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Characteristics of African American Adolescent Females Who Perceive Their Current Boyfriends have Concurrent Sexual Partners

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Abstract

Purpose—Perceived partner concurrency, reporting that a current sexual partner has other sexual partners, may pose sexual health risks to adolescents. We examined the contextual characteristics of African American female adolescents who reported their current boyfriend was having concurrent sexual relationships.

Methods—Participants were African American adolescent females ($N = 511$; M age = 17.6) recruited from sexual health clinics. Prior to participating in an STD/HIV prevention trial, participants completed self-administered ACASI interviews with measures of perceived partner concurrency, individual- (e.g., depression, substance use), interpersonal- (e.g., social support, interpersonal stress), and community-level factors (i.e., neighborhood quality).

Results—Twenty-seven percent of participants reported their belief that their current boyfriend had concurrent sexual partners during their relationship. In a logistic regression analysis, participants endorsing perceived partner concurrency reported less relational power (AOR = .94, 95% CI = .89–.98, $p < .01$), decreased relationship commitment (AOR = .88, 95% CI = .80–.96, $p < .01$), elevated perceived interpersonal stress (AOR = 1.02, 95% CI = 1.003–1.04, $p < .05$), and past STD diagnoses (AOR = 2.07, 95% CI = 1.31–3.28, $p < .01$; Overall model: $\chi^2 = 67.25$; $p < .001$).

Conclusions—Results suggest that the efficacy of sexual risk reduction interventions may be improved by emphasizing the increased HIV/STD risks associated with having a boyfriend with concurrent sex partners. In addition, interventions may benefit from incorporating stress management training and addressing key relationship dynamics, particularly among adolescents with a history of STDs.

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Keywords

perceived partner concurrency; sexual networks; African American adolescent females; STD

African Americans experience disproportionately high rates of sexually transmitted diseases (STDs) [1]. Of particular concern are rates of STDs among young African American women [1]. Recent national estimates indicate that African American female adolescents between the ages of 15 and 19 experience the highest rates of chlamydia and gonorrhea [2]. This is particularly alarming given that STDs pose a number of negative health consequences and increase susceptibility to HIV [3–5].

Sexual concurrency, defined as simultaneous sexual relationships with multiple partners, may heighten the risk of STD/HIV transmission within social networks [6, 7]. Previous studies suggest that sexual concurrency is common among African American adolescents [8]. Research has examined reports of *individual concurrency*, defined as self-reported concurrency, and *perceived partner concurrency*, a second-hand account of their partner's concurrency [9]. In the present study, perceived partner concurrency was examined by females providing information about whether they believed their boyfriend had concurrent female sex partnerships [9]. We sought to describe the prevalence and characteristics of African American female adolescents who reported perceived partner concurrency.

Rates of individual concurrency among African American adolescents are typically higher among males [10] and may increase the STD transmission risk to their female partners [9, 11]. Despite the health risks posed by relationships with men believed to have concurrent sexual partners, only one study has examined the prevalence and correlates of perceived partner concurrency [9]. Among a sample of heterosexual adult men and women (aged 18–39), perceived partner concurrency differed based on individual-level characteristics of the respondents (e.g., racial discordance between partners) [9]. Relationship factors including longer relationship length and being married were also associated with lower likelihood of perceived partner concurrency [9]. While this study provides important information regarding adults' reports of perceived partner concurrency, the focus was on older, adult men and women. No study has examined the characteristics of African American adolescent females who endorse perceived partner concurrency. Given that male partner concurrency represents a risk factor for STD acquisition, the present study sought to identify characteristics of adolescent females whose male partner was believed to have concurrent sexual relationships.

While the factors associated with perceived partner concurrency among adolescents remain undetermined, there is a host of evidence to suggest that contextual factors affect adolescents' sexual risk behavior [12]. Indeed, findings support the use of a broader, socio-ecological approach since adolescents make behavior choices within complex social systems and structures, and each system [individual-, interpersonal- (i.e., romantic relationship, family, and peers), community-, and society-level systems] influences sexual risk and protective behaviors [12]. Thus, in the present study we utilized a socio-ecological perspective to examine the association between individual-, interpersonal-, and community-level factors and perceived partner concurrency.

While not studied in relationship to perceived partner concurrency, individual-level psychosocial and behavioral factors have been correlated with sexual risk behaviors. Elevated psychological distress has been associated with sexual risk behaviors, including less frequent condom use and greater number of lifetime sexual partners in African American adolescents [13]. Similarly, lower self-esteem is associated with an increased

number of sexual partners and engagement in other HIV risk behaviors [14]. Substance use also impacts sexual behavior as indicated by increased unprotected sexual encounters among adolescents [15]. History of previous abuse may be associated with increased sexual risk behaviors; one study found that childhood sexual abuse was associated with later individual concurrency [16]. Impulsivity, an underlying propensity towards impulsive actions, has been linked to alcohol use and engagement in risky sexual behaviors [17]. One's own concurrency, individual concurrency, has also been associated with decreased condom use among adolescents and may be associated with perceived partner concurrency [18, 19]. A final correlate with perceived partner concurrency is STD history. Although not specific to perceived partner concurrency, one study found that individual concurrency in the most recent sexual partnership was more likely among those with a previous STD diagnosis [9]. Given the association between individual, psychological factors and one's previous STD history and sexual risk behaviors, the present study examined the relationship between these factors and perceived partner concurrency.

Interpersonal factors may also play a role in the maintenance of relationships with partners believed to have concurrent sexual partnerships. Given differential power in sexual relationships, adolescents may have difficulty negotiating safe sexual practices including condom use [20]. In one study, adolescents with less power and greater emotional investment in the relationship were less able to negotiate condom use with their partners [21]. Type of partner and relationship commitment level may also be associated with maintenance of a relationship with a partner believed to have other sexual partners. For instance, in a sample of adolescents, those who were less emotionally attached to their partner reported higher rates of individual concurrency [22]. In the broader arena of adolescents' relationships, interpersonal stress and social support has been linked to sexual risk behavior. For example, increased conflict and stress in interpersonal relationships has been correlated with less frequent condom use [23]. Social support buffers the impact of stressful life events and has been associated with increased condom use in adolescents [24]. There have been a variety of interpersonal communication constructs examined as antecedents of sexual risk behavior. While not examined in relationship to perceived partner concurrency, self-efficacy to engage in protective sexual practices and condom negotiation skills are important constructs in association with risk behavior. Greater self-efficacy to refuse unwanted sexual behaviors has been connected to more consistent condom use among adolescents [25]. Communication between partners plays a critical role in negotiating condom use. Adolescents who communicate less with their partners about sexual health matters and those with less confidence in their abilities to negotiate condom use typically engage in more unprotected sexual encounters [26]. Relationship dynamics, broader interpersonal factors, and interpersonal communication constructs are associated with sexual risk behavior and consequently were studied in relationship to perceived partner concurrency.

Lastly, community-level factors have been linked to differences in sexual risk behavior and STD prevalence. Epidemiological data points to the clustering of STDs and HIV within specific geographic regions. Additionally, the physical quality of a neighborhood (e.g., housing quality, presence/absence of trash or graffiti, etc.) has been associated with differences in STD rates [27]. For example, Cohen and colleagues noted that neighborhoods with poorer neighborhood physical qualities had higher prevalence of gonorrhea relative to neighborhoods with better physical qualities, independent of poverty rates [27]. Thus, we examined the association between perceived partner concurrency and neighborhood quality as a community-level measure.

This study was conducted to examine the characteristics of African American adolescent females who believed their boyfriend had concurrent sexual partners (perceived partner

concurrency). Individual-, interpersonal-, and community-level factors were examined as potential correlates of perceived partner concurrency in both bivariate and multivariate analyses. We hypothesized that individual-level factors of the female respondents including increased psychological distress (i.e., depression symptoms, diminished self-esteem), previous history of trauma (i.e., emotional or physical abuse), past use of substances, impulsivity, individual concurrency, and previous STD history would be associated with perceived partner concurrency. We also predicted that interpersonal factors (as reported by the female participants) and interpersonal communication measures including diminished relational power, less commitment to the relationship, elevated interpersonal stress, lower social support, lower self-efficacy to refuse unwanted sexual activity, and increased fear of condom negotiation would be correlated with perceived partner concurrency. Lastly, we predicted that poorer neighborhood quality (a community-level factor) would be associated with perceived partner concurrency.

Methods

Participants

African American adolescent females ($N = 701$) were recruited to participate in an STD/HIV prevention trial from either a county health department STD clinic ($n = 373$), a hospital-based adolescent sexual health clinic ($n = 81$), or a Planned Parenthood clinic ($n = 247$). Analyses were limited to participants with a current boyfriend with whom they were sexually active ($N = 511$; 78% of total sample). Participants were between 14 and 21 years old with mean (SD) age of 17.6 (1.6). With regards to education, 8% completed the eighth grade or below, 55% were in high school (grades 9–12), 19% had graduated from high school or earned a GED, 14% had completed one or more years of college, and 4% described their level of education as “other.”

Procedures

Participants were part of a larger study evaluating a sexual risk-reduction intervention for African American adolescent females. Analyses reported in this article are based on baseline data collected prior to assignment to study conditions and exposure to the intervention. From June, 2005 to June, 2007 African American adolescent females, ages 14–20, were recruited from three clinics in Atlanta, Georgia, providing sexual health services to predominantly inner-city adolescents. A young African American woman recruiter approached adolescents in the clinic waiting area, described the study, solicited participation, and assessed eligibility. Eligibility criteria included: (a) self-identifying as African American; (b) 14–20 years of age; and (c) reporting vaginal intercourse at least once without a condom in the past 6 months. Exclusion criteria included: (a) being married; and (b) currently pregnant, or attempting to become pregnant. Adolescents returned to the clinic to complete informed consent procedures, baseline assessments, and be randomized to trial conditions. Data collection consisted of a 60-minute survey administered via audio computer-assisted self-interviewing technology. Participants were compensated \$75 for travel and childcare to attend intervention sessions and complete the baseline assessment. Written informed consent was obtained from all adolescents with parental consent waived for those younger than 18 due to the confidential nature of sexual health clinic services. Of the eligible adolescents, 94% ($N = 701$) enrolled in the study, completed baseline assessments, and were randomized to study conditions. The Emory University Institutional Review Board approved all study protocols.

Measures: Demographics

Demographics—For descriptive purposes, participants reported their current age and level of education.

Measures: Relationship Status and Perceived Partner Concurrency

Current relationship status—Current relationship status was assessed by first asking participants whether they had a boyfriend. Response choices were yes (1) or no (0). For participants with a boyfriend, they then indicated how soon after initiating the relationship they had vaginal sex. Responses were dichotomized to describe: (a) individuals with a boyfriend with whom they were sexually active and (b) individuals with a boyfriend with whom they were *not* sexually active. For descriptive purposes, participants also reported: (a) the length of their relationship and (b) condom use during their most recent sexual encounter (yes/no).

Perceived partner concurrency—To measure perceived partner concurrency, participants reported whether they believed their boyfriend had other female sexual partners during their relationship. Response choices were yes (1) or no (0).

Measures: Individual-Level Factors

Depressive symptoms—Respondents' depressive symptoms were measured with the 8-item Center for Epidemiological Studies-Depression scale [28]. The CES-D assesses the presence of depressive symptoms in the past 7 days. Cronbach's alpha, a measure of the scale's internal consistency, was 0.91.

Self-esteem—The Rosenberg Self-Esteem Scale, a 10-item scale, measured global self-esteem [29]. Possible scores range from 10 to 40, with higher scores indicating higher levels of self-esteem. Cronbach's alpha was 0.86.

Abuse history—Participants self-reported whether they had previously experienced any: (a) emotional abuse (threatened, called names, etc.) or (b) physical abuse (hit, punched, kicked, slapped, etc.). Response choices were yes (1) or no (0).

Substance use history—Participants self-reported whether they had ever used (a) alcohol or (b) marijuana. Response choices were yes (1) or no (0).

Impulsivity—Impulsivity was assessed using Zimmerman's 15-item impulsivity scale [30]. Possible scores range from 15 to 75, with higher scores indicating higher levels of impulsivity. A sample item includes, "I like to do things as soon as I think about them." Cronbach's alpha was 0.76.

Individual concurrency—Presence of individual concurrency (a respondent's *own* concurrency) was defined as participants who reported having both: (a) a current boyfriend with whom they were sexually active; and (b) current casual sexual partner(s).

Previous STD diagnosis—Participants self-reported if they ever had a positive STD test result. Response options were yes (1) and no (0).

Measures: Interpersonal-Level Factors

Relational power—A 17-item relational power measure assessed participants' perceived level of power in sexual relationships [31]. A sample item includes, "Most of the time we do what my partner wants to do." Possible scores ranged from 17 to 68 with higher scores indicative of more power in the relationship. Cronbach's alpha was .48.

Relationship commitment—A 4-item measure asked participants to characterize their commitment level to their boyfriend. Items were a modified subset of questions from the

original scale [32]. Sample items include: “I see myself marrying my current boyfriend” and “I’ll stay with my current boyfriend until someone better comes along.” Scores ranged from 4 to 16; higher scores were indicative of more relationship commitment. Cronbach’s alpha was .64.

Perceived interpersonal stress—We used 14 items modified from the African-American Women’s Stress Scale to measure perceived interpersonal stress [33]. Questions assess the amount of stress an individual feels in different interpersonal relationships. Cronbach’s alpha was 0.87.

Social support—Perceived social support was assessed with an 11-item scale [34]. A sample scale item includes, “I can count on my friends when things go wrong.” Responses were coded so that higher scores reflected higher levels of perceived social support. Cronbach’s alpha was 0.90.

Fear of condom negotiation consequences—Fear of consequences of condom negotiation with a sexual partner was assessed by a 7-item scale [35]. Sample consequences for negotiated condom use were “ignore my request,” “hit, push or kick me,” “leave me,” and “go out with other girls.” Cronbach’s alpha was 0.87.

Sex refusal self-efficacy—Self-efficacy to refuse unwanted sexual activity was assessed using a 7-item measure [36]. Scores on the measure ranged from 7 to 28. Responses were coded such that higher scores indicate greater self-efficacy to refuse unwanted sexual activity. Cronbach’s alpha for the measure was .82.

Measures: Community-level factors

Neighborhood quality—Neighborhood quality was assessed with 3 questions about the physical condition of participants’ neighborhood. A sample item is, “On your street, are there abandoned homes or apartments?” Responses to all three Yes/No questions were summed to create an index of neighborhood quality with higher scores indicative of poorer neighborhood quality [27].

Data Analysis

Descriptive statistics were first calculated to describe current relationship characteristics and the frequency of perceived partner concurrency. Next, bivariate analyses compared adolescents who endorsed perceived partner concurrency to those who did not endorse perceived partner concurrency on individual-, interpersonal-, and community-level factors. Independent samples *t*-tests examined differences between groups for continuous variables and chi-square analyses examined differences between groups for categorical outcomes. Factors significantly associated with perceived partner concurrency at the bivariate level were then entered into a multivariate, logistic regression analysis.

Results

Descriptive Statistics

Of the 701 participants recruited for this study, 73% reported having a boyfriend with whom they were sexually active ($N = 511$). The average relationship length was slightly more than one year ($M = 15.4$ months; $SD = 15.1$). Of these participants, more than a quarter (27%) reported their belief that their boyfriend had concurrent female sexual partners during their relationship. During the last sexual encounter, 67% indicated that their boyfriend did not use a condom.

Bivariate Analyses

Table 1 presents the bivariate analyses comparing participants who reported perceived partner concurrency (n = 139) to those who did not endorse perceived partner concurrency (n = 372). Bivariate analyses indicated that perceived partner concurrency was associated with female adolescents endorsing: (a) more depressive symptoms; (b) lower self-esteem; (c) a history of physical abuse; (d) a history of emotional abuse; (e) past alcohol use; (f) past marijuana use; (g) greater impulsivity; (h) less relational power; (i) less commitment to the relationship; (j) greater perceived interpersonal stress; (k) less social support; (l) greater fear of condom negotiation; and (m) history of an STD. There were no differences in perceived partner concurrency by individual concurrency or neighborhood quality.

Multivariate Analysis

Table 2 displays findings from the logistic regression analysis. In the logistic regression analysis, diminished relational power (AOR = .94, 95% CI = .89–.98), decreased relationship commitment (AOR = .88, 95% CI = .80–.96), elevated perceived interpersonal stress (AOR = 1.02, 95% CI = 1.003–1.04), and past STD diagnosis (AOR = 2.07, 95% CI = 1.31–3.28) were associated with perceived partner concurrency. The overall model ($\chi^2 = 67.25$; $p < .001$) indicated that the model had a high goodness-of-fit with the data.

Discussion

Results indicated that more than a quarter of African American young women reported that they believed that their boyfriends had concurrent sexual partnerships with other women during their relationship. The prevalence of perceived partner concurrency found in this study is consistent with previous studies of examining individual concurrency among African American adolescents [8]. Mathematical models suggest that sexual concurrency coupled with unprotected sexual encounters increases the STD transmission risk among sexual networks [6, 7]. The risks posed by concurrent partnerships to transmit STDs underscore the need to understand factors associated with maintaining a relationship with a boyfriend believed to have other sexual partners.

Adolescents with a previous STD diagnosis were more than twice as likely to report perceived partner concurrency. This finding is consistent with previous research identifying past STDs as a correlate of individual concurrency [9]. Interpersonal factors were also associated with adolescents' reports of perceived partner concurrency. Specifically, diminished relational power, lower commitment to the relationship, and elevated interpersonal stress were associated with perceived partner concurrency. Previous research highlights that women tend to have less power to negotiate preventative sexual practices with their male partners [20]. Similarly, results supported the link between perceived partner concurrency and lower commitment to the relationship [22]. In addition, adolescents who experienced more stress in their interpersonal relationships were more likely to report perceived partner concurrency. It may be that having a boyfriend believed to have other sexual partners is more acceptable among adolescents who have less power in relationships, are less committed to their romantic relationships or have difficulty managing interpersonal stress and conflict.

Contrary to our *a priori* hypotheses, individual- and community-level factors were not significantly associated with perceived partner concurrency in the multivariate model. Future research should seek to further evaluate the role that individual factors, psychological functioning, and community factors play in perceived partner concurrency. For example, it may be that such factors play a more important role in an individual's own engagement in concurrent partnerships (individual concurrency) whereas interpersonal factors are better

predictors of perceived partner concurrency. Research should move towards more comprehensive, theory-driven models of individual and perceived partner sexual concurrency that incorporate individual, interpersonal, and broader community-level contextual factors.

This study is limited by its cross-sectional nature. As a result, we could not examine the longitudinal impact of perceived partner concurrency on sexual risk behaviors and STD outcomes. Additionally, our measure of STD history relied upon self-report data. We were also unable to examine concurrency dynamically within the adolescents' relationships since only one partner was assessed. Consequently, we could not explore factors associated with concurrency from the males' perspective or the impact of perceived partner concurrency on sexual behavior choices. These analyses were limited to participants who indicated having a "boyfriend" and therefore may not have fully identified individuals in other ongoing sexual relationships. Analyses relied on self-report measures which have their own limitations. For instance, it has been shown that the measure of depressive symptoms (CES-D) does not directly correspond with a depression diagnosis generated via a clinical interview assessment [28]. In addition, this sample consisted of urban African American female adolescents recruited from sexual health clinics. Therefore, results may not generalize to other non-clinic recruited adolescent populations.

Findings from this study highlight the need to develop interventions to address perceived partner concurrency in African American adolescents' relationships, especially among those with previous STDs. In particular, improving adolescents' ability to communicate with partners about condom use is critical given the frequency of young women reporting that their partner had concurrent sexual partnerships. Interventions should target the power differential within sexual partnerships and provide adolescent females with strategies to negotiate safer sexual practices, particularly in partnerships where they have diminished power. In addition, adolescent females would likely benefit from incorporating stress management approaches into sexual health promotion interventions to improve their ability to effectively cope with stress from interpersonal relationships.

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Table 1

Bivariate analyses of individual-level factors, interpersonal-level factors, and community-level factors on perceived partner concurrency ($N = 511$)

	Perceived partner concurrency ($n = 139$)	No perceived partner concurrency ($n = 372$)	Test statistic
<u>Individual-level factors</u>			
Depressive symptoms	15.9 (6.7)	14.2 (6.2)	$t(509) = -2.8^{**}$
Self-esteem	38.1 (5.3)	39.4 (4.9)	$t(509) = 2.6^{**}$
History of physical abuse	72 (51.8%)	132 (35.5%)	$\chi^2 = 11.2^{***}$
History of emotional abuse	94 (67.6%)	191 (51.3%)	$\chi^2 = 10.9^{***}$
Previous alcohol use	119 (85.6%)	277 (74.5%)	$\chi^2 = 7.2^{**}$
Previous marijuana use	112 (80.6%)	256 (68.8%)	$\chi^2 = 6.9^{**}$
Impulsivity	39.6 (8.0)	38.2 (7.2)	$t(509) = -1.9^*$
Individual concurrency	41 (29.5%)	95 (25.5%)	$\chi^2 = .81$
Previous STD diagnosis	100 (71.9%)	193 (51.9%)	$\chi^2 = 16.6^{***}$
<u>Interpersonal-level factors</u>			
Relational power	47.2 (4.6)	49.5 (4.7)	$t(509) = -4.8^{***}$
Relationship commitment	11.1 (2.6)	12.2 (2.5)	$t(509) = -4.5^{***}$
Perceived interpersonal stress	34.8 (13.1)	29.5 (13.5)	$t(509) = -3.9^{***}$
Social support	35.1 (5.6)	36.5 (5.6)	$t(509) = 2.6^{**}$
Fear of condom negotiation	9.0 (4.3)	8.0 (3.1)	$t(509) = -2.9^{**}$
Sex refusal self-efficacy	24.4 (3.9)	24.9 (3.2)	$t(509) = 1.4$
<u>Community-level factors</u>			
Neighborhood quality	.83 (1.1)	.65 (.97)	$t(509) = .08$

Note: Means (standard deviations) are presented for continuous variables. Frequencies (corresponding percentage) are presented for dichotomous outcomes. Independent samples t -tests were used to assess differences between continuous variables. χ^2 analyses were used to assess differences in dichotomous outcomes.

*
: $p < .05$;

**
: $p < .01$;

 $p < .001$.

Table 2

Logistic regression analysis of individual-level factors and interpersonal-level factors on perceived partner concurrency.

						95% CI		
			SE	Odds Ratio	Lower	Upper	p	
<u>Individual-level factors</u>								
Depressive symptoms	.001		.020	1.001	.962	1.042	.949	
Self-esteem	-.011		.020	.989	.950	1.029	.589	
History of physical abuse	.164		.266	1.178	.700	1.984	.538	
History of emotional abuse	.071		.286	1.074	.614	1.880	.803	
Previous alcohol use	.550		.305	1.734	.953	3.154	.071	
Previous marijuana use	.086		.279	1.090	.631	1.884	.757	
Impulsivity	-.066		.016	.994	.964	1.025	.713	
Previous STD diagnosis	.729		.234	2.073	1.310	3.280	.002	
<u>Interpersonal-level factors</u>								
Relational power	-.066		.025	.936	.891	.984	.009	
Relationship commitment	-.132		.045	.876	.802	.957	.003	
Perceived interpersonal stress	.022		.010	1.022	1.003	1.042	.021	
Social support	.010		.026	1.010	.959	1.064	.698	
Fear of condom negotiation	.050		.031	1.051	.989	1.117	.107	
Overall $\chi^2 =$	67.25						<.000	