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Associations Between Psychiatric Impairment and Sexual Risk Behavior Among Teens in Mental Health Treatment

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Abstract

Aims—To assess the associations of sexual risk behavior with psychiatric impairment and individual, peer, and partner attitudes among adolescents receiving mental health treatment.

Methods—Adolescents (N=893, 56% female, 67% African American) completed assessments of psychiatric impairment, rejection sensitivity, peer norms, HIV knowledge, perceived vulnerability, self-efficacy and condom use intentions. Two structural equation models were used to test the study hypotheses; one for sexually active youth and one for non-active youth.

Results—For non-active youth, psychiatric impairment influenced self-efficacy and condom use intentions via peer norms, rejection sensitivity, and perceived vulnerability. Among the sexually active youth, sexual risk was related to impairment and previous condom use.

Discussion—These results suggest that individual, peer, and partner factors are related to impairment and to sexual risk attitudes, but depend on previous sexual experience.

Keywords

adolescents; mental illness; sexual risk-taking

Adolescents and young adults currently account for 39% of new HIV infections on an annual basis (CDC, 2011). Psychopathology has also been repeatedly linked to increased HIV-risk (Brown, Danovsky, Lourie, DiClemente, & Ponton, 1997; G. Donenberg & Pao, 2005; Treisman & Angelino, 2004; Tubman, 2003). Unfortunately, the incidence of HIV among youth in mental health treatment is currently unknown, but a number of studies that include inpatient, outpatient, and community samples, suggest that adolescents with mental

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health symptoms have higher rates of sexual risk behaviors than their peers who do not have mental health concerns (Brown, et al., 1997; Brown et al., 2010; Donenberg, Emerson, Bryant, Wilson, & Weber-Shifrin, 2001; Lehrer, Shrier, Gortmaker, & Buka, 2006). Although youth with mental health concerns appear to be at increased risk for HIV infection, less is known about the specific mechanisms driving the increased risk behaviors for this population.

The Social Personal Framework

The Social Personal Framework (SPF) for HIV-Risk Behavior is one theoretical framework that has been proposed as a way to organize and understand the factors that influence risk taking among adolescents (Donenberg et al., 2011). This framework builds upon work that has identified cognitive, emotional, and social factors contributing to adolescent sexual risk taking. The framework emphasizes the relationship between these domains and highlights the overlap between domains impaired by mental health symptoms and those implicated in risk behavior. Specifically, the framework proposes that adolescent sexual risk-taking is a function of the relationships between: 1) psychopathology; 2) personal attributes (e.g., attitudes, self-efficacy); 3) peer and partner relationship concerns (e.g., perceptions of peer beliefs, fear of rejection); and 4) family context (e.g., parent-adolescent communication and parental monitoring of adolescents). These domains have significant support from previous research, but less is known about the relationships among the domains or how sexual experience impacts these relationships.

Psychopathology

Psychopathology is one domain that has been repeatedly linked to increased HIV-risk among adolescents (Brown, et al., 1997; Donenberg & Pao, 2005; Treisman & Angelino, 2004; Tubman, 2003). However, studies attempting to link specific psychiatric disorders to sexual risk behavior have found mixed and often confounding results (Donenberg, et al., 2001). Perhaps general psychological impairment, rather than specific diagnoses, is more predictive of HIV risk behaviors; whereby, factors other than symptom clusters may mediate the relationship between psychiatric impairment and sexual risk (McKinnon, Cournos, & Herman, 2001; Meade & Sikkema, 2005). A better understanding of how impairment relates to HIV risk behavior could offer suggestions for intervention targets to reduce risk among all youth in mental health treatment.

Personal Attributes

Prior research has shown that there are a number of personal attributes that are implicated in both HIV risk behavior and adolescent psychiatric impairment. On an individual level, poor judgment and dysfunctional thinking may result in decreased ability to assess risk and feelings of invulnerability to HIV (Brown, et al., 1997). Likewise, Poor information processing and inconsistent school attendance can lead to deficits in HIV-related knowledge and contribute to risk (McKinnon, 1996). Personal vulnerability and HIV knowledge may be important background factors to consider when exploring sexual risk among adolescents with mental health problems.

Relationship Concerns

Peer and partner relationships are additional factors that are associated with both sexual risk and psychopathology. Fear of rejection concerns may be especially strong for troubled teens whose interpersonal relationships are already unstable and strained (DiLorenzo & Hein, 1995). These troubled relationships may lead teens to engage in high-risk behavior to serve relationship needs such as affiliation and closeness (Cullari & Mikus, 1990; Miller & Fox, 1987; Sanderson & Cantor, 1995). Previous studies have demonstrated that fear of rejection is a significant risk factor for associating with deviant peers (Dishion, Patterson, Stoolmiller, & Skinner, 1991). Thus, emotionally disturbed youth who attempt to decrease feelings of social isolation and reduce the likelihood of peer rejection by associating with deviant peers may be more likely to adopt risky sexual attitudes from their deviant peer group.

Sexual Risk

Engaging in safe sexual behavior requires the presence of both skills (e.g., condom use and assertive communication) and associated safer sexual attitudes. Performing the safe actions is dependent on specific efficacy for both condom use and talking to a romantic partner about condoms or sexual delay (Jemmott & Jemmott, 2000; Lescano, Brown, Miller, & Puster, 2007). Adolescents must also want to engage in that safer sexual behavior. Adolescent intentions to engage in safer sexual behavior have been repeatedly linked to adoption of the safe behavior (Fishbein & Middlestadt, 1989). In fact, several studies have documented the close link between sexual risk intentions and behavior among youth with mental health problems (Auslander et al., 2002; Donenberg et al., 2005). The consistent and proximate link between condom-use self-efficacy and HIV-preventative behaviors suggests that self-efficacy and safer sexual intentions may be important to assess as necessary and closely proximal factors needed for safe sexual behavior.

The Social Personal Framework organizes domains implicated in models of psychiatric impairment and adolescent sexual risk taking. Less is known, however, about the interplay of these domains across adolescence. The relationships among domains may change as youth mature. One process that may have a particularly powerful influence on sexual risk is the onset of sexual activity. Experienced youth may have a context for understanding sexual risk and how it affects peer and partner relationships. They might also have concrete experiences on which to base their self-efficacy of implementing safe-sexual practices. The relationships among domains of the Social Personal Framework have yet to be examined among sexually experienced and inexperienced youth separately.

Hypotheses

Data from a large sample of youth in mental-health treatment was used to test the hypotheses of this study. Previous studies with the current sample have documented the influence of family factors on adolescent risk behavior (Hadley et al., 2009; Kapungu et al., 2012; Nappi et al., 2009), so we have chosen to focus on the relationships among psychopathology, personal, peer, and partner factors and youths' sexual attitudes. We hypothesized that adolescent psychopathology (i.e., psychiatric impairment), would be associated with peer and partner relationships concerns (i.e., peer norms, partner rejection

sensitivity) and individual (i.e., HIV-knowledge, and perceived vulnerability) factors. In turn, these constructs would mediate the relationship between psychiatric impairment and safer sex intentions and self-efficacy for condom use (Figure 1). These two outcomes were examined separately for sexually active and non-active youth. Beyond the impact of prior condom use on condom use self-efficacy, we do not expect that the pathways between impairment and sexual attitudes will differ between the sexually active and non-active groups.

METHODS

Participants

Data from the current study are from Project STYLE, a study testing the efficacy of an HIV prevention program for adolescents in mental health treatment. The study was conducted in three US cities (Atlanta, GA, Chicago, IL and Providence, RI). Participants were recruited from outpatient and inpatient mental health settings. Of 1102 adolescents who met eligibility criteria, 893 (81%) gave consent and completed baseline assessments. Reasons for non-enrollment included lack of interest in a research program, not having enough time, and a current family crisis due to recent adolescent hospitalization.

Adolescents (ages 13 –18 years) were eligible to participate if they were receiving mental health treatment and had an adult caregiver who had been living with the teen for the past three months. Adolescents were excluded if they were HIV infected, currently pregnant or had given birth within the past 90 days, cognitively unable to participate in a group or complete questionnaires, or had a history of sexually aggressive behavior.

The mental health symptoms of the current sample was assessed through the use of the Computerized Diagnostic Interview Schedule for Children (C-DISC-IV; Shaffer, 2000a, 2000b). The C-DISC is a structured audio computer-assisted diagnostic interview that screens for a full range of DSM-IV diagnoses but, in an effort to reduce subject burden, we chose to examine the disorders with the greatest prevalence among adolescents. The following disorders/symptom categories were included: Major Depressive Disorder (MDD), Generalized Anxiety Disorder (GAD), Post-traumatic Stress Disorder (PTSD), Mania, Hypomania, Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), and Attention Deficit Hyperactivity Disorder (ADHD). Validity and reliability are generally poor for youth reports of ADHD (Schwab-Stone, 1996); therefore, data for ADHD diagnoses were from caregivers only. Rates of diagnoses from the C-DISC were MDD (32%), GAD (34%), PTSD (19%), Mania (24%), Hypomania (22%), ODD (66%), CD (44%), ADHD (58%) and no diagnosis (12%).

Procedures

All procedures were approved by the Institutional Review Boards at each study location. For adolescents under the age of 18, both adolescent assent and parental consent was obtained. Consent was obtained for 18 year old adolescents. All enrolled adolescents completed a 60–90 minute audio computer-assisted self interview (ACASI) on a laptop computer and were compensated \$50 for completing the baseline assessment.

Measures

Adolescents reported on their age, gender, ethnicity, and race. Annual household income and adolescent psychiatric hospitalization information **were** provided by the adolescent's parent/caregiver. All measures included in this study had been used previously with psychiatric samples and shown to be reliable and valid measures (Brown et al., 2011; Donenberg, Wilson, Emerson, & Bryant, 2002).

The Columbia Impairment Scale (Dowling, Johnson, & Fisher, 1994), is a 13-item scale that provides a global measure of *Psychiatric Impairment* based on four areas of functioning: interpersonal relations, broad psychopathology, job or schoolwork, and use of leisure time. Alpha for the current study was 0.78.

The *HIV Knowledge* scale is comprised of 26 items answered "True" or "False" (Brown, et al., 1997) which assesses routes of transmission, information on testing, and common myths about HIV. Correct responses are summed to create a total score with higher scores indicative of greater HIV knowledge ($\alpha = .97$ for study sample).

Perceived Vulnerability to HIV was examined through the use of a single item which stated, "I am very nervous about AIDS". Higher scores indicate greater perceived vulnerability to HIV.

Partner rejection sensitivity (Downey & Feldman, 1996) measure is comprised of two subscales: rejection anxiety ($\alpha = .71$ for this sample) and rejection expectancy ($\alpha = .75$ for study sample). Rejection anxiety items measure feelings of anxiety in close relationships. A sample item is, "Your partner has plans to see friends tonight, but you want to see partner: How concerned/anxious would you be over whether or not your partner would decide to stay with you instead?" Responses range from 1= not at all concerned to 7= extremely concerned. Rejection expectancy items follow each of the anxiety items and ask about their situational expectations with partners. Following the previously stated rejection anxiety item, the measure states, "I would expect that he/she would willingly choose to stay with me." For this latter statement adolescents are asked to rate the accuracy of this statement on a scale from 1= not at all likely to 7= extremely likely.

Perceived peer norms were examined using a single item asking, "How many of your friends think that people your age should use a condom if they decide to have vaginal or anal sex?". Responses ranged from 1 (none) to 5 (all).

Self-efficacy for condom use (Brown, et al., 1997; $\alpha = .93$ for study sample) is comprised of 13 items and includes items such as "How confident do you feel that you could use a condom when your partner doesn't want to?" or "How confident do you feel that you could use a condom with a new partner?". Answer options ranged from 1 (very sure I could) to 4 (very sure I could not). Responses were reverse scored to increase clarity of interpretation; therefore higher scores indicate greater self-efficacy.

The Adolescent Risk Behavior Assessment (ARBA; Donenberg, et al., 2001) is designed to assess adolescent self-reported sexual and drug use behaviors (Dowling, et al., 1994; Needle et al., 1995; Weatherby, Needle, & Cesari, 1994) and has shown adequate test-retest

reliability (Venable et al., 2008). The ARBA employs a skip structure so that questions initially answered in the negative are not followed by more detailed questions. Sexual intercourse was defined as: “when a man inserts his penis into a woman’s vagina” (vaginal intercourse) and “when a man puts his penis into a man’s or woman’s anus or butt” (anal intercourse). Participants reporting a history of sex were also asked whether they had used a condom at last sex (yes/no). A history of sexual activity was used to differentiate the sample into the sexually active or non-active group and among the sexually active participants report of previous condom use was then included in the model. All participants reported on their *safe sex intentions* (e.g., use condoms or abstain from sex) in the next 90 days. Response options ranged from 1 (very sure I will) to 4 (very sure I won’t).

Data Analytic Strategy

Structural equation modeling (SEM) using Mplus 5.0 (Muthen & Muthen, 1998–2009) was used to test the hypotheses of this study. Two models were fit to the sample, one for participants who were not yet sexually active and one for those who reported previous sexual activity. The model (Figure 1) was parameterized such that Safe-Sex Intentions and Condom-Use Self-Efficacy were regressed on measures in the peer/ partner domains, measures in the individual domain of the model, and psychiatric impairment. The measures within the peer and intrapersonal domains were also regressed on Psychiatric Impairment. Because the peer /partner and interpersonal domains were thought to be related, measures within these domains were allowed to correlate with one-another. For those that were sexually active, previous condom use was entered as an exogenous variable that predicted all other variables in the model. Robust standard errors for direct and indirect effects depicted in the model were estimated using resampling methods (Mackinnon, Lockwood, & Williams, 2004). Both models were just-identified, meaning there were no degrees of freedom to test model fit.

RESULTS

Background Characteristics

Fifty-six percent of the adolescent sample ($N = 893$) was female and the mean age of participants was 14.9 ($SD = 1.3$) years. Racial composition of the sample was 67% African American/Black/Haitian, 30% White, 1% Native Hawaiian/Pacific Islander, 1% Asian, and 1% American Indian/Alaskan Native. Ethnic composition was 11% Hispanic/Latino. Household income was \$30,000/ year or less for 63% of the participating families. Approximately 30% of participating adolescents had been psychiatrically hospitalized in the past 3 months. A history of vaginal or anal sex was reported by 54% of the sample and 71 % reported using a condom at last sex.

Mean Comparisons

Mean differences are listed in Table 1. Sexually active youth reported higher Safe-Sex Intentions, higher Condom Use Self-Efficacy, and higher HIV Knowledge, as well as lower Rejection Expectations than those with no previous sexual experience. There were no differences in Psychiatric Impairment, Perceived Vulnerability, Perceived Peer norms, or Rejection Anxiety.

Model for Non-Active Adolescents

The model for adolescents who reported no previous sexual activity is depicted in Figure 2. Standardized (β) are reported in the figure whereas unstandardized (b) are reported in the text below for each examined pathway. Safe-Sex Intentions were related to higher Perceived Vulnerability (unstandardized (b) = .24 (SE = .09); $z = 2.60$, $p = .01$) and higher HIV-knowledge ($b = .04$ (.02); $z = 2.34$, $p = .02$), but not significantly related to other variables in the model. Lower Rejection Anxiety ($b = -.79$ (.35); $z = -2.26$, $p = .02$), lower Perceived Peer Norms ($b = 1.99$ (.59); $z = 3.39$, $p < .01$), and lower HIV-Knowledge ($b = .60$ (.15); $z = 4.07$, $p < .01$) were related to higher Condom Use Self-Efficacy. Psychiatric Impairment was related to higher Rejection Anxiety ($b = .05$ (.01); $z = 4.23$, $p < .01$), lower Perceived Peer Norms ($b = -.03$ (.01); $z = -2.58$, $p = .01$), and higher Perceived Vulnerability ($b = .02$ (.01); $z = 3.94$, $p < .01$). The indirect effects of Psychiatric Impairment to Condom Use Self-Efficacy through Rejection Anxiety ($b = -.03$ (.02); $z = -1.96$, $p = .05$) and Perceived Peer Norms ($b = -.05$ (.03); $z = -1.88$, $p = .06$) were statistically significant and marginally significant respectively. The indirect effect of Psychiatric Impairment to Safe-Sex Intentions through Perceived Vulnerability was also significant ($b = .03$ (.01); $z = 2.23$, $p = .03$). This model accounts for 7% of the variance in Safe-Sex Intentions and 20% for Condom Use Self-Efficacy.

Model for Sexually Active Adolescents

The model for adolescents who reported previous sexual activity is depicted in Figure 3. The model was generally similar to the model that fit to data from non-active adolescents; however, prior condom use was added to this model. Safe-Sex Intentions and Condom Use Self-Efficacy were related ($b = 1.40$ (.31); $z = 4.45$, $p < .01$) to each other. Safe-Sex Intentions was also related to Previous Condom Use ($b = .39$ (.10); $z = 3.90$, $p < .01$), higher Perceived Vulnerability ($b = .09$ (.05); $z = 1.96$, $p = .05$), and lower Psychiatric Impairment ($b = -.02$ (.007); $z = -.06$, $p = .02$). Condom Use Self-Efficacy was related to Previous Condom Use ($b = 5.32$ (.91); $z = 5.84$, $p < .01$), lower Rejection Anxiety ($b = -.62$ (.24); $z = -2.57$, $p = .01$), lower Rejection Expectations ($b = -.76$ (.27); $z = -2.81$, $p < .01$), higher Perceived Peer Norms ($b = .99$ (.38); $z = 2.61$, $p < .01$), and lower Psychiatric Impairment ($b = -.12$ (.05); $z = -2.23$, $p = .03$). Perceived Peer Norms were related to lower Psychiatric Impairment ($b = -.04$ (.01); $z = -2.51$, $p = .01$) and Previous Condom Use ($b = .44$ (.18); $z = 2.48$, $p = .01$). The indirect effect of Psychiatric Impairment on Condom Use Self-Efficacy through Perceived Peer Norms was marginally significant ($b = -.04$ (.02); $z = -1.90$, $p = .06$), as was the indirect effect of Previous Condom Use on Condom Use Self-Efficacy through Perceived Peer Norms ($b = .43$ (.26); $z = 1.67$, $p = .09$). This model accounted for 7% of the variance in Safe-Sex Intentions and 21% for Condom Use Self-Efficacy.

DISCUSSION

Previous reports have highlighted the sexual risk of youth with mental health problems (G. Donenberg, et al., 2001) and this project extends these findings in the largest and most diverse group of youth in mental health treatment studied to date. As hypothesized, adolescent psychiatric impairment was associated with personal and peer factors that have been previously linked to adolescents' sexual risk behavior (Brown, et al., 1997; DiScipio,

1994). However, contrary to our hypothesis impairment functioned differently across the sexually active vs. non-active groups, despite similar levels of psychiatric impairment. For non-active youth, psychiatric impairment operated via individual and peer/partner relationship factors, as hypothesized. In contrast, among the sexually active youth, the sexual risk variables were predominantly related to impairment and previous condom use directly.

One explanation for the differential influence of psychiatric impairment across the two groups is that sexually active youth are able to reference their previous sexual experiences when considering sexual risk, which influences their future attitudes about sexual risk. Higher levels of condom use self-efficacy and safe-sex intentions among sexually active youth may be a function of prior experience engaging in sexual activity without resultant pregnancy or STI. Another explanation for this differential influence is the presence of additional mechanisms that were not accounted for in the current model. For example, youth in the sexually active group have either previous or ongoing relationships with sexual partners, and the quality of these relationships, may have important associations with impairment, relationship concerns, and sexual risk. By not accounting for the relationship context surrounding previous sexual activity, it is difficult to interpret the associations between impairment and partner variables. It is not hard to imagine that youths' previous experiences negotiating condom use during sex would influence their anxiety and expectations around being rejected as well as their self-efficacy. Alternatively, the difference between sexually active and non-active youth may be the complex relationship between impairment in different areas of functioning and sexual risk. Lack of impairment in some areas of functioning (e.g., relationships) may be more immediately salient to sexuality than in other areas (e.g., work), and these areas of impairment were not differentiated in this study.

In sum, the results of this study support the link between psychiatric impairment and sexual risk attitudes, such that adolescents with more psychiatric impairment are more likely to endorse risky sexual attitudes. They also suggest that personal attitudes, perceptions of peer norms, and partner factors are related to impairment and to sexual risk attitudes. These relationships appear to depend on previous sexual experience. These findings have several implications. Because greater impairment was associated with relationship concern factors linked with sexual risk, reduced impairment may help to reduce risk by decreasing these mediating processes. For example, reduced impairment may help adolescents associate with peers with healthier sexual beliefs (i.e., using condoms is always a good idea), or may help them be less influenced by risky sexual norms. This could be an important, although indirect benefit of effective mental health treatment. It is not clear whether improving psychiatric functioning in general will reduce sexual risk, or whether improved functioning must be specific to personal, peer, and family factors most closely associated with sexual risk.

Another possible way that psychopathology and sexual risk could be linked is through the role of victimization. In fact, Morrison-Beedy and colleagues (2003) found a link between mental health diagnoses and being victimized in sexual situations. Unfortunately, this study does not provide direct information about this link, and there is a lack of longitudinal and experimental data on the impact of psychiatric treatment on sexual health and sexual

decision among adolescents. Examination of risk by choice versus victimization should also be the focus of future studies examining risk behaviors among this vulnerable population.

Another important implication of the results reported in this study is the importance of considering peer and partner processes. Although the two samples displayed differential patterns in regard to the influence of psychiatric impairment, the relationships with perceived peer norms were consistent. Specifically, perceived peer norms was the only variable across both groups that showed consistent relationships with both psychiatric impairment and sexual risk attitudes supporting previous studies demonstrating the strong influence of peers on risk attitudes and behaviors (Bryan, Rocheleau, Robbins, & Hutchinson, 2005; Chein, Albert, O'Brien, Uckert, & Steinberg, 2011; Gardner & Steinberg, 2005), especially for youth with mental health symptoms (DiScipio, 1994). These findings highlight that perceptions of peer norms should be included in any sexual risk reduction intervention and provide additional support for using group based interventions to target adolescent perceptions of peer beliefs about condoms.

As stated previously, this is the largest study of adolescent sexual risk in mental health treatment, but the study has a number of limitations that require consideration when generalizing the findings. Beyond previously noted limitations, this study was cross-sectional and did not include measures of important processes such as family and partner contexts. Experimental and longitudinal data would provide further insight about the directionality of the examined mediators on sexual risk behavior. Assessment of sexual behavior was by self-report and not otherwise verified, although it was collected using an ACASI, which has been shown to be reliable and associated with increased reports of sensitive behavior (Weinhardt, Forsyth, Carey, Jaworski, & Durant, 1998). Although our sample was large and diverse, it was essentially a convenience sample of those enrolled to participate in an HIV prevention intervention in three cities. Thus the sample may not generalize to all youth in mental health treatment. However, the sample did exhibit a range of impairment expected in such youth and included a diverse sample of adolescents.

Despite these limitations, the current study provides preliminary insight into how impairment influences sexual risk among youth with mental health problems. First, among non-active youth in mental health treatment, psychiatric impairment appears to exert its influence indirectly through peer and personal factors, whereas among active youth, impairment appears to influence risk both directly and indirectly through peer factors. The direct association between impairment and risk attitudes in the sexually active group suggests that there are other important processes not accounted for in the sexually active group such as family and/or parenting factors. These findings suggest different HIV prevention targets for non-active and active youth in mental health treatment. Among sexually active youth it may be sufficient to reduce impairment in order to positively impact safer sex behaviors whereas among non-active youth, therapists should consider addressing variables that are more proximal to sexual risk attitudes (e.g., knowledge and rejection anxiety).

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Figure 1.

Theoretical Model

Notes: (+) represents a positive relationship and (-) represents a negative relationship between domains. Abbreviations: Rej Sen = rejection sensitivity, Anx = anxiety, Exp = expectations, Self-Eff = self-efficacy, Cdm = condom use.

Figure 2.

Model for Non-Active Adolescents

Notes: **The model was just-identified and there were no degrees of freedom for testing model fit.** Although all paths were estimated according to the theoretical model, only statistically significant paths ($p < .05$) were included in this figure. Standardized (β) are reported in the figure. Although not depicted, mediators were allowed to correlate with each other and self-efficacy for condom use and safe sex intentions were allowed to correlate. Abbreviations: Rej Sen = rejection sensitivity, Anx = anxiety, Exp = expectations, Self-Eff: Cdm = self-efficacy for condom use.

Figure 3.

Model for Sexually Active Adolescents

Notes: **The model was just-identified and there were no degrees of freedom for testing model fit.** Although all paths were estimated according to the theoretical model, only statistically significant paths ($p < .05$) were included in this figure. Standardized (β) are reported in the figure. Although not depicted, mediators were allowed to correlate with each other. Abbreviations: Rej Sen = rejection sensitivity, Anx = anxiety, Exp = expectations, Self-Eff: Cdm = self-efficacy for condom use.

Table 1

Estimated means and proportions by sexual activity status

Variable	Not Active ^a		Active ^b		
	Est.	SE	Est.	SE	
Safe Sex Intentions	2.57	-0.07	3.46	-0.04	z = 11.20, p <.01
Self-Eff: Condoms	44.53	-0.53	46.35	-0.35	z = 2.80, p <.01
Rej Sen: Anxiety	4.19	-0.08	4.34	-0.07	z = 1.49, p = .14
Rej Sen: Expectations	3.57	-0.07	3.03	-0.07	z = -5.53, p <.01
Peer-Norms	3.85	-0.09	3.46	-0.08	z = -0.47, p = .63
Knowledge	11.15	-0.22	13.01	-0.17	z = 6.72, p <.01
Perceived Vulnerability	2.28	-0.04	2.34	-0.04	z = 1.09, p = .27
Impairment	7.9	-0.32	8.31	-0.3	z = 0.85, p = .40
Condom Use	--	--	71%	--	--

Note.

^a n = 405;^b n = 481

Est. = estimated mean; SE = standard error; Rej. Sen. = rejection sensitivity; Self-Eff = self-efficacy