td>
</tr>
<tr>
<td>__________________ Latina (Hispanic)</td>
<td></td>
</tr>
<tr>
<td>__________________ White</td>
<td></td>
</tr>
<tr>
<td>__________________ Asian</td>
<td></td>
</tr>
<tr>
<td>__________________ African</td>
<td></td>
</tr>
<tr>
<td>__________________ Middle Eastern</td>
<td></td>
</tr>
<tr>
<td>__________________ Caribbean</td>
<td></td>
</tr>
<tr>
<td>__________________ Other</td>
<td></td>
</tr>
<tr>
<td>3. Highest grade completed</td>
<td></td>
</tr>
<tr>
<td>__________________ 8th grade or less</td>
<td></td>
</tr>
<tr>
<td>__________________ 9th grade</td>
<td></td>
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<tr>
<td>__________________ 10th grade</td>
<td></td>
</tr>
<tr>
<td>__________________ 11th grade</td>
<td></td>
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<tr>
<td>__________________ 12th grade</td>
<td></td>
</tr>
<tr>
<td>__________________ One year of college</td>
<td></td>
</tr>
<tr>
<td>__________________ Two years of college</td>
<td></td>
</tr>
<tr>
<td>__________________ Three years of college</td>
<td></td>
</tr>
<tr>
<td>__________________ Four years of college or more</td>
<td></td>
</tr>
<tr>
<td>4. Do you work outside the home?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes, I work ____ hours a week</td>
<td></td>
</tr>
<tr>
<td>__________________ No</td>
<td></td>
</tr>
<tr>
<td>5. Do you receive public assistance such as WIC or housing assistance?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes</td>
<td></td>
</tr>
<tr>
<td>__________________ No</td>
<td></td>
</tr>
<tr>
<td>6. Whom do you live with?</td>
<td></td>
</tr>
<tr>
<td>__________________ My male partner (boyfriend or husband)</td>
<td></td>
</tr>
<tr>
<td>__________________ Alone (or with my child)</td>
<td></td>
</tr>
<tr>
<td>__________________ With a friend</td>
<td></td>
</tr>
<tr>
<td>__________________ With family members</td>
<td></td>
</tr>
<tr>
<td>7. Are you currently</td>
<td></td>
</tr>
<tr>
<td>__________________ Married</td>
<td></td>
</tr>
<tr>
<td>__________________ Have a main boyfriend living with you</td>
<td></td>
</tr>
<tr>
<td>__________________ Have a main boyfriend who is not living with you</td>
<td></td>
</tr>
<tr>
<td>__________________ Seeing someone now and then</td>
<td></td>
</tr>
<tr>
<td>__________________ Recently saw someone once and not again</td>
<td></td>
</tr>
<tr>
<td>__________________ Not seeing anyone</td>
<td></td>
</tr>
<tr>
<td>8. Do you have children?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes, I have ____ (# of) children</td>
<td></td>
</tr>
<tr>
<td>__________________ No</td>
<td></td>
</tr>
<tr>
<td>9. When was your last HIV test?</td>
<td></td>
</tr>
<tr>
<td>__________________ Less than 3 months ago</td>
<td></td>
</tr>
<tr>
<td>__________________ 3 months-6 months</td>
<td></td>
</tr>
<tr>
<td>__________________ 6 months-1 year</td>
<td></td>
</tr>
<tr>
<td>__________________ More than 1 years ago</td>
<td></td>
</tr>
<tr>
<td>__________________ Have never had an HIV test</td>
<td></td>
</tr>
<tr>
<td>10. Did the results of your last HIV test show?</td>
<td></td>
</tr>
<tr>
<td>__________________ HIV negative</td>
<td></td>
</tr>
<tr>
<td>__________________ HIV positive</td>
<td></td>
</tr>
<tr>
<td>__________________ I didn’t return to get the results</td>
<td></td>
</tr>
<tr>
<td>11. How often do you get an HIV test?</td>
<td></td>
</tr>
<tr>
<td>__________________ Every 3-6 months</td>
<td></td>
</tr>
<tr>
<td>__________________ Every year</td>
<td></td>
</tr>
<tr>
<td>__________________ Every 2-3 years</td>
<td></td>
</tr>
<tr>
<td>__________________ Never had an HIV test</td>
<td></td>
</tr>
<tr>
<td>12. Have you had sex with a partner in the past year?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes</td>
<td></td>
</tr>
<tr>
<td>__________________ No</td>
<td></td>
</tr>
<tr>
<td>13. Have you had sex without a condom with a partner in the past year?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes</td>
<td></td>
</tr>
<tr>
<td>__________________ No</td>
<td></td>
</tr>
<tr>
<td>14. Have you discussed HIV testing with a partner in the past year?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes</td>
<td></td>
</tr>
<tr>
<td>__________________ No</td>
<td></td>
</tr>
<tr>
<td>15. Have you and your current or last partner had HIV testing immediately before or during your relationship?</td>
<td></td>
</tr>
<tr>
<td>__________________ Both my partner and I were tested</td>
<td></td>
</tr>
<tr>
<td>__________________ My partner was tested but I wasn’t</td>
<td></td>
</tr>
<tr>
<td>__________________ I was tested but my partner wasn’t</td>
<td></td>
</tr>
<tr>
<td>__________________ I don’t know if my partner was tested</td>
<td></td>
</tr>
<tr>
<td>16. Do you think your current or last partner was/ is he:</td>
<td></td>
</tr>
<tr>
<td>-having sex with other women?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes ____ No ____ I don’t know</td>
<td></td>
</tr>
<tr>
<td>__________________ having sex with men?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes ____ No ____ I don’t know</td>
<td></td>
</tr>
<tr>
<td>__________________ using non-injection drugs (cocaine etc)?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes ____ No ____ I don’t know</td>
<td></td>
</tr>
<tr>
<td>__________________ using injection drugs (shooting up)?</td>
<td></td>
</tr>
<tr>
<td>__________________ Yes ____ No ____ I don’t know</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C: Focus Group Study Informed Consent

We are inviting you to take part in a group discussion to offer your thoughts, feelings, and experiences about talking to a partner about HIV testing. The Principal Investigator of this research is Dr Rachel Jones, who is supervising Kerry Nolte, a nurse and graduate student, in this research. Rachel is an Associate Professor of Nursing and Kerry is a PhD student in the school of nursing.

This form will tell you about the study, but the researcher will review it with you and you are encouraged to ask questions. You will be asked to complete a short questionnaire and then participate in a discussion about how you or your friends talk to a partner about HIV testing.

The benefits of participating in this study are that your answers may help guide ways to promote women's health.

We will audio record the discussion to help us remember your comments. Your real name will not be mentioned in the discussion. You will select a fake name and that is the name you will use in the discussion. The tapes will be transcribed into text. Once the tapes are transcribed, they will be destroyed. The study team will discuss your comments to understand strategies women use to discuss HIV testing.

During the group discussion, people may share personal information about their relationships or health. Although we have attempted to protect confidentiality by requesting people do not use their real name, there is a chance you may know other participants or see them after the group discussion today. We would like you to agree to keep any information learned about others during this conversation confidential and may not be shared with others.

Your participation in the group discussion will require a total of 2 hours of your time. Your participation is voluntary. If you decide to participate, the researcher will give you a copy of this informed consent form. You will receive a $20 CVS gift card on completion of the discussion.

There will be a short questionnaire requesting background information, such as age, education, and HIV testing. Your name will not appear anywhere in this questionnaire. At no time will you be asked to give any information that could link you to your answers.

There is a small risk that you may find some of the topics embarrassing. If you find the sensitive nature of some of the questions upsetting, you may contact Dr. Rachel Jones or Kerry Nolte FNP to discuss these feelings, and if needed, receive a referral to a counselor.

If you have questions or would like to discuss this study, you are encouraged to contact Kerry Nolte at 603.315.1714 or noltek@husky.neu.edu or Dr. Rachel Jones at 617.373.6806 or rjones@neu.edu. If you have any questions about your rights in this research, you may contact Nan C. Regina, Director of Human Subjects Research Protection at 617.373.7570 or irb@neu.edu. You may call anonymously if you wish.

Please keep a copy of this form for yourself.

Thank you,

Kerry Nolte, FNP
Rachel Jones, PhD

APPROVED
Appendix D: Focus Group Study IRB Approval

NOTIFICATION OF IRB ACTION

Date: March 10, 2014  IRB #: 14-02-15
Principal Investigator(s): Rachel Jones
Kerry Nolte
Department: Nursing
Address: 102 Robinson Hall
Northeastern University
Title of Project: Strategies African-American and Black Women Use to Talk to a Male Partner about HIV Testing
Participating Sites: N/A
DHHS Review Category: Expedited #6, #7
Informed Consents: One (1) unsigned consent form

The requirement for signed consent is being waived as a signed consent document would be the only record linking the subject and the research AND the principal risk would be potential harm resulting from a breach of confidentiality. 45 CFR 46.117c(1)

Monitoring Interval: 12 months

APPROVAL EXPIRATION DATE: MARCH 9, 2015

Investigator's Responsibilities:

1. The informed consent form bearing the IRB approval stamp must be used when recruiting participants into the study.
2. The investigator must notify IRB immediately of unexpected adverse reactions, or new information that may alter our perception of the benefit-risk ratio.
3. Study procedures and files are subject to audit any time.
4. Any modifications of the protocol or the informed consent as the study progresses must be reviewed and approved by this committee prior to being instituted.
5. Continuing Review Approval for the proposal should be requested at least one month prior to the expiration date above.
6. This approval applies to the protection of human subjects only. It does not apply to any other university approvals that may be necessary.

C. Randall Colvin, Ph.D., Chair
Northeastern University Institutional Review Board

Nan C. Regina
Director, Human Subject Research Protection

Northeastern University FWA #4630
Appendix E: Thinking Aloud Focus Group Guide

“We hope to get responses on some questions. We hope to understand if these are questions that have similar meaning to each of you. First we will discuss how you or a friend would talk to a partner about getting an HIV test. We also will review possible question items together and discuss the meaning of each item. Suggestions for changes to the words used in the items will be valued.”

- Would you tell us about a time when you or a friend talked to a male sex partner (or potential sex partner) about getting HIV tested?

- Follow with: How did you or your friend approach him or what did you or your friend say?

(Possible questions to elicit variations in approaches if not described by the more open-ended question)

- What would you call a partner that you see regularly or are committed to (as opposed to a one time thing)? How does a woman approach a _______ about testing? What about a casual partner?

- What would you call it when a partner is having sex with other people or doing things (using injection drugs or having sex with men) that put him at risk for HIV? If a woman thinks a man is ______, how does she approach him about HIV testing?

- What does a talk about HIV testing sound like if you trust your man? What if you don’t?

- If a woman feels pressured to stay in a relationship, how does that influence the way she talks to her partner about HIV testing?

- Aside from the things we’ve brought up, what other relationship things influence the way a woman talks to a man HIV testing?

(Participants will be provided with a copy of the HIV Testing Approach Scale (HTAS). In reviewing each item together the following questions will be used.)

- Please tell me in your own words what this item means.

- Do others agree with what she is saying or are there other meanings?
• These questions are divided into 6 categories (rational, manipulative, withdrawal, charm, subtlety, or persistent). What does ______ mean to you? What would it mean to you to use a _______ approach?

• This question is thought to be related to discussions which are ________ (rational, manipulative, withdrawal, charm, subtlety, or persistent). Do you disagree or agree with this?

• Would you change or reword anything in the sentence?

(After reviewing each item)

• Did the items we just reviewed include all the ways women talk to their male partner about HIV testing?

• Any additional comments or suggestions?
Appendix F: Thinking Aloud Focus Group Flyer

Girl Talk: Talking to a Man About Testing for HIV

What is this study about?
You are invited to join a group of women to talk about your thoughts and feelings about how women discuss HIV testing with their male partner.

What am I being asked to do?
- You will be asked to participate in a focus group with 6 women to discuss how women talk to and encourage a male partner to test for HIV.
- You will be asked to review and give suggestions about how to change questions developed from a women’s experience talking about testing.
  - The discussion will be audio recorded, but NO NAMES, will be recorded
  - The discussion is confidential
  - Refusal to participate will not affect any services you receive
- The focus group will require 1½ hours of your time.
  *We are interested in your opinions. There are no right or wrong answers.*

What do I gain?
- Your answers will help guide understanding of issues important to women and to women’s sexual health
- Food and refreshments will be provided
- Upon completion you will receive a $20 Dunkin Donuts gift card

Who is eligible to participate?
Black and African American Women who:
- Are between the ages of 18 to 29 years old
- Not married or pregnant
- Are able to understand spoken and written English
- Have been in a relationship with a man in the past year

For more information or to see if you are eligible to participate contact:
Call, text, or email: Kerry Nolte, MS, FNP-C, Northeastern University PhD student:
email kerry.nolte@gmail.com
cell 603-315-1714
Principal Investigator: Barbara Guthrie, PhD, RN, FAAN

Focus Group Location:
Whittier Street Health Center
Date and Time:

APPROVED
5-06-16

VALID
6/22/15

THROUGH
6/22/16
Appendix G: Thinking Aloud Focus Group Informed Consent

We are inviting you to take part in a group discussion to offer your thoughts, feelings, and experiences about talking to a partner about HIV testing. The Principal Investigator of this research is Dr. Barbara Guthrie, who is supervising Kerry Nolte, a nurse and graduate student, in this research. Barbara is a Professor of Nursing and Kerry is a PhD student in the school of nursing.

This form will tell you about the study. The researcher will also review it with you and you are encouraged to ask questions. You will be asked to participate in a discussion about how you or your friends talk to a partner about HIV testing. You will be asked to review a survey/a group of questions that will be used to understand women’s experiences talking to a partner about HIV testing.

The benefits of participating in this study are that your answers may help to promote women’s health.

We will audio record the discussion to help us remember your comments. Your real name will not be mentioned in the discussion. You will select a fake name and that is the name you will use in the discussion. The research team will type up the conversation from the tape. Once the tapes are transcribed, they will be destroyed. The study team will discuss your comments to understand the different ways women discuss HIV testing with a partner.

During this time, people may share personal information about their relationships or health. Although we have attempted to protect your confidentiality (privacy) by asking people not to use their real name, there is a chance you may know other women or see them after the group discussion today. We would like you agree to keep any information shared during this meeting confidential or secret by not sharing it with others.

Your participation in the group discussion will require a total of 1.5 hours of your time. Your participation is voluntary. If you decide to participate, the researcher will give you a copy of this informed consent form. You will receive a $20 Dunkin Donuts gift card at the end of the discussion.

There is a small chance or risk that you may find some of the topics embarrassing. If you find the sensitive nature of some of the questions upsetting, you may contact Dr. Barbara Guthrie or Kerry Nolte FNP to discuss these feelings, and if needed, receive a referral to the appropriate health care practitioner.

If you have questions or would like to discuss this study, you are encouraged to contact Kerry Nolte at 603.315.1714 or kerry.nolte@gmail.com or Dr. Barbara Guthrie at 617.373.6977 or b.guthrie@neu.edu. If you have any questions about your rights in this research, you may contact Nan C. Regina, Director of Human Subjects Research Protection at 617.373.7570 or irb@neu.edu. You may call anonymously if you wish.

Please keep a copy of this form for yourself.

Thank you,

Kerry Nolte, MS, FNP-C, PhD student
Barbara Guthrie, PhD, RN, FAAN
Women’s Relationships with Men and HIV Testing

What is this study about?
You are invited to complete a survey that asks questions about women’s relationship with her male partner including how she talks with him about HIV testing.

What am I being asked to do?
- You will be asked to complete a survey on your computer, tablet, or smart phone
  - The survey will require NO NAMES and no information which could be used to identify you later
  - Your answers are confidential
  - Refusal to participate will not affect any services you receive
- The survey will require approximately 20 minutes to complete.

We are interested in your honest experience. There are no right or wrong answers.

What do I gain?
- Your answers will help understanding issues important to women and to women’s sexual health
- Upon finishing the survey you will receive a $10 Dunkin Donuts gift card

Who can participate?
Black and African American Women who:
- Are between the ages of 18 to 29 years old
- Not married or pregnant
- Are able to understand spoken and written English
- Have been in a relationship with a man in the past year

To participate call, text, or email Kerry Nolte
Kerry.nolte@gmail.com or 603-315-1714

A link to the secure survey will be sent to you by email or text and a gift card will be mailed to you once you complete the survey.
PhD Student: Kerry Nolte, MS, FNP-C
Principal Investigator: Barbara Guthrie, PhD, RN, FAAN
Appendix I: Survey Informed Consent

Northeastern University, School of Nursing

Name of Investigators: Dr. Barbara Guthrie (Professor of Nursing) and Kerry Nolte (PhD student)

We are inviting you to take part in a web-based survey. This survey is part of a research study to understand how women approach their male partners about HIV testing. The survey should take approximately 30 minutes to complete.

We are asking you to participate in this study because you identify as Black or African American, are between the ages of 18-29, are not married, are not pregnant, and have been in a relationship with a man within the past year. You must be at least 18 years old to participate in this survey.

The decision to participate in this research project is voluntary. You do not have to participate and you can refuse to answer any question. Even if you begin the web-based online survey, you can stop at any time.

The possible risks or discomforts of the study are minimal. You may feel a little embarrassed or uncomfortable answering personal survey questions. You are able to skip questions and you may reach out to a research team member to discuss these discomforts.

Your responses may help us learn more about ways to promote women’s health. You will receive a $10 Dunkin Donuts gift card at the completion of the survey.

Your participation is anonymous which means information which identifies you will not be available to the researchers. You will not be asked to provide any personal identifying information in this survey. Any reports or publications based on this study will use only group data and will not identify you or any individual as being affiliated with this project.

If you have any questions regarding electronic privacy, please feel free to contact Mark Nardone, NU’s Director of Information Security via phone at 617-373-7901, or via email at privacy@neu.edu.

If you have any questions about this study, please feel free to contact Kerry Nolte at 603.315.1714 or kerry.nolte@gmail.com or Dr. Barbara Guthrie at 617.373.6977 or b.guthrie@neu.edu. If you have any questions about your rights as a research participant, you may contact Nan C. Regina, Director of Human Subjects Research Protection at 617.373.7570 or irb@neu.edu. You may call anonymously, which means without identifying yourself, if you wish.

By clicking the accept button below you are indicating that you consent to participate in this study. The research team will offer you a copy of this form once you complete the survey so that you can keep a copy for your records.

Thank you,

Kerry Nolte, MS, FNP-C, PhD student
Barbara Guthrie, PhD, RN, FAAN
## Appendix J: Survey Study IRB Approval

### Notification of IRB Action

<table>
<thead>
<tr>
<th>Date:</th>
<th>June 23, 2015</th>
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<tbody>
<tr>
<td>IRB #:</td>
<td>15-06-28</td>
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</tbody>
</table>
| Principal Investigator(s): | Barbara Guthrie  
                            | Kerry Nohe     |
| Department: | Nursing       |
|             | 102 Robinson Hall |
| Address:    | Northeastern University |
| Title of Project: | Protecting Themselves: Toward an Understanding of Black  
                      Women’s Approaches to Encouraging a Male Partner to Test  
                      for HIV |
| Participating Sites: | Whittier Street Health Center – approval received |
| Informed Consent: | One (1) unsigned consent for survey  
                            | One (1) unsigned consent for focus group |

As per CFR 45.46.117(c)(2) signed consent is being waived as the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required.

**DHHS Review Category:** Expedited #6, #7

**Monitoring Interval:** 12 months

**APPROVAL EXPIRATION DATE:** JUNE 22, 2016

**Investigator’s Responsibilities:**
1. Informed consent form bearing the IRB approval stamp must be used when recruiting participants into the study.
2. The investigator must notify IRB immediately of unexpected adverse reactions, or new information that may alter our perception of the benefit-risk ratio.
3. Study procedures and files are subject to audit any time.
4. Any modifications of the protocol or the informed consent as the study progresses must be reviewed and approved by this committee prior to being instituted.
5. Continuing Review Approval for the proposal should be requested at least one month prior to the expiration date above.
6. This approval applies to the protection of human subjects only. It does not apply to any other university approvals that may be necessary.

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C. Randall Colvin, Ph.D., Chair  
Northeastern University Institutional Review Board

Nan C. Regina, Director  
Human Subject Research Protection

Northeastern University FWA #: 4630
References


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doi:10.1007/BF02291575


doi:10.1097/QAI.0000000000000236


Marks, G., Crepaz, N., & Janssen, R. S. (2006). Estimating sexual transmission of HIV from persons aware and unaware that they are infected with the virus in the USA. *Aids, 20*(10), 1447-1450.


Nolte, K., Kim, T., & Guthrie, B. (2016). "*Taking care of ourselves:* the experiences of black women approaching and encouraging male partners to test for HIV." Unpublished manuscript.


QSR International Pty Ltd. (2014). *NVivo qualitative data analysis.* (Version 10 ed.)


