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Application of the Theory of Gender and Power to Examine Partner Notification Practices Among A Population of Urban Adolescent and Young Adult African American Females in the Southeastern United States

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Abstract

Application of the Theory of Gender and Power to Examine Partner Notification Practices Among A Population of Urban Adolescent and Young Adult African American Females in the Southeastern United States

By Emiko Petrosky

Objective: The purpose of the present study is to apply the constructs of the *Theory of Gender and Power* to a population of adolescent and young adult African American females in an urban area of the Southeastern United States to determine the individual and partner characteristics associated with partner notification for sexually transmitted infections.

Design: This study was a secondary analysis of baseline data collected from a randomized controlled trial of an HIV behavioral intervention. Participants were 701 sexually active African American females between 14 and 20 years of age recruited from three sexual health clinics serving predominantly inner-city adolescents in a city in the Southeastern United States. Multivariable logistic regression was used for the analyses.

Main Outcome Measure: Partner notification for sexually transmitted infections.

Results: A significant increase in odds of notifying partners the last time participants had a sexually transmitted infection were seen in participants over the age of 18 (OR = 2.79; 95% CI = 1.35 to 5.79; p = 0.006) and with lower acquired risk for the composite variable for the *Sexual Division of Power* (2.36; 95% CI = 1.07 to 5.18; p < 0.033). The remaining constructs were associated with an increase in odds of notifying partners, but not a statistically significant degree: less than four lifetime vaginal sex partners (OR 2.01; 95% CI = 0.88 to 4.59; p = 0.097), current boyfriend (OR = 1.30; 95% CI = 0.58 to 2.92; p = 0.531), lower acquired risk for the *Sexual Division of Labor* (OR = 1.84; 95% CI = 0.79 to 4.32; p = 0.159), and lower acquired risk for the *Structure of Cathexis* (OR = 1.57; 95% CI = 0.75 to 3.28; p = 0.23).

Conclusion: Findings from the present study have demonstrated that partner notification practices are associated with constructs within the *Theory of Gender and Power* particularly as they relate to age and the *Sexual Division of Power.* The study suggests that partner notification interventions need to explicitly address the power inequity that may be present between adolescent and young adult African American females and their male partners.

Keywords: African American, adolescent, sexually transmitted infections, partner notification

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Table of Contents

Introduction

In the United States, approximately 19 million new cases of sexually transmitted infections occur annually. Adolescent African American females between the ages of 15 and 19 are estimated to experience the highest rates of chlamydia and gonorrhea. Partner notification is the process by which the sex partner(s) of a patient positive for a sexually transmitted infection is notified of potential exposure and encouraged to seek treatment. Partner notification is an important step in treatment, preventing medical complications of untreated sexually transmitted infections, and stopping the cycle of transmission and reinfection. Several studies have shown inconsistent rates of partner notification by adolescent females. The reinfection rate among African American females has been shown to be threefold that of their Caucasian peers even after adjusting for diverse behavioral and sociodemographic risk indices.

The purpose of the present study is to apply constructs from the *Theory of Gender and Power* to a population of African American adolescent females in an urban area of the Southeastern United States. The study will examine the social/behavioral risk factors associated with partner notification practices. Findings from this study may be used to guide the development of interventions that apply the *Theory of Gender and Power* to improve the rates of partner notification practices among adolescent African American females.

Background

Sexually transmitted infections in the United States

In the industrialized world, the United States (US) has the highest rates of sexually transmitted infections (STI) with approximately 19 million new cases of STIs occurring annually (Centers for Disease Control and Prevention [CDC], 2011; Weinstock, Berman, & Cates, 2004), primarily in adolescents and young adults (CDC, 2010). The Centers for Disease Control and Prevention (CDC) estimates that more than half of all people in the US will become infected with an STI at some point in their lives (CDC, 2010). STIs are estimated to cost the US $10 to 17 billion per year in both direct and indirect costs (Chesson, Blandford, Gift, Tao, & Irwin, 2004).

Many barriers may prevent individuals from obtaining appropriate clinical care and diagnosis including the stigma, costs, and issues of confidentiality associated with STIs (Gaydos, 2011). Of the infected patients who are tested for STIs, an estimated 30 to 74% never return for routine test results or are lost to follow-up for treatment (Bachmann, Richey, Waites, Schwebke, & Hook, 1999). Although consistent use of barrier contraceptives such as the widely available male condom is known to reduce the risk of STI transmission (Conant, Hardy, Sernatinger, Spicer, & Levy, 1986; Stone, Grimes, & Magder, 1986; Van de Perre, Jacobs, & Sprecher-Goldberger, 1987), the CDC recently reported an increase in the number of cases of both *Chlamydia Trachomatis* (CT) and *Neisseria Gonorrhea* (NG) in the US.

In the US, CT is the most commonly reported notifiable disease and among the most prevalent of all STIs. NG is the second most commonly reported notifiable disease in the US. In 2010, a total of 1,307,893 cases of CT (equivalent to 426.0 cases per

100,000 population) and 309,341 cases of NG (equivalent to 100.8 cases per 100,000 population) were reported to the CDC. From 2009 to 2010, the cases of CT experienced a 5.1% increase and the cases of NG experienced a 2.8% increase. Rates of CT among women have been increasing every year since the late 1980s. Although the continued increase in cases of CT may be attributed to increased screening, an expanded use of more sensitive tests, and more complete reporting, the rise may also reflect a true increase in morbidity. Although rates of NG experienced a decrease and plateau from the 1970s to the early 2000s, with 2006 to 2009 having the lowest rates since national reporting began, there has been a recent increase of cases from 2009 to 2010 (CDC, 2010).

Possible sequelae of untreated sexually transmitted infections

Although many STIs frequently do not cause any obvious symptoms (Martin, 1990; Westrom, 1985), STIs have the potential to lead to serious health complications. Untreated lower genital tract infection with CT or NG may lead to pelvic inflammatory disease (PID), a known precursor for tubal infertility, ectopic pregnancy, and chronic pelvic pain (Brunham, Maclean, Binns, & Peeling, 1985; Mark, Jordan, Cruz, & Warren, 2012; CDC, 2011; Sellors, Mahony, Chernesky, & Rath, 1988). Moreover, infection by one STI increases the risk of infection by another. CT and GC infections are each associated with increased susceptibility to HIV infection (Royce, Sena, Cates, & Cohen, 1997).

Sexually transmitted infections among young African American women

In the US, young women are at the greatest risk for pregnancy and STIs (C. f. D.

C. a. Prevention, 2002). According to a 2008 report from the CDC, one in four girls in the US has an STI (Forhan et al., 2008), and girls are twice as likely to report STIs as boys of the same age (Crosby, Leichliter, & Brackbill, 2000). Among adolescent women, CT and NG are common, curable STIs (Fortenberry & Evans, 1989). Several studies estimate the prevalence of asymptomatic CT among adolescent females to range from 7 to 29% (Burstein et al., 1998; Burstein et al., 2001; Oh et al., 1996; Oh et al., 1996; Scholes et al., 1996). After an examination of national surveys conducted from 1999 to 2008, the CDC recently reported that the prevalence of CT among sexually active females between the ages of 14 and 19 years is 6.8%. (CDC, 2011).

National case surveillance data indicate that adolescent and young adult African Americans between the ages of 13 and 24 years in the Southeastern US are disproportionately affected by STIs, HIV, and pregnancy (Rangel, Gavin, Reed, Fowler, & Lee, 2006). African American adolescent females are disproportionately affected by STIs and HIV compared to same-aged peers from other ethnic/racial groups (CDC, 2002). African American adolescent females between 15 and 19 years of age are estimated to experience the highest rates of CT and NG (CDC, 2011). Adolescent African American females may have an increased susceptibility to STIs due to factors that are both biological, such as cervical ectopy, and social, such as the greater prevalence of STIs among sex partners (Berman & Hein1999; Institute of Medicine [IOM], 1997). The disproportionately high rates of STIs and HIV occur despite adolescent African American females reporting greater frequency of male condom use compared to their Caucasian and Hispanic peers (Eaton et al., 2012). This discrepancy may be partially explained by the tendency for African American females, especially

those reporting four or more partners in the past year, to select African American male sex partners who as a population have a high prevalence of STIs (Aral et al., 1999; Laumann & Youm, 1999).

Reinfection among African American women

Unprotected sexual intercourse may lead to new infection, reinfection, or to subsequent infection caused by other STIs. The term reinfection refers to a new infection after eradication of the initial infection and typically characterizes subsequent infections caused by same-species organisms (Fortenberry et al., 1999). It has long been established that STI reinfection is a public health concern. Several studies from the late 1970s to early 1990s found that approximately 40% of the annual incidence of CT and NG occurred in people previously infected by the same organism (Blythe, Katz, Batteiger, Ganser, & Jones, 1992; Brooks, Darrow, & Day, 1978; Fortenberry & Evans, 1989; Kinghorn, Pryce, & Morton, 1982; Noble, Kirk, Slagel, Vance, & Somes, 1977). In the 1990s, studies of adolescents and young adult women treated for CT infection found rates of 5 to 38% for persistent or recurrent infection (Blythe et al., 1992; Burstein et al., 1998; Hillis et al., 1998; Hillis, Nakashima, Marchbanks, Addiss, & Davis, 1994; Oh, Cloud, et al., 1996; Orr, Langefeld, Katz, & Caine, 1996). A 1999 study observed that even after adjusting for diverse behavioral and sociodemographic risk indices, the reinfection rate among African American females was threefold that of their Caucasian peers (Fortenberry & Evans, 1989).

The role of partner notification

Given the assumption that sex partners of infected patients are likely to have the same organism by having transmitted the infection or having been exposed themselves, partner notification of STI exposure is an important step for treatment, preventing medical complications of untreated STIs, and stopping the cycle of transmission and reinfection.

Partner notification is the process by which the sex partner(s) of an STI positive patient is notified of potential exposure to the STI and encouraged to seek treatment (Khan et al., 2005). Partner notification of STI exposure may be performed through patient self-referral, health provider referral, or via the public health department (Bayer & Toomey, 1992). Most clinicians rely on patient self-referral (i.e., patients notify their partners) because it is less time consuming, less costly, and allows for more privacy (Chacko, Smith, & Kozinetz, 2000; Oh, Boker, et al., 1996; Seubert, Thompson, & Gonik, 1999). Alternatively, health provider referral (i.e., healthcare providers contact the partners of STI positive patients) is more costly as it requires the experience of trained staff members (Oh, Boker, et al., 1996). When healthcare providers have inadequate time or experience in notification or when the risk to the public's health is high, notification by the public health department may be the preferred route (Chacko et al., 2000; Oh, Boker, et al., 1996; Seubert et al., 1999). However, many public health departments have limited comprehensive partner notification and treatment programs (IOM, 1997). Most public health resources for STIs are dedicated to tracking syphilis and HIV, but not the more common cases of CT and NG (Golden et al., 2003).

Partner notification among adolescent women in the United States

Several studies have reported repeat CT infections of 16 to 18% for adolescent females at a median time interval of approximately six months (Burstein et al., 1998; Burstein et al., 2001; Oh et al., 1996; Scholes et al., 1996). The high rates of recurrence of CT infections suggest that partner notification and treatment may be performed unsuccessfully or not at all (Blythe et al., 1992; Chacko, Smith, & McGill, 1989). Indeed, several studies have shown inconsistent rates of partner notification by adolescent females. A study of inner-city girls by Chacko et al. reported that 57% endorsed partner notification (Chacko et al., 2000). Oh et al. examined partner notification rates of adolescent females with CT and/or NG infection and found that the girls notified 66% of their total sexual partners (Oh et al., 1996). In a study examining partner notification by both males and females infected with various STIs, Fortenberry et al. found that 61% of girls versus 52% of boys reported notifying their past sexual partners of their STI status (Fortenberry, Brizendine, Katz, & Orr, 2002).

Several studies have assessed the sociobehavioral characteristics associated with adolescent females and partner notification. In a study evaluating partner notification rates, attitudes, and perceptions among 55 adolescent females ages 13 to 21 years diagnosed with CT cervicitis at a large inner-city medical center, Lim et al. reported that 75% of participants reported notifying at least one partner about their CT infection. Partner notification most commonly occurred as a method of self-protection from re-infection, in participants 18 years of age or older, and among those who reported only having had one lifetime sex partner. The most commonly reported reason for failing to notify partners was that the participant was no longer dating that person (Lim & Coupey,

2005). Similarly, Gorbach et al. and Van De Laar et al. found that study participants endorsing partner notification were more likely to be older and involved in a steady relationship (Gorbach et al., 2000; Van de Laar, Termorshuizen, & Van den Hoek, 1997). Interestingly, clinician's order to perform partner notification was not found to be one of the leading motivating reasons for participants.

Alternatively, several studies have reported the sociobehavioral characteristics associated with adolescent females who fail to perform partner notification. Study participants commonly failed to notify their sexual partners about STIs because of fear of break-up (Rosenthal, Baker, Biro, & Stanberry, 1995), insufficient information to locate their partners (Gorbach et al., 2000), or fear of physical violence (Chacko et al., 2000). Fortenberry et al.'s findings suggest that self-efficacy and relationship quality are important predictors of whether or not partner notification will occur (Fortenberry et al., 2002).

Finally, a previous study of an STI/HIV sexual risk-reduction intervention involving a similar design and sample as the present study (DiClemente et al., 2009a) provides relevant qualitative information for partner notification. The study involved 715 African American adolescent females ages 15 to 21 years recruited from the same clinic sites as the present study. Of the 715 participants, 388 endorsed a history of STIs; of these, 103 (27.8%) reported that their partners were not treated. These participants were then asked whether or not they notified their partners of the STIs, of which 32 participants (31.1%) indicated that they had not. Participants who denied practicing partner notification were asked to indicate why they failed to notify their partners. Most participants who did not practice partner notification endorsed the following survey

options: “I was afraid he might hit me” (3.1%), “I didn't know what to say” (21.9%), “I was afraid to tell him b/c he might accuse me of cheating” (12.5%), “He would find out that I cheated on him” (3.1%), “I was embarrassed” (15.6%), and “Other” (43.8%). Participants indicating the response option, “Other,” were directed to type in their reasons for failing to notify their partners. The reasons endorsed include the following: “Because he cheated,” “Because he is in jail now,” “Because I never talked to him,” “could not find him,” “he already knew,” “he gave it to me, he knew,” “i had a yeast infection not a real std,” “my partner passed away,” “no longer spoke,” and “we broke up before I found out” (DiClemente et al., 2009b). These findings provide insight into why partner notification may fail to occur among this particular population of African American females.

Theory of Gender and Power

Theoretical frameworks may be used as guides to explain the core elements of human behavior. One such framework, the *Theory of Gender and Power* (TGP), may be used to explain the health risks of women. In particular, TGP may be used to examine the exposures and socio-behavioral risk factors associated with young adult African American women and their STI partner notification practices (DiClemente, Crosby, & Kegler, 2009).

TGP is a social structural model proposing that global dominance of men over women contributes to the power in relationships between genders and within genders. The theory asserts that the gendered relationships between men and women are explained as a function of three interlinked structures maintained by social mechanisms (Wingood & DiClemente, 2000). The structures are the *Sexual Division of Labor*, *Sexual Division*

of Power, and *Structure of Cathexis* (also referred to as the *Structure of Affective Attachments and Social norms*). These structures exist at two levels, the social level and the institutional level. The social level refers to the norms ascribed on the basis of gender-determined roles and the segregation of power. The institutional level refers to the labor market, the state, and the family (DiClemente et al., 2009).

The *Sexual Division of Labor* examines the economic inequities favoring men and asserts that men's position may yield a series of advantages known as "patriarchal dividend." The *Sexual Division of Power* examines the inequities and abuses of authority and control in relationships and institutions favoring men. The *Structure of Cathexis* examines the social norms and beliefs favoring men. According to the three structures, women will be more likely to experience adverse health outcomes as: (1) the economic inequity between men and women increases and favors men (acquired risk for *Sexual Division of Labor*), (2) the power inequity between men and women increases and favors men (acquired risk for *Sexual Division of Power*), and (3) women are more accepting of conventional social norms and beliefs (acquired risk for *Structure of Cathexis*) (DiClemente, Crosby, & Kegler, 2009).

TGP has been used to examine the risk factors and exposures that increase women's vulnerability in acquiring HIV (Figure 1) (Wingood & DiClemente, 2000) and the associations between the theory's constructs and condom use among young women (DePadilla, Windle, Wingood, Cooper, & DiClemente, 2011).

Societal Level	Institutional Level	Social Mechanisms	Exposures	Risk Factors	Biological Factors	Disease
Sexual division of labor	Work site, school, family	Manifested as unequal pay produces economic inequities for women	Economic exposures	Socioeconomic risk factors		
Sexual division of power	Relationships, medical system, media	Manifested as imbalances in control produce inequities in power for women	Physical exposures	Behavioral risk factors	Anatomical features Genetic determination Hormones	HIV
Cathexis: social norms and affective attachments	Relationships, family, church	Manifested as constraints in expectations produce disparities in norms for women	Social exposures	Personal risk factors		

NOTE: The public health level includes exposures, risk factors, biological factors, and disease. The social/behavioral sciences level includes risk factors, biological factors, and disease. The medical level includes biological factors and disease.

Figure 1. Proposed Model Conceptualizing the Influence of the Theory of Gender and Power on Women's Health (2000).

Applications of the Theory of Gender and Power

Several interventions based on constructs from TGP have targeted urban young adult African American women with increased vulnerability to HIV and have demonstrated increased efficacy in improving safer sex practices. Several social factors more common to urban African American women make TGP particularly relevant. These factors include their economic dependence on males, tendency to be in power-imbalanced relationships, perception of limited partner availability, perception of limited regard for African American women in society, having long-term relationships, desiring pregnancy, and a lack of assertive communication for safer sex practices (DiClemente, Crosby, & Kegler, 2009).

Adolescent African American females in urban areas have a unique set of associated factors that increase their vulnerability to HIV infection. These underlying factors include older male sex partners, abusive dating partners, negative media stereotypes of adolescent African American females, perception of society having a limited regard for African American adolescents, serial monogamy, peer pressure to

engage in risky sex, and lack of assertive communication regarding safer sex practices (DiClemente, Crosby, & Kegler, 2009).

Study Purpose

The current literature is limited in applications of TGP to factors associated with STI partner notification among adolescent and young adult African American females. The purpose of the present study is to apply the constructs of TGP to a population of adolescent and young adult African American females in an urban area of the Southeastern US to determine the individual and partner characteristics associated with STI partner notification. The findings of this study may be used to develop interventions that apply the constructs of TGP to improve the rates of partner notification practices among adolescent and young adult African American females.

Methods

Procedure

This study was a secondary analysis of baseline data collected from a randomized controlled trial of an HIV behavioral intervention. From June 2005 to June 2007, adolescent and young adult African American females were recruited during office visits at three sexual health clinics in Atlanta, Georgia serving predominantly inner-city adolescents. Inclusion criteria included self-identification as African American, age between 14 and 20 years, and at least one case of unprotected vaginal intercourse (i.e., vaginal sex without a condom) in the past six months. Exclusion criteria included being

married, currently pregnant, or attempting to become pregnant. Participants returned to the clinic to complete informed consent procedures, baseline assessments, and randomization to experimental or control groups. All participants gave written informed consent. Those younger than age 18 were able to waive parental consent due to the confidential sexual health nature of their clinic visit. Of the 1684 screened, 745 were eligible, and 701 (94%) were enrolled, completed baseline assessments, and were randomized. Participants were given $75 compensation for travel and childcare to attend intervention sessions and complete assessments. The study protocols were all approved by Emory University's Institutional Review Board (Swartzendruber et al., 2013).

Data Collection

Data collection consisted of a baseline assessment using an Audio Computer Assisted Self Interview (ACASI) and self-collected vaginal swab to screen for two bacterial pathogens, CT and NG. Data collection was performed at baseline, 6-, 12-, and 18-months. Participants positive for STI were notified of their results by phone, directed to return to the study site, and were provided directly observable single-dose antimicrobial treatment, CDC recommended risk-reduction counseling, and encouraged to refer sex partners for STI screening and treatment (Swartzendruber et al., 2013). For the purposes of the present study, only baseline measurements were assessed.

Measures

A previous study by DePadilla et al. examined the use of a comprehensive model of direct and indirect effects of constructs defined by TGP on the use of condoms among

young African American female (DePadilla et al., 2011). The study along with a review of the empirical literature on factors associated with partner notification of STI status was used to guide the measures for the present study's examination of TGP constructs and partner notification practices for STIs.

Sexual division of labor (SDL). Acquired risk for SDL was measured using the following three constructs within SDL: *Assistance received, Employment,* and *Education. Assistance Received* was measured with the question, "In the past 12 months, did you or anyone you live with receive any money or services from any of the following?" Participants chose their responses from a provided list that included sources such as welfare and food stamps. The variable was dichotomized such that 0 = no aid received, 1 = any aid received. *Employment* was measured with the question, "Do you have a job for which you are paid?" with 0 corresponding to "Yes" and 1 corresponding to "No." *Education* was measured using the question, "What is the last grade you completed in school?" Response options were 1 = "8th grade or less," 2 = "9th to 12th grade," 3 = "Graduated high school or GED," 4 = "1 to 2 years of college," and 5 = "Other." The variable was dichotomized such that high school or greater = 0 and less than high school = 1. Responses indicating "Other" were not included in the categorization of this variable for the purposes of the present study because participants were not given the option to specify what the "Other" entailed. Instead, the responses indicating "Other" were treated as missing.

The sum of the three items was used to create a composite variable for SDL. The range of possible scores was between 0 and 3 with higher levels indicating greater acquired risk for SDL.

Structure of Cathexis (SOC). Acquired risk for SOC was measured using the following six constructs within SOC: *Older partners, Frequency of parental sexual communication, Conservative religious beliefs, Self-esteem, STI knowledge,* and *Depression. Older partners* was measured with the question, "In general how old are the people you have sex with, are they…" Responses were coded such that 1 = "Much younger than you (4 or more years)," 2 = "Younger than you (2-3 years)," 3 = "About the same age," 4 = "Older than you (2-3 years)," and 5 = "Much older than you (4 or more years)." The variable was dichotomized such that 1 = greater than 4 years and 0 = all other age ranges. *Frequency of parental sexual communication* was measured using a validated five-item scale (Sales et al., 2008) with statements that began with the stem "In the last six months, how often do you and your parent(s) talk about…" A sample item was "Sex?" Item responses were 4-point Likert scales anchored by "Never" to "Often." Higher scores indicated greater frequency of parental communication about sex. The median score of the five-item scale was used to dichotomize variables such that 0 = greater than the median value, 1 = equal to or less than the median value. The range of possible totals was 0 to 5 with higher scores indicating lower frequency of parental communication. *Conservative religious beliefs* was measured using a newly developed three item scale that included statements that began with the stem "Because of my religious beliefs I feel…" A sample item was "Bad when I have sex." Item responses were 5-point Likert scales anchored by "Strongly Disagree" to "Strongly Agree." The sum of the items indicated level of conservative religious beliefs with higher sum indicating a higher level. The variables were dichotomized by median score such that 0 = less than median value, 1 = equal to or greater than median value. The range of possible

totals was 0 to 3 with higher scores indicating more conservative religious beliefs. *Self-esteem* was measured using the Rosenberg Self Esteem scale (Rosenberg, 1965). Participants were asked to respond to statements such as "I feel that I'm a person of worth." and "I feel that I have a number of good qualities." with item responses in the form of 5-point Likert scales anchored by "Never" to "Always." Items were coded such that higher levels indicated lower self-esteem. The median score of the scale was used to dichotomize variables such that 0 = less than median value, 1 = equal to or greater than median value. The range of possible totals was 0 to 10 with higher scores indicating lower levels of self-esteem. *STI Knowledge* was measured using an STI Knowledge scale (Sikkema et al., 2000). Participants were asked to respond to statements such as "Birth control pills protect women against the AIDS virus." and "Most people who have AIDS look sick." with 1 = "True," 2 = "False," and 3 or 6 = "Don't Know." Higher scores indicated greater knowledge about STIs. Variables were dichotomized such that 0 = correct answers, 1 = incorrect answers or "don't know." The range of possible totals was 0 to 11 with higher scores indicating lower levels of STI knowledge. *Depression* was measured using an eight-item brief version of the Center for Epidemiologic Studies depression symptomatology (CES-D) (Melchior, Huba, Brown, & Reback, 1993). Participants were asked to respond to statements such as "I felt that I could not shake off the blues even with help from my family and friends." and "I felt depressed." with 1 = "Less than 1 Day," 2 = "1-2 Days," 3 = "3-4 Days," and 4 = "5-7 Days." A score of 16 or greater indicated depression with higher scores indicating greater levels of depression. Variables were dichotomized such that 0 = scores of 15 or less, 1 = scores of 16 or higher.

The sum of the six constructs was used to create a composite variable for SOC. The range of possible scores was between 0 and 6 with greater levels indicating greater acquired risk for SOC.

Sexual division of power (SDP). Acquired risk for SDP was measured using the following seven items within SDP: *Coerced vaginal sex, Coerced anal sex, Physical abuse, Emotional abuse, Fear of condom negotiation, Refusal self-efficacy, Frequency of partner communication about sex,* and *Partner communication self-efficacy.* *Coerced vaginal sex* was measured with the question "Has anyone ever forced you to have vaginal sex when you didn't want to?" with 0 = "No" and 1 = "Yes." *Coerced anal sex* was measured with the question "Has anyone ever forced you to have anal sex when you didn't want to?" with 0 = "No" and 1 = "Yes." *Physical abuse* was measured with the question "Have you ever been physically abused? (hit, punched, kicked, slapped, etc.)" with 0 = "No" and 1 = "Yes." *Emotional abuse* was measured with the question "Have you ever been emotionally abused? (threatened, called names, etc.)" with 0 = "No" and 1 = "Yes." *Fear of condom negotiation* was measured by a seven-item scale (R. J. DiClemente et al., 2001) in which higher scores indicated greater fear of condom negotiation. Participants were asked to respond to statements that began with the stem "I have been worried that if I talked about using condoms with my boyfriend or sex partner he would…" A sample item was "Ignore my request." with 5-point Likert scales anchored by "Never" to "Always." The median score of the seven-item scale was used to dichotomize variables such that 0 = less than the median value, 1 = greater than or equal to the median value. The range of possible totals was 0 to 7 with higher scores indicating greater fear of condom negotiation. *Refusal self-efficacy* was measured with the seven-

item refusal self-efficacy scale (Ebreo, Feist-Price, Siewe, & Zimmerman, 2002). Participants were asked to respond to questions that began with the stem "How sure are you that you would be able to say NO to having sex with someone…" A sample item was "You have known for a few days or less?" with 4-point Likert scales anchored by "I definitely can't say no" to "I definitely can say no." Higher levels indicated higher levels of refusal self-efficacy. The median score of the seven-item scale was used to dichotomize variables such that 0 = greater than the median value, 1 = less than or equal to the median value. The range of possible totals was 0 to 7 with higher scores indicating lower levels of refusal self-efficacy. *Frequency of partner communication about sex* was measured with five items from the validated Partner Communication Scale (Milhausen et al., 2007). Participants were asked to respond to statements that began with the stem "During the past 90 days, how many times have you and your boyfriend or sex partner(s) talked about…" A sample item was "How to prevent pregnancy?" with 1 = "Never," 2 = "1-3 times," 3 = "4-6 times," and 4 = "7 or more times." Higher levels indicated greater partner communication about sex. The median score of the three-item scale was used to dichotomize variables such that 0 = greater than the median value, 1 = less than or equal the median value. The range of possible totals was 0 to 5 with higher scores indicating less frequent partner communication. *Partner communication self-efficacy* was measured using a six-item scale with questions that began with the stem "How hard is it for you to…" A sample item was "Ask if he has an STD?" Item responses were 4-point Likert scales anchored by "Very hard" to "Very easy." Higher levels indicated higher levels of self-efficacy. The median score of the six-item scale was used to dichotomize variables such that 0 = greater than the median value, 1 = less than or equal to the median value.

The range of possible totals was 0 to 6 with higher scores indicating lower levels of partner communication self-efficacy.

The sum of the eight constructs was used to create a composite variable for SDP. The range of possible scores was between 0 and 8 with greater levels indicating greater acquired risk for SDP.

Other characteristics. A review of the literature of partner notification practices for STIs suggest that the following three characteristics separate from TGP should also be examined: *Participant age, Number of lifetime sexual partners,* and *Current relationship status. Participant age* greater than or equal to 18 years was measured with the question "Are you 18 or older?" Responses were dichotomized such that 0 = greater than or equal to age 18, 1 = less than age 18. *Number of lifetime sexual partners* was measured with the question, "In your entire life, how many guys have you had vaginal sex with?" Responses were dichotomized based upon the median value such that 0 = one to four lifetime partners, 1 = five or more lifetime sexual partners. *Current relationship status* was measured with the question "Do you have a boyfriend?" Response options were dichotomized such that 0 = "Yes" and 1 = "No."

Other characteristics of interest include sexual health behaviors measured with history of pregnancy prevention, history of HIV testing, history of STIs, partner notification for STIs, and self and partner treatment for STIs. For history of pregnancy prevention, participants were asked the questions, "The very last time you had sex, did you use a condom to prevent STDs or pregnancy?" with 0 = "No" and 1 = "Yes" and "The very last time you had sex, what other type(s) of protection did you use? (Check all that apply)" with 65 = "Pill/Patch/Depo," 66 = "Withdrawal," 67 = "None," and 68 =

"Other." For HIV testing history, participants were asked the question "Have you taken an HIV test?" with 0 = "No" and 1 = "Yes" and "Did you return to get your HIV test results?" with 0 = "No," 1 = "Yes," and 2 = "Received same day test." For history of STIs, participants were asked "Have you ever had a positive STD test result?" with 0 = "No" and 1 = "Yes." Participants responding "Yes" were asked to "Please check all STDs you have had in the past. (Check all that apply)." Response options were coded such that 65 = "Trichomonas (Trich)," 66 = "Chlamydia," 67 = "Gonorrhea," 68 = "Syphilis," 69 = "Genital Warts," 70 = "Genital Herpes," or 71 = "Other." Participants who endorsed a history of STI were asked "The last time you had an STD, did you tell your partner(s)?" with 0 = "No" and 1 = "Yes." For participants who reported not telling their partner about the STI, they were asked "Why didn't you tell your partner about the STD? (Choose one)." The following coded response options were based upon the most commonly endorsed reasons from the previously discussed study (DiClemente et al. 2009b): 1 = "I was afraid that he might hit me," 2 = "I didn't know what to say," 3 = "I was afraid to tell him because he might accuse me of cheating," 4 = "He would find out that I cheated on him," 5 = "I was embarrassed," or 6 = "Other." For participants endorsing a history of a positive STI test result, they were further asked "The last time you had an STD were you treated?" with 0 = "No" and 1 = "Yes" and "The last time you had an STD was your partner treated?" with 0 = "No" and 1 = "Yes."

In accordance with the purposes of the present study, the outcome variable was the response, "Yes," to the question "The last time you had an STD, did you tell your partner(s)?"

Data Analysis

A secondary analysis of baseline data was performed. All statistical analyses were performed using SPSS Version 20. Sociodemographic and descriptive characteristics were reported as frequencies for categorical variables and medians for ordinal or continuous variables. Descriptive statistics were reported for the full sample (n = 701) and for a restricted sample of participants reporting a history of STIs (n = 397) to reflect the present study's focus on partner notification practices for STIs. Descriptive statistics was used to calculate sociodemographics; constructs within SDL, SOC, and SDP; other characteristics determined to be applicable from a review of the literature including participant age above or below 18 years, lifetime number of vaginal sex partners, and current relationship status; and sexual health history including history of and treatment for STIs and history of HIV testing; and history of partner notification for STIs.

Further analyses were performed to examine the individual and partner characteristics of participants who practiced STI partner notification using measures based upon constructs from TGP and a review of the literature. Measures were analyzed via multivariable, logistic regression analysis. The outcome variable was coded 1 for participants who notified their partners the last time they had an STI and 0 for participants who had not notified their partners the last time they had an STI. The predictors were: composite variables for (1) SDL, (2) SOC, and (3) SDP; (4) *Participant age;* (5) *Number of lifetime sexual partners;* and (6) *Current relationship status.* A logistic regression model was fit to the data to explain the predicted odds of participants notifying their partners the last time they had an STI.

Results

Descriptive Statistics for the Full Sample (n = 701)

Sample. The self-reported range of ages for the sample was 14 to 20 years (*Mean* = 17.6 years, *SD* = 1.72). 314 participants (44.8%) were less than 18 years of age. 79.5% reported having a boyfriend. 302 participants (43.1%) reported having had a history of five or more vaginal sex partners in their lifetime (*Range* = 1 to 200).

Sexual history. To prevent pregnancy during their last sexual encounter, 242 participants (34.5%) reported having used the pill, patch, or depo; 132 participants (18.8%) reported having used withdrawal; 87 participants (12.4%) reported having used another method; and 311 participants (44.4%) reported not having used any. 165 participants (23.5%) reported never having taken an HIV test. Of the 536 who reported having taken an HIV test, 147 participants (27.4%) reported that they did not return to get their HIV test results. 397 participants (56.6%) endorsed a history of STIs.

Sexual Division of Labor (SDL). Regarding the measure, *Education* 34.8% of participants reported having graduated high school or passed the Graduate Educational Development exam (GED); 30 responses (4.3%) indicated "Other" and were not included in the categorization. For *Employment,* 36.4% were employed, and for *Assistance received,* 48.1% reported having received some form of government assistance at least once in the last 12 months. The range of values for the composite variable for SDL was 0 to 2 (*Median* = 1, *Mean* = 1.25, *SD* = 0.78).

Structure of Cathexis (SOC). Regarding the measure, *Older partners,* 119 participants (17%) reported having partners greater than 4 years older than them. For *Conservative religious beliefs*, 145 participants (20.7%) indicated that they agree or

strongly agree to feeling bad when having sex, 61 participants (8.7%) agree or strongly agree to feeling bad when using contraception like birth control pills, and 19 participants (2.7%) agree or strongly agree to feeling bad when using condoms during sex because of their religious beliefs. For the measure, *STI knowledge,* the median score was 19 (*Range* = 11 to 22), with higher scores indicating greater STI knowledge. Regarding the measure, *Frequency of parental sexual communication*, the median response was "sometimes" for the indices assessing parental discussion of sex, STIs, AIDS, and pregnancy prevention. For the index assessing parental communication of condom use, the median response was "rarely." For the measure *Self-esteem* determined through the use of the Rosenberg Self Esteem scale (*Range* = 10 to 40), the median total value was 28, with higher scores reflecting higher levels of self-esteem. Regarding the measure for *Depressio*n using the eight-item brief version of the CES-D (*Range* = 8 to 32), the median score was 13, with a score of 16 or greater indicating depression. The range of values for the composite variable for SOC was 3 to 23 (*Median* = 11, *Mean* = 11.17, *SD* = 4.18).

Sexual Division of Power (SDP). Regarding the measures for a history of abuse*, Emotional abuse* and *Physical abuse,* 55.9% reported having been emotionally abused and 39.4% reported having been physically abused. For the measures for a history of coerced sex, *Coerced vaginal sex* and *Coerced anal sex,* 24% reported having been forced to have vaginal sex and 4.1% reported having been forced to have anal sex when they didn't want to. *Fear of condom negotiation* was measured using a seven-item scale (*Range* = 7 to 35); the median score was 7, with higher scores indicating greater fear of communicating about condoms with a partner. *Refusal self-efficacy* was measured using a seven-item scale (*Range* = 7 to 32); the median score was 26 with higher scores

indicating greater refusal self-efficacy. *Frequency of partner communication about sex* was measured using a five-item scale (*Range* = 5 to 20); the median score was 10, with higher scores indicating more frequent partner discussions about sex. *Partner communication self-efficacy* was measured using a six-item scale (*Range* = 6 to 24); the median score was 24. The range of values for the composite variable for SDP was 0 to 26 (*Median* = 8, *Mean* = 8.96, *SD* = 5.13).

Descriptive Statistics for the Restricted Sample: History of STIs (n = 397)

Sample. The self-reported range of ages for the sample was 14 to 20 years (*Mean* = 17.4 years, *SD* = 1.72). 162 participants (40.8%) were less than 18 years of age. 313 participants (78.8%) reported having a boyfriend. 128 participants (32.2%) reported having had a history of four vaginal sex partners or less in their lifetime (*Range* = 1 to 200, *Median* = 6).

Sexual history. During their last sexual encounter, 128 participants (32.2%) reported having used the pill, patch, or depo; 65 participants (16.4%) reported having used withdrawal; 47 participants (11.8%) reported having used another method; and 200 participants (50.4%) reported not having used any method to prevent pregnancy. 74 participants (18.6%) reported never having taken an HIV test. Of the 323 who reported having taken an HIV test, 77 participants (23.8%) reported that they did not return to get their HIV test results (missing values = 74). 397 participants (56.6%) endorsed a history of STIs; of these, 150 participants (37.8%) reported having had trichomonas, 288 participants (72.5%) reported having had chlamydia, 151 participants (38%) reported having had gonorrhea, 8 participants (2%) reported having had syphilis, 27 participants

(6.8%) reported having had genital warts, 20 participants (5%) reported having had genital herpes, and 23 (5.8%) reported having had "Other" (not specified). Five participants (1.3%) reported not having been treated the last time they had an STI. 104 participants (26.2%) reported that the last time they had an STI, their partner was not treated.

Sexual Division of Labor (SDL). Regarding the measure, *Education,* 36.1% of participants reported having graduated high school or passed the GED (missing values = 20); for *Employment,* 36.5% were employed; and for *Assistance received,* 44.3% reported having received some form of government assistance at least once in the last 12 months. The range of values for the composite variable for SDL was 0 to 2 (*Median* = 1, *Mean* = 1.24, *SD* = 0.79).

Structure of Cathexis (SOC). Regarding the measure, *Older partners,* 71 participants (17.9%) reported having partners greater than 4 years older than them. For the measure, *Conservative religious beliefs*, 79 participants (19.9%) indicated that they agree or strongly agree to feeling bad when having sex, 32 participants (8.1%) agree or strongly agree to feeling bad when using contraception like birth control pills, and 11 participants (2.8%) agree or strongly agree to feeling bad when using condoms during sex because of their religious beliefs. Regarding the measure, *STI knowledge* median score was 18 (*Range* 12 to 22), with higher scores indicating greater STI knowledge. For the measure, *Frequency of parental sexual communication*, the median response option was "sometimes" for the indices addressing parental discussion of sex, STIs, AIDS, and pregnancy prevention. For the index assessing parental discussion of condom use, the median response option was "rarely." Regarding the measure for *Self-esteem* using the

Rosenberg Self Esteem scale (*Range* = 10 to 36), the median total value was 27 with higher scores reflecting higher levels of self-esteem. Regarding the measure for *Depressio*n, measured using the eight-item brief version of the CES-D (*Range* = 8 to 32), the median score was 12 with a score of 16 or greater indicating depression. The range of values for the composite variable for SOC was 3 to 23 (*Median* = 11, *Mean* = 11.23, *SD* = 4.10).

Sexual Division of Power (SDP). Regarding the measure for abuse*, Emotional abuse* and *Physical abuse,* 49% reported having been emotionally abused and 32.2% reported having been physically abused. For the measures for coerced sex, *Coerced vaginal sex* and *Coerced anal sex,* 20.1% reported having been forced to have vaginal sex and 3.3% reported having been forced to have anal sex when they didn't want to. *Fear of condom negotiation* was measured using a seven-item scale (*Range* = 7 to 35); the median score was 7, with higher scores indicating greater fear of communicating about condoms with a partner. *Refusal self-efficacy* was measured using a seven-item scale (*Range* = 7 to 28); the median score was 25, with higher scores indicating greater refusal self-efficacy. *Frequency of partner communication about sex* was measured using a five-item scale (*Range* = 5 to 20); the median score was 12, with higher scores indicating more frequent partner discussions about sex. *Partner communication self-efficacy* was measured using a six-item scale (*Range* = 6 to 24); the median score was 21, with higher scores indicating greater levels of partner communication self-efficacy. The range of values for the composite variable for SDP was 0 to 26 (*Median* = 9, *Mean* = 9.37, *SD* = 5.49).

Partner notification. Of the 397 participants endorsing a history of STIs, 39

participants (9.8%) reported not having notified their partner the last time they had an STI. When asked to choose a response option for why they did not tell their partners about the STI, 3 participants (7.7%) indicated that they did not know what to say, 6 participants (15.4%) indicated that they were afraid their partner may accuse them of having cheated, 1 participant (2.6%) believed her partner would find out that she had cheated, 14 participants (35.9%) were embarrassed, and 15 participants (38.5%) indicated "Other" (not specified).

Modeling Predictors of Partner Notification

Multivariable logistic regression was applied to explain the individual and partner characteristics of the 358 participants reporting that they had notified their partner the last time they had an STI using measures based upon constructs from TGP and a review of the literature (see Table 1). Of the 397 endorsing a history of STIs, 129 participants (32.5%) were considered to be at low acquired risk for SDL, 215 participants (54.2%) were considered to be low risk for acquired SOC, and 198 participants (49.9%) were considered to be at low acquired risk for SDP.

A significant increase in odds of notifying partners the last time they had an STI were seen in participants over the age of 18 (OR = 2.79; 95% CI = 1.35 to 5.79; p = 0.006) and with lower acquired risk for the composite variable for SDP (2.36; 95% CI = 1.07 to 5.18; $p < 0.033$). Participants were more likely to notify their partners the last time they had and STI with the remaining constructs, but these differences were not statistically significant: less than four lifetime vaginal sex partners (OR 2.01; 95% CI = 0.88 to 4.59; p = 0.097), current boyfriend (OR = 1.30; 95% CI = 0.58 to 2.92; p =

0.531), lower acquired risk for SDL (OR = 1.84; 95% CI = 0.79 to 4.32; p = 0.159), and lower acquired risk for SOC (OR = 1.57; 95% CI = 0.75 to 3.28; p = 0.23).

Table 1

Partner Notification for History of STIs: Logistic Regression Model

Variables	B	SE	Wald	df	Sig	OR	95% CI for OR	
							Lower	Upper
Four or less lifetime vaginal sex partners	.699	.421	2.759	1	.097	2.012	.882	4.593
Age greater than 18	1.027	.372	7.618	1	.006	2.793	1.347	5.793
Current relationship status: boyfriend	.259	.414	.392	1	.531	1.296	.576	2.918
Sexual Division of Labor (low acquired risk)	.611	.434	1.982	1	.159	1.843	.787	4.317
Structure of Cathexis (low acquired risk)	.452	.375	1.453	1	.228	1.572	.754	3.278
Sexual Division of Power (low acquired risk)	.857	.402	4.550	1	.033	2.357	1.072	5.180
Constant	.587	.450	1.700	1	.192	1.799		

Notes: B = estimates for prediction model; SE = standard error; df = degrees of freedom; Sig = significance; OR = odds ratio; CI = confidence interval

Discussion

The purpose of this study was to examine the individual and partner characteristics of adolescent and young adult African American female participants who reported notifying their partners of STIs using measures based upon constructs from TGP and a review of the literature. In this study, the majority (90.2%) of participants with a history of STI indicated that they had notified their partners the last time they had an STI. Although empirical evidence suggests that all of the constructs assessed in the logistic regression model are associated with partner notification, this study found that participants age 18 or older and with lower acquired risk for SDP were significantly more likely to have reported notifying their partners the last time they had an STI.

The association between partner notification and older age has been demonstrated in previous studies by Lim & Coupey that found that partner notification most commonly occurred in participants 18 years of age or older (Lim & Coupey, 2005) and by Gorbach et al. and Van De Laar et al. that found that participants who endorsed partner notification were more likely to be older (Gorbach et al., 2000; Van de Laar et al., 1997). Although age younger than 18 years is typically considered a socioeconomic risk factor within SDL, the construct was treated as an individual predictor variable for the purposes of the present study to reflect the findings from our literature review. Our finding of age older than 18 having a protective effect for partner notification suggests that behavior change programs targeting partner notification may benefit from special consideration of participants under the age of 18 who may be less likely to notify their sexual partners of STIs.

Constructs within SDP were also found to be significantly associated with the practice of partner notification. Participants with lower acquired risks for SDP were more likely to report notifying their partners the last time they had STIs. This finding is consistent with a previous study demonstrating that participants commonly failed to notify their sexual partners about STIs because of fear of physical violence (Chacko et al., 2000). Findings from another study examining partner notification by Fortenberry et al. suggest that self-efficacy is an important predictor for whether or not partner notification will occur (Fortenberry et al., 2002).

Power may be defined as having the capacity to influence the action of others or as having the ability to act or to change in a desired direction. At the institutional level, SDP is maintained by social mechanisms that may include the abuse of authority and

control in relationships. SDP constructs that were relevant for the present study were the history of sexual or physical abuse (i.e., physical exposure) and poor assertive communication skills and limited perceived control over condom use (i.e., behavioral risk factors). According to TGP, as the power inequity between men and women increases and favors men (i.e., women experience more negative physical exposures and risk factors), women will be more burdened by SDP and more likely to experience poorer health outcomes compared to women without these exposures and risk factors. Thus, women's sexual choices and behaviors may be limited by their acquired risk for SDP, thereby enhancing their risk for adverse health behaviors such as failing to notify sexual partners of STIs (DiClemente, Crosby, & Kegler, 2009). The findings of the present study suggest that participants who notified their partners of STIs experience less power inequity and may feel a greater sense of empowerment to practice partner notification. Programs targeting partner notification may benefit from special consideration of participants with greater acquired risk for SDP. In particular, individuals reporting a history of abuse may benefit from mental health counseling and treatment before or in conjunction with practicing STI partner notification.

The remaining constructs, SDL, SOC, lifetime number of vaginal sex partners, and current relationship status, were associated with a non-statistically significant increase in odds for participants having notified their partners the last time they had an STI. According to SDL, as the economic inequity between men and women increases and favors men (i.e., women experience more negative economic exposures and socioeconomic risk factors compared to the women without these exposures and risk factors), women with this acquired risk for SDL will experience poorer health outcomes

(DiClemente, Crosby, & Kegler, 2009). Although findings from the present study suggest that women with lower levels of acquired risk for SDL were more likely to have notified their partners of STIs, it was not to a statistically significant degree. The lack of statistical significance for SDL may be explained with a closer examination of the population involved. The study involved primarily adolescent and young adult women, ages 14 to 20, who may not yet be finished with their education, employed, nor carrying the responsibility of caring for themselves or other dependents. Due to their young age, participants may be relying on their parents or other family members for economic support. Thus, many participants may not experience financial dependence on their male partners, reducing the relevance of SDL.

According to SOC, women who are more accepting of conventional social norms and beliefs experience more social exposures and personal risk factors and will be more likely than women not having these exposures and risk factors to experience poorer health outcomes (DiClemente, Crosby, & Kegler, 2009). For the present study, the social exposures that were relevant for examination were older partner age, religious affiliation that forbids the use of contraception, and family influences not supportive of STI/HIV prevention. The personal risk factors relevant for the present study were limited knowledge of STI/HIV prevention and a history of depression and/or psychological distress. Study findings by Fortenberry et al. suggest that relationship quality is an important predictor for whether or not partner notification will occur (Fortenberry et al., 2002). Under SOC, women who are more accepting of conventional social norms and beliefs will have been less likely to have notified their partners of STIs. Although the present study's findings support this assumption, it was not to a statistically significant

degree (DiClemente, Crosby, & Kegler, 2009). The present study may have been limited in its examination of SOC as several constructs that may be more relevant to adolescents, who as a whole are more influenced by peer pressure than adults, such as conservative cultural and gender norms were not included. Future studies of partner notification practices among adolescents should consider including relevant cultural and social norms in their assessments.

Lifetime number of vaginal sex partners approached significance ($p = 0.097$) for partner notification. The previous study by Lim & Coupey found that partner notification most commonly occurred among participants who reported having had only one lifetime sex partner (Lim & Coupey, 2005). The number of participants for the present study who reported having had only one lifetime vaginal sex partner was very small (14 participants, 3.9%). Thus, dichotomizing on one lifetime vaginal sex partner resulted in skewness of the data. As an alternative, we chose to dichotomize the lifetime number of vaginal sex partners using the median value of five to prevent this influence of skewness. The adjustment may have contributed to the lifetime number of vaginal sex partners not being significantly associated with partner notification. However, given that the construct did approach significance, the finding suggests that individuals with a history of five or more vaginal sex partners may benefit from outside assistance when notifying their partners of STIs. Clinicians and health departments may benefit from following up closely with participants reporting a history of five or more lifetime vaginal sex partners as they monitor the incidence and prevalence of STIs.

The lack of statistical significance for current boyfriend status conflicts with the studies by Gorbach et al. and Van De Laar et al. that found that study participants

endorsing partner notification were more likely to be involved in a steady relationship (Gorbach et al., 2000; Van de Laar et al., 1997). One possibility for the discrepancy may be that the present study asked participants about partner notification for the last time they had an STI and did not specify whether or not the partner(s) in question is currently their boyfriend. Future studies of partner notification may benefit from a closer examination of the timing of STIs in relation to relationships.

Finally, a small subset of participants reported that they failed to practice partner notification the last time they had an STI. Of the more than half (56.6%) who endorsed a history of STIs, almost 10% reported not having notified their partner the last time they had an STI. Close to 40% of participants selected "Other" as their reason for failing to notify their partners. Findings from the present study suggest that partner notification practices are significantly associated with age and acquired risk for SDP. Future examinations of the failure of partner notification practices should include more specific response options reflecting constructs within SDP such as a history of abuse, fear of condom negotiation, refusal self-efficacy, and self-efficacy and frequency of partner communication about sex.

Strengths and Limitations

The study has many strengths. The design of the original study was based on TGP, which allowed the investigator to apply and test associations of the theory's constructs. Furthermore, the constructs selected for examination were based upon a previous study by DePadilla et al. that used the same population to test and validate a structural equation model (SEM) for condom use. Findings from DePadilla et al.'s study

were used to guide the measures utilized for the present study (DePadilla et al., 2011). The additional constructs selected were determined to be relevant from an extensive review of the literature for STI partner notification. Thus, the present study's design and research methods used a previously validated SEM and literature review to determine the inclusion of the most appropriate constructs within TGP.

However, the study does have several limitations. Although tested and validated among the same population, DePadilla et al. was assessing condom use among young women. As this is a different outcome from that of the present study, the utility of the SEM for the present study may be limited. The SEM by DePadilla et al. also had several limitations. The measures for economic risk demonstrated low reliability while the measures for physical risk demonstrated a lack of consistent association. DePadilla et al. suggest that additional research should examine economic risk and physical risk specifically among the adolescent population. Indeed, TGP's conceptualization of economic risk is difficult to measure among young women as their economic risk is often indicated more so by the young women's families. More appropriate indicators for economic risk in young women may be assessments of whether or not they are supporting dependents such as their own children or whether or not they are engaging in sexual relationships to shield them from community violence in disadvantaged neighborhoods. The SEM is also limited by exclusion of certain constructs. In the SEM, coerced sex fails to include oral sex and the outcome variable involved only vaginal sex but not other types of sex. These exclusions may result in incomplete conceptualization of TGP. The sample size of the study also limited the number of TGP indicators that DePadilla et al. could include. Their selection of constructs was restricted to those deemed most relevant

to test the theoretical relationships within TGP. As such, DePadilla et al.'s well-fitting validated SEM does not exclude the existence of alternative well-fitting models that may be better suited to assess STI partner notification practices (DePadilla et al., 2011).

Alternatively, secondary analysis of baseline data prevented the present study from examining constructs specific to partner notification practices determined relevant from a review of the literature. As a result, conceptualization of TGP as it applies to partner notification practices may be incomplete. Other limitations resulting from secondary data analysis include the nature of the data and the sample size. The study utilized cross-sectional data, which does not allow for the determination of causal inferences. The original study size (n = 701) was restricted to participants reporting a history of STIs (n = 397) to reflect the purposes of the present study. The original study size was determined to be adequate for an HIV prevention randomized controlled trial but not for an assessment of partner notification practices. Thus, the sample size may have been insufficient to test for significant associations for partner notification practices.

Finally, the characteristics of the recruited sample may limit the study's findings. A nonrandom selection process was utilized to recruit adolescent and young adult African American women seeking services at health clinics in a large metropolitan city in the Southeastern US. Many participants were recruited specifically in the setting of STI and reproductive health clinics. The recruitment process may have led to self-selection bias and limitations in the study's external generalizability. Additionally, a much larger percentage of participants in the present study reported having notified their partners of STI than anticipated from our literature review. The discrepancy may be attributed to the likelihood that individuals who agree to participate in a study concerning HIV prevention

may already be proactive in the care of their own health. These individuals may be more likely to notify their partners of STIs than those who declined participation in the study and those who do not seek treatment in general. Components of desirability bias and recall bias may have also contributed to the large percentage of individuals reporting partner notification as participants may have been embarrassed to admit they did not notify their partners or may have forgotten how many they had notified. However, the use of ACASI as opposed to face-to-face interactions with study investigators likely reduced the influence of desirability bias. The present study was unable to assess the difference between the self-report of partner notification versus the actual number of partners notified. Future assessments should consider comparing the self-reported number versus the actual number of partners notified by contacting the partners to confirm notification, if feasible. Finally, although only approximately 10% of participants reported not having notified their partners the last time they had an STI, 104 participants (26.2%) reported that their partner was not treated the last time they had an STI. The discrepancy in partner notification versus partner treatment may demonstrate a higher number of partners not notified than actually reported.

Conclusion

The present study has demonstrated that partner notification practices are associated with constructs within the *Theory of Gender and Power* particularly as they relate to age and the *Sexual Division of Power.* The study suggests that partner notification interventions need to explicitly address the power inequity that may be present between adolescent and young adult African American females and their male

partners. As interventions guided by TGP are distributed, findings from this study may be used to further guide these interventions to address the constructs particularly relevant to the populations being intervened upon. The findings of the present study suggest a further need to examine the barriers to partner notification practices, especially given the recent attention that partner-delivered, or expedited, treatment for chlamydia and gonorrhea has recently received. The policies and guidelines surrounding expedited partner treatment should take into consideration the characteristics and attributes associated with successful partner notification practices so as to maximize the likelihood that contacts to STIs are notified, counseled, and treated.

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