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## Relationships Between Social-Emotional Intelligence and Sexual Risk Behaviors in Adolescent Girls

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### Abstract

Social-emotional intelligence (SEI) has been linked with a number of health behaviors in adolescent populations. However, little is known about the influence of SEI on sexual behavior. This study examined associations between three indicators of SEI (intrapersonal skills, interpersonal skills, stress management skills) and adolescent girls' sexual risk behaviors. Data

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come from a cross-sectional sample of sexually active adolescent girls (ages 13 to 17 years) at high risk for pregnancy ( $N = 253$ ), recruited from health care clinics in a Midwest metropolitan area during 2007 and 2008. Results of multivariable regression models controlling for participants' age and race/ethnicity indicated that each aspect of SEI was related to distinct sexual risk behaviors. Specifically, girls with greater intrapersonal skills had significantly fewer male sex partners in the past six months ( $b = -0.16$ ). Participants with greater interpersonal skills reported earlier communication with their sexual partner about sexual risk ( $b = 0.14$ ), and those with a better ability to manage stress reported more consistent condom use ( $b = 0.31$ ). Study findings suggest that SEI may provide a protective buffer against sexual risk behaviors. Building adolescent girls' social and emotional skills may be an effective strategy for reducing their risk for early pregnancy and sexually transmitted infections.

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Although the birth rate for teens is currently at its lowest level in 60 years, the United States continues to lead industrialized nations in rates of teen pregnancy and birth (Bearinger, Sieving, Ferguson, & Sharma, 2007; National Campaign to Prevent Teen and Unplanned Pregnancy, 2013). Moreover, significant disparities in adolescent pregnancy rates based on racial/ethnic identity remain (Hamilton, Mathews, & Ventura, 2013). While adolescents and young adults make up only 25% of the sexually active population in the United States, they account for approximately half of all newly diagnosed cases of sexually transmitted infections (STIs) (Bearinger et al., 2007; Eaton et al., 2012; Weinstock, Berman, & Cates, 2004). These statistics drive a societal need to identify influences on adolescents' sexual risk behaviors with the goal of informing intervention efforts to reduce pregnancy and STI rates.

During adolescence, many young people begin navigating relationships with romantic/sexual partners, and specific skills may contribute to whether these relationships are healthy (Noar, Carlyle, & Cole, 2006; Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2014). One such skill may be the ability to recognize and manage one's own and others' emotions, also known as social-emotional intelligence (SEI). Distinct from general mood, SEI incorporates intrapersonal (self-awareness and self-expression), interpersonal (social-awareness, empathy, and interpersonal relationships), and stress management (emotional-awareness, stress regulation, and impulse control) skills (Bar-On & Parker, 2000).

SEI has been linked with a number of health and risk behaviors in adolescent populations, including addiction-related behaviors, gambling, and substance use (Charbonneau & Nicol, 2002; Ciarrochi, Deane, Wilson, & Rickwood, 2002; Ciarrochi, Wilson, Deane, & Rickwood, 2003; Lee & Olszewski-Kubilius, 2006; Parker, Taylor, Eastabrook, Schell, & Wood, 2008; Peters, Kranzler, & Rossen, 2009; Trinidad & Johnson, 2002). In addition to its association with risk taking in general, SEI may inform our understanding of sexual risk behaviors in particular, in part because communication with sexual partners and decisions about whether to have sex and use condoms often occur in emotionally charged contexts. Thus, the ability to regulate one's own emotions and accurately interpret others' emotions could influence communication and decisions around safer sex practices.

Evidence suggests that high levels of SEI can serve as a protective factor for adolescents, with links to better social functioning, coping ability, and higher levels of social support (Charbonneau & Nicol, 2002; Ciarrochi et al., 2002; Ciarrochi et al., 2003; Peters et al.,

2009). Greater SEI may also be related to engagement in fewer risky sexual behaviors. For example, interpersonal and stress management skills may affect an adolescent's ability to negotiate condom use with a partner, particularly in situations when multiple, competing goals are in play (Gebhardt, 2006). Even when adolescents intend to engage in safer sex practices, planning (e.g., having purchased condoms ahead of time) and communication (e.g., negotiating condom use) must be in place for these intentions to be carried out (Abraham et al., 1999).

Given links to risk taking, communication ability, and social functioning, SEI may inform our understanding of sexual risk taking during adolescence. The purpose of this study was to examine associations between indicators of SEI and sexual risk behaviors among sexually active adolescent girls at high risk for pregnancy and STIs. We hypothesized that higher levels of SEI would be protective against adolescent sexual risks, reducing their number of sexual partners and increasing both their communication with partners as well as their consistent use of condoms. We examined whether specific aspects of SEI were associated with these behaviors, as these skills could be intentionally developed through intervention.

## Method

The current study utilized baseline data from Prime Time, a randomized youth development intervention study among adolescent girls at high risk for pregnancy. The Prime Time study design has been described in detail elsewhere (Sieving et al., 2011). Participants were sexually active females ages 13 to 17 years, recruited from primary care clinics in the Minneapolis–St. Paul metropolitan area between April 2007 and October 2008, who met at least one of the following risk criteria: clinic visit involving a negative pregnancy test or treatment for STI; young age (i.e., 13 or 14 years); sexual risk behaviors; aggressive/violent behaviors; or indicators for school disconnection (Sieving et al., 2011). A total of 253 adolescent girls provided written informed consent and completed baseline data collection. All protocols were approved by the university and participating clinics' institutional review boards.

## Measures

**Sexual behavior outcomes**—Three self-report measures of sexual behavior were included in the current study: (a) the number of sexual partners, (b) sexual risk communication, and (c) condom use consistency. Number of partners was a count of the number of male partners participants reported having vaginal sex with in the past six months. Sexual risk communication was assessed using a 7-item scale ( $\alpha = 0.74$ ) that asked participants when they talked with their most recent partner about using contraception, preventing pregnancy, and preventing STIs/HIV. Response options (*We never talked about it* = 0; *We talked about it after we had sex* = 1; and *We talked about it before we had sex* = 2) were averaged with higher scores indicating earlier discussion. Condom use consistency was measured as a count of the number of months (of the past seven, including the current month) a participant reported using condoms *most of the time* or *every time* she had sex with her most recent male partner.

**SEI variables**—SEI was assessed using three scales from the Bar-On Emotional Quotient Inventory: Youth Version (Bar-On & Parker, 2000). Response options (*Never/seldom* = 0 to *Very often* = 3) were averaged; higher scores indicated better skills. Intrapersonal skills (six items,  $\alpha = 0.79$ ) assessed participants' abilities to recognize, express, and regulate their own emotions (e.g., I can easily describe my feelings). Interpersonal skills (seven items,  $\alpha = 0.81$ ) assessed participants' abilities to recognize and affect others' emotions and to empathize with others' feelings (e.g., I care what happens to other people). Stress management skills (eight items,  $\alpha = 0.86$ ) assessed participants' abilities to cope positively with stress and control emotions regardless of the situation (e.g., I can stay calm when I'm upset).

## Analyses

We first examined pairwise correlations between each SEI scale and each sexual behavior outcome. We then used multivariable regression to examine the independent effects of SEI scale on sexual behavior outcomes. Multivariable models included SEI variables with significant bivariate correlations with each outcome ( $p < .05$ ) and controlled for participants' age, race/ethnicity, and clustering of participants within clinics. The model for condom use consistency also included the number of months a participant was sexually active with her most recent partner as an exposure variable to account for varying lengths of time "at risk." Regression models were estimated using generalized estimating equations, allowing for adjustment of standard errors for intercorrelations between girls recruited from the same clinic. We used log-linear Poisson regression to model count outcomes (i.e., number of sexual partners and condom use consistency) and linear regression for the continuous partner communication outcome. Results are presented as unstandardized coefficients ( $b$ ) and 95% confidence intervals (CIs). Analyses were conducted in Stata/IC Version 13 (StataCorp, College Station, TX).

## Results

Table 1 presents key characteristics of study participants. The sample was racially and ethnically diverse, reflecting the neighborhoods from which they were recruited. The average age of participants was 15.6 years old.

In bivariate analyses, both intrapersonal skills ( $r(250) = -.15, p < .05$ ) and interpersonal skills ( $r(250) = -.15, p < .05$ ) were associated with the number of male sex partners in the past six months. All three SEI scales were associated with sexual risk communication (intrapersonal skills:  $r(245) = .15, p < .05$ ; interpersonal skills:  $r(245) = .17, p < .01$ ; stress management skills:  $r(244) = .18, p < .001$ ). However, only the stress management scale was related to consistent condom use ( $r(246) = .19, p < .01$ ).

As presented in Table 2, different SEI skills were significantly associated with each of the examined sexual behavior outcomes in multivariable models. Participants with greater intrapersonal skills had fewer male sex partners in the past six months ( $b = -0.16, p < .01$ ). Participants with greater interpersonal skills reported earlier communication about sexual risk with their most recent partner ( $b = 0.14, p < .001$ ) and those with a greater ability to manage stress reported more consistent condom use ( $b = 0.31, p < .05$ ). Other observed

bivariate associations between SEI and sexual behavior outcomes were not statistically significant in multivariable models.

## Discussion

The purpose of this study was to examine associations between SEI and sexual risk behaviors in a sample of urban adolescent girls at elevated risk of unintended pregnancy and STIs. Findings supported our hypothesis that higher levels of SEI would be related to lower levels of sexual risk behaviors. Further, we found that distinct SEI skills were related to different sexual behaviors.

Participants with better intrapersonal skills reported having fewer male sex partners in the previous six months. Adolescents with strong intrapersonal skills demonstrate the ability to recognize, understand, and express their own feelings, and they are self-directed in their thinking and actions (Bar-On & Parker, 2000). Thus, adolescent girls who demonstrate high intrapersonal skills may be more thoughtful about their own desires to engage in (or abstain from) sexual intercourse. These findings are consistent with previous research indicating that adolescents who are better at managing their anger and sadness report fewer sexual partners in the past year (Hessler & Katz, 2010). Adolescents may engage in risky behaviors, including having sex with multiple partners, to manage overwhelming emotions (Cooper, Shapiro, & Powers, 1998), and this may particularly be the case among young people with poorer intrapersonal skills.

Participants with better interpersonal skills reported earlier communication about sexual risk with their most recent partner. As interpersonal skills include the ability to establish and maintain mutually satisfying, emotionally close relationships (Bar-On & Parker, 2000), adolescent girls with a strong ability to recognize others' emotions and to empathize with others' feelings may be more comfortable communicating with their partners about a sensitive topic such as sexual risk. In contrast, adolescents with poor interpersonal skills may not recognize their partners' emotions (e.g., nervousness about having sex) or have the capacity to appropriately respond.

Finally, participants with better stress management skills reported more consistent condom use. Stress management skills include impulse control and the ability to tolerate stressful situations (Bar-On & Parker, 2000). Our findings are consistent with previous research linking impulse control (one aspect of stress management skills) with consistent condom use (DiClemente et al., 1996) and an early age of sexual debut (Kahn, Kaplowitz, Goodman, & Emans, 2002). The current study took an innovative approach of looking beyond impulse control to the broader concept of stress management skills. Together, findings suggest that it may be difficult for adolescent girls with poor stress management skills to resist the impulse to have sex regardless of whether a condom is used.

The current analysis has important strengths. While previous research has identified associations between low SEI and a number of adolescent risk behaviors (Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007), associations between SEI and sexual behaviors have been relatively neglected. Study findings broaden the evidence base regarding

associations of SEI with an important set of adolescent risk behaviors and further extend it to an understudied population, namely adolescent girls at high risk for adverse health outcomes.

Methodological limitations should also be noted. Data were based on self-report, which may be subject to response bias. However, previous research supports the reliability of adolescents' reports of sexual behavior (Sieving et al., 2005), and the survey was conducted by audio computer-assisted interview (audio-CASI), further reducing the likelihood of bias. With a cross-sectional study, we cannot assume that the observed associations between SEI and sexual risk behaviors are causal. Furthermore, the survey did not assess potential confounders (e.g., stress, intelligence, relationship length) and was administered to girls who accessed clinic services in a single geographic area. Although girls' SEI and risk behaviors may be influenced by their sexual partners and reflect gendered norms and power asymmetry, we were not able to account for these complex relationship dynamics in the current study. Thus, longitudinal studies with diverse samples that assess SEI and sexual behaviors, including the interpersonal context and how adolescents' skills, experiences and relationships change over time, are a valuable area for future inquiry. Such research will further our understanding of the role that SEI plays in the development of sexual risk behaviors and, conversely, the impact of sexual risk taking on the development of SEI.

Findings from this study suggest that SEI may buffer girls at high risk of unintended pregnancy and STIs from engaging in risky sexual behaviors. Interventions that emphasize the development of social and emotional skills have been shown to be effective in reducing adolescent sexual risk behaviors (Gavin, Catalano, David-Ferdon, Gloppen, & Markham, 2010; Sieving et al., 2013; Sieving et al., 2014). Combined, these findings point to the potential benefits of enhancing all three aspects of SEI as a means of promoting adolescents' sexual and reproductive health. For example, to build intrapersonal and stress management skills, intervention activities can employ real-life scenarios (e.g., the breakup of a romantic relationship, coercive behavior by a sexual partner) to assist teens in identifying physical signs of emotions such as anger, sadness, or fear, interpreting these signs as problems to be addressed, and generating adaptive strategies for managing strong emotions. To expand interpersonal skills, intervention activities can incorporate practice and feedback to help young people accurately recognize relevant social cues in romantic and sexual relationships, examine partners' intentions, generate solutions to relationship problems, and build social skills needed to attain desired outcomes. Additional research is needed to identify effective methods of building SEI to promote healthy sexual development and reduce sexual risk behaviors among adolescents vulnerable to poor health outcomes, including early pregnancy and STIs.

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**Table 1**

Characteristics of Study Participants (N = 253)

Characteristics	%	Mean	(SE) <sup>a</sup>	Range
<i>Demographics</i>				
Race/ethnicity				
American Indian/Native American	2.8			
Asian/Asian American/Pacific Islander	11.9			
Black/African/African American	41.1			
Hispanic/Latina	12.3			
White/European American	11.1			
Mixed/multiple race	20.9			
Age, in years		15.59	(0.13)	13–17
<i>Social-emotional intelligence</i>				
Intrapersonal skills		1.39	(0.08)	0–3
Interpersonal skills		2.19	(0.03)	0–3
Stress management skills		1.54	(0.05)	0–3
<i>Sexual risk behaviors</i>				
Number of male sexual partners, past six months		1.61	(0.09)	1–12
Sexual risk communication with partner		1.16	(0.04)	0–2
Number of months of consistent condom use <sup>b</sup>		1.23	(0.10)	0–7

<sup>a</sup> Robust standard errors account for clustering of participants within clinics.

<sup>b</sup> Mean number of months a participant reported using condoms *most or every time* she had sex with her most recent male partner during the past six months, including the present month.

**Table 2**  
Effects of Social-Emotional Intelligence Indicators on Sexual Behavior Outcomes

Social-Emotional Intelligence	Number of Male Sexual Partners, Past Six Months ( <i>n</i> = 250)		Sexual Risk Communication With Partner ( <i>n</i> = 244)		Condom Use Consistency <sup>d</sup> ( <i>n</i> = 241)	
	<i>b</i>	(95% CI)	<i>b</i>	(95% CI)	<i>b</i>	(95% CI)
Intrapersonal skills	-0.16	(-0.27, -0.03)**	0.06	(-0.05, 0.17)	—	
Interpersonal skills	-0.15	(-0.35, 0.05)	0.14	(0.08, 0.21)***	—	
Stress management skills	—		0.13	(-0.04, 0.30)	0.31	(0.05, 0.60)*

*Note.* Table shows results of regression models controlling for participant age and race/ethnicity. All models account for clustering of participants within clinics. Differences in sample size for individual outcomes reflect missing data. Dashes (—) indicate variables that were not included in the model because they were not significant in preliminary bivariate analyses. CI = confidence interval.

<sup>d</sup>Model also adjusts for the number of months in which participants had sex with their most recent partner.

\*  $p < .05$ ;

\*\*  $p < .01$ ;

\*\*\*  $p < .001$ .