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From Racial Discrimination to Risky Sex: Prospective Relations Involving Peers and Parents

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Abstract

This study investigated how early experience with racial discrimination affected the subsequent risky sexual behaviors of a diverse sample of African American youths ($N = 745$). The analyses focused on 3 risk-promoting factors thought to mediate the hypothesized discrimination risky sex relation: negative affect, affiliation with deviant peers, and favorable attitudes toward risky sex. In addition, attentive parenting was examined as a protective factor. Analyses using structural equation modeling revealed that youths who perceived more racial discrimination at age 10 or 11 were engaging in more sexual risk taking at age 18 or 19. This relation was mediated by the hypothesized risk-promoting factors via pathways that were consistent with our conceptual model. Results also indicated a prospective reciprocal relation between parenting and children's deviant affiliations: deviant peer affiliations at age 10 or 11 predicted more attentive parenting behaviors by the parents; this response from the parents, in turn, predicted relatively fewer deviant affiliations when the youths were 15 or 16. Study findings are discussed in terms of their relevance to the disproportionately high rates of sexually transmitted infections among African Americans.

Keywords

racial discrimination; risky sexual behavior; peer deviance; parenting; negative affect

Compared with other racial groups in the United States, African Americans suffer higher rates of sexually transmitted infections (STIs) such as HIV/AIDS, gonorrhea, chlamydia, and syphilis (Centers for Disease Control and Prevention, 2009a, 2009b). These race-based differences in STIs are often substantial. For instance, although African Americans comprise only 13% of the total U.S. population, they account for 51% of all new HIV/AIDS diagnoses (Centers for Disease Control and Prevention, 2009a). Controlling for socioeconomic status (SES) attenuates, but does not eliminate, these differences, which suggests that other, more psychosocial factors are involved in promoting risky sexual behavior (Dressler, Oths, & Gravlee, 2005; Myers, 2009). One such psychosocial factor suggested by previous research is the early experience of racial discrimination.

Racial discrimination that is perceived during childhood has been associated (cross-sectionally and prospectively) with an array of negative developmental consequences, including increased substance use (Gibbons et al. 2007; Gibbons et al., in press; Guthrie, Young, Williams, Boyd, & Kintner, 2002), delinquency (Prelow, DanoffBurg, Swenson, & Pulgiano, 2004; Simons, Chen, Stewart, & Brody, 2003.), diminished academic achievement (Eccles, Wong, & Peck, 2006; O'Hara, Gibbons, Weng, Gerrard, & Simons, 2011), and poor mental health (Cooper, McLoyd, Wood, & Hardaway, 2008; Greene, Way, & Pahl, 2006). The general theoretical explanation for these relations is that discriminatory experiences are very stressful events for African Americans (Clark, Anderson, Clark, & Williams, 1999; Sanders-Phillips, Settles-Reaves, Walker, & Brownlow, 2009), and the cognitive, emotional, and behavioral responses to this stress promote maladaptive behaviors (Pascoe & Richman, 2009; Williams & Mohammed, 2009). Discrimination is believed to have a particularly strong impact in early adolescence (Gibbons et al., 2007; Simons et al., 2002), since during this period, important transitions in the development of the self-concept and ethnic identity (French, Seidman, Allen, & Aber, 2006; Harter, 1999) are happening in concurrence with an increasing awareness of discrimination (Quintana, 1998).

Given that risky sexual behavior is frequently associated with substance use and other problematic behaviors (Feldstein & Miller, 2006; Shrier, Emans, Woods, & DuRant, 1997) it is reasonable to expect that the negative influence of discrimination extends to risky sexual behavior. Indeed, one cross-sectional study (Stevens-Watkins, Brown-Wright, & Tyler, 2010) found that after controlling for SES and age at first intercourse, African American high school students who reported more discrimination also reported a greater number of sexual partners. However, research on early-experienced discrimination has not yet investigated the impact of such discrimination on risky sexual behavior prospectively. Furthermore, the mechanisms of this relation remain unclear: If the sexual behaviors that put young African Americans at risk for STIs are in part influenced by prior experience with discrimination, then it is important to understand both how this effect occurs, and how it can be attenuated. The present study was therefore designed to explore the potential factors involved in an anticipated prospective relation between early perceived racial discrimination and subsequent risky sexual behavior among a diverse sample of African American youths.¹

A Conceptual Model of the Discrimination → Risky Sex Relation

Researchers from several areas in developmental psychology have noted the importance of comprehensive conceptual frameworks, which simultaneously examine both risk and protective factors as they occur across the different domains of a youth's social environment (e.g., Bachanas, 2002; Emery & Forehand, 1994). For instance, Calkins and Fox (2002)

¹This longitudinal study covers a period of 8 years, during which target individuals transitioned from late childhood through late adolescence. The present article therefore uses the general term *youths* to refer to the same individuals at various ages.

argued that because multiple factors (both risk- and resilience-promoting) contribute to children's development, the role of a single variable cannot be fully understood in isolation. Adopting a similar perspective, we sought to understand the relation between early discrimination and risky sexual behavior from a comprehensive perspective, which incorporated both risk and protective factors. Thus, our approach integrated elements of developmental theories (e.g., an integrative model for studying minority youth, Garcia Coll et al., 1996; problem behavior theory, Jessor & Jessor, 1977) with the cognitive and affective factors central to health behavior theories (e.g., the health belief model, Janz & Becker, 1984; the prototype willingness model, Gerrard, Gibbons, Houlihan, Stock, & Pomery, 2008; Gibbons, Gerrard, & Lane, 2003). One framework that was useful in integrating these various factors was the biopsychosocial model (Clark et al., 1999), which posits that the stress of discrimination produces psychological, social, and physiological effects that ultimately influence African Americans' health outcomes. A second useful framework was the "metamodel" of minority health proposed by Myers (2009). This metamodel draws from life-course theories (e.g., Elder, 1998; Lu & Halfon, 2003), and stress theories (including the biopsychosocial model; Clark et al., 1999) to integrate the many interacting factors thought to contribute to race-and SES-based differences in health. According to the metamodel, the relation between children's experience of race-based adversities and their subsequent health behaviors is entirely mediated by psychosocial factors, including interpersonal relationships and cognitive-emotional processing. Our conceptual model drew from both Clark et al.'s and Myers' frameworks, so that ultimately, our investigation considered how the psychosocial constructs of peer influence, negative affect, attitudes, and attentive parenting both act and interact to influence sex-risk behavior.

Deviant Peers

Affiliation with deviant peers (i.e., those who engage in risky and/or criminal behaviors) has been prospectively related to adolescent engagement in a variety of problem behaviors, such as substance use (Simons-Morton, Chen, Abroms, & Denise, 2004), delinquency (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006), low academic achievement (Goodenow & Grady, 1993; Véronneau, Vitaro, Pedersen, & Tremblay, 2008), and risky sex (Diiorio et al., 2008; Kogan et al., in press). These empirical findings are consistent with problem behavior theory (Jessor & Jessor, 1977), which identifies peer modeling and peer approval of problem behavior as key instigators for engaging in those behaviors. Thus, having a high proportion of friends who are (or are thought to be) engaging in sex and believing that one would gain friends' respect by having sex are predictive of sexual debut among adolescents (Sieving, Eisenberg, Pettingell, & Skay, 2006). Problem behavior theory also argues that there is covariation among problem behaviors (a problem behavior "syndrome"). Consequently, peer deviance, in general, can be expected to predict risky sexual behavior specifically—a relation that has been borne out by evidence (Capaldi, Crosby, & Stoolmiller, 1996; Raffaelli & Crockett, 2003). This observed prospective relation between peer and adolescent risk behavior is likely due to both selection and socialization processes, such that adolescents may seek out more deviant peers and may also be influenced by them (Hall & Valente, 2007; Henry, Schoeny, Deptula, & Slavick, 2007; Hoffman, Monge, Chou, & Valente, 2007).

In addition, research with the sample used in the current study has shown that experiencing discrimination early in life predicts subsequent affiliation with substance-using peers, even after factors such as SES and neighborhood risk have been controlled (Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004; Gibbons et al., 2007). These findings suggest that discrimination could lead adolescents to seek out peers who engage in unconventional behaviors, including not only substance use, but also risky sex. Past research does not, however, speak to how discrimination comes to promote such deviant friendships—that is,

what mediates the relation between discrimination and deviant affiliations. For reasons discussed next, we turned to negative affect as a potential explanation.

Negative Affect (NA)

A few studies have indicated that deviant peer affiliation is promoted by the accumulated experience of life stressors, such as the loss of close friends or neighborhood crime (Barrera et al., 2002; Brady, Dolcini, Harper, & Pollack, 2009). Furthermore, there is some cross-sectional evidence that the observed relation between environmental stress and deviant peer affiliation is mediated by NA (e.g., depression and anxiety): Environmental stress is associated with NA, which is associated with greater deviant affiliations (Chassin, Curran, Hussong, & Colder, 1996). These relations are consistent with several theories that describe how negative emotions motivate adolescents to affiliate with deviant peers or engage in deviant behaviors themselves (e.g., Agnew, 1992; Jessor & Jessor, 1977; Kaplan, 1980). Although these theories were not developed to address discrimination, the detrimental effect of discrimination on NA is a well-established finding (e.g., Garcia Coll et al., 1996; Greene et al., 2006; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). Thus, given that early experiences with discrimination promote deviant affiliations (as previous research on this sample has indicated), NA could help explain the effect. One purpose of the present article, therefore, was to test whether NA mediates the effect of early discrimination on deviant affiliations and subsequent risky sex.

Attitudes

Attitudes are important elements of many health behavior theories (e.g., Gerrard et al., 2008; Gibbons et al., 2003; Janz & Becker, 1984), where they are conceptualized as one of the mechanisms by which environmental factors influence behavior. Accordingly, researchers have found strong evidence that the sex-related attitudes of adolescents are strong proximal predictors of their subsequent risky sexual behaviors (Diiorio et al. 2001; Kinsman, Romer, Furstenberg, & Schwarz, 1998; O'Donnell, Myint-U, O'Donnell, & Stueve, 2003). For instance, Hutchinson, Jemmott, Jemmott, Braverman, and Fong (2003) found that the prospective influence of mother–daughter sexual risk communication on adolescent daughters' unprotected intercourse was mediated by daughters' attitudes toward using condoms. Assessing the mediational effects of adolescent attitudes is thus vital to an understanding of the means by which the social context (e.g., discrimination experiences, peers, and parents) influences a young person's eventual sex-risk behaviors. In addition, attitudes are malleable constructs (i.e., potentially modifiable factors) that may subsequently be targeted in interventions. For these reasons, the analyses conducted in the present study sought to measure the extent to which the influences of affiliation and parenting on risky sexual behavior were mediated by attitudes about the acceptability of sexual behavior.

Attentive Parenting

In contrast to the risk-promotion associated with deviant affiliations, effective parenting is frequently identified as a protective influence for children. Prospective studies have suggested that certain parenting characteristics and behaviors, such as monitoring, warmth, and support, can reduce problematic behaviors—including sex-risk behaviors—by impacting youths' attitudes about risk (Hutchinson et al., 2003; Murry, Berkel, Brody, Gerrard, & Gibbons, 2007), and also by reducing youths' associations with deviant peers (Simons, Chao, Conger, & Elder, 2001; Simons-Morton et al., 2004). Past research using the current sample has likewise demonstrated the protective role of parenting by showing that it relates to less acceptance of deviant norms (Simons, Simons, Chen, Brody, & Lin, 2007), lower affiliation with deviant peers (Brody et al., 2001; Simons, Simons, & Conger, 2004), less favorable risk images (Cleveland, Gibbons, Gerrard, Pomery & Brody, 2005), fewer

delinquent behaviors (Brody et al., 2003; Simons et al., 2006), and lower engagement in substance use (Gibbons et al., 2004).

Less attention has been paid to a potential third relation, whereby deviant peer relations effect changes in parenting practices. One study by Tilton-Weaver and Galambos (2003) found that parents who were concerned about their children's friendships also reported engaging in more behaviors that were aimed at managing these affiliations. Although Tilton-Weaver and Galambos' research was not longitudinal (and thus unable to assess changes over time), it suggests that parents who notice an increase in the deviant behavior of their children's friends may respond by becoming more attentive in their parenting practices. Consequently, nonrecursive (reciprocal) relations might occur: Parents may respond to their children's deviant affiliations with more attentive parenting, and—as previous research has indicated (e.g., Simons et al., 2001)—parenting could influence (changes in) children's deviant affiliations. This potential reciprocal relation between parenting and affiliations has never been examined empirically. The current investigation, therefore, examined multiple routes through which attentive parenting could inhibit the anticipated detrimental effects of discrimination and deviant peers on risky sexual behavior.

The Current Investigation

The current investigation used data from the Family and Community Health Study (FACHS), a large prospective study of the social and psychological factors associated with the mental and physical health of African American families. The purpose of the present research was to investigate how early experience with racial discrimination influences the subsequent risky sexual behaviors of young African Americans. Discrimination was assessed during the “critical period” of early adolescence previously described (i.e., the age where youths appear to be particularly vulnerable to discrimination). In order to examine risky sexual behavior at an age by which most of our sample would be sexually active, we assessed sexual behavior at ages 18 or 19 (by which point over 75% of African Americans are sexually active, according to national statistics; Cavazos-Rehg et al., 2009). We were specifically interested in the social and cognitive mediators that may help explain the anticipated discrimination → risky sex relation, and we were interested in how attentive parenting may play a protective role. Previous research indicates that peer relations become increasingly intense and influential during adolescence (Hill, Bromell, Tyson, & Flint, 2007), often coming to exert more influence than parents (Fuligni & Eccles, 1993); therefore, attentive parenting was only assessed at the early waves, while deviant affiliations was a predictor at all three of the first waves. Our conceptual model of how the various factors act and interact is illustrated in Figure 1 and can be broken down into the following hypotheses:

- Hypothesis 1** Early perceived discrimination predicts more NA, more deviant affiliations, and more risky sexual behaviors.
- Hypothesis 2** The relation between discrimination and risky sex is mediated by NA, deviant affiliations, and attitudes toward risky sex; in turn, the relation between discrimination and deviant affiliation is partly mediated by NA.
- Hypothesis 3** Attentive parenting inhibits risky sexual behavior by reducing the favorability of adolescents' attitudes about sex and their affiliations with deviant peers.
- Hypothesis 4** There is a prospective reciprocal relation between deviant affiliations and attentive parenting: greater deviant affiliations promote more

attentive parenting, whereas more attentive parenting promotes less deviant affiliations.

The analyses are split into two sections. Part 1 uses structural equation modeling (SEM) to test Hypotheses 1 and 2. Thus, it investigates a prospective relation between early discrimination and subsequent risky sexual behavior and examines whether NA, deviant affiliations, and attitudes mediate this relation. Part 2 then incorporates Hypotheses 2 and 3 into the SEM, in order to test our full conceptual model (see Figure 1) and examines the protective influence of attentive parenting.

Method

Participants

The present study used four waves of data from the original 889 FACHS families. At Time 1 (T1), 467 of these families were living in Iowa and 422 were in Georgia. Most previous research on African American youths has been based on inner-city samples; however, FACHS families were selected from Census block group areas (BGAs) that represented the diversity of neighborhoods in which African American children are raised. Thus, families resided in rural communities, suburban areas, and small towns and cities; large cities (e.g., Atlanta) were avoided. Each family had a target child (the youths in the current study) who at T1 was between the ages of 10 and 12 (M age = 10.5 years). In order for our analyses to examine change in sexual behaviors, we excluded youths who reported becoming sexually active before T1 ($N = 19$) from the analyses. A final sample of 745 youths (409 females) who answered all or most of the questions pertaining to the hypotheses was available for the analyses. The present study also used data from the FACHS primary caregivers (parents), defined as a person living in the same household as the target youth who was primarily responsible for the youth's care. Of these parents, 93% were women, and 85% were the target youths' biological mothers. Their ages ranged from 23 to 80 (M age = 37.1, $SD = 8$); 81% had obtained a high school degree or GED equivalent.

Sampling Strategy and Recruitment

Families were identified from lists of families with African American children compiled by community coordinators in Georgia and by school officials in Iowa. Recruited families were diverse in terms of parents' educational backgrounds (ranging from 19% with less than a high school diploma to 9% with a bachelor's or advanced degree) and neighborhood characteristics (mean proportion of African Americans in the neighborhood was 44%, ranging from fewer than 1% to 100%; mean proportion of families in the neighborhood living below the poverty line was 25%, ranging from below 20% to more than 50%). Potential participant families, chosen randomly from the lists, received an introductory letter, followed by a recruitment phone call. Complete data were gathered from 72% of the families on the recruitment lists. Those who refused typically cited the amount of time the interviews took as the reason (up to 2.5 hr for each of two visits).

Interview Procedure

The interviews were conducted in participants' homes or nearby locations and required two separate visits (each lasting 90 min on average) by two interviewers. All interviewers were African American, and most lived in the communities where the study took place. They received extensive training, beginning with a 3-day workshop, followed by periodic refresher meetings. Each interview was conducted privately between one interviewer and one participant, with no other individuals present or able to overhear participant responses. Interviewers always began by introducing the questionnaire and emphasizing the confidentiality of the data; questions were presented using the Computer-Assisted Personal

Interview (CAPI) technique. T2 interviews occurred an average of 20 months after T1, T3 occurred an average of 36 months after T2, and T4 occurred an average of 36 months after T3. (For further description of the FACHS sample, recruitment, and interview, see Cutrona, Russell, Hessling, & Brown, 2000; Simons et al., 2002; Wills, Gibbons, Gerrard, & Brody, 2000).

Measures (Waves of Measurement Provided in Parentheses)

Perceived discrimination (T1)—Thirteen items from a modified version of the Schedule of Racist Events (Landrine & Klonoff, 1996) were used to assess perceived discrimination.² This scale asks individuals how often they have experienced various negative events that were attributable to being an African American, e.g., “How often has someone said something insulting to you just because you are African American?” (from 1 = *never* to 4 = *several times*). This means of assessment makes the assumption that the perception of discrimination is important, regardless of objective verification of the events—a perspective that has been taken by many other researchers (Pascoe & Richman, 2009; Williams, Neighbors, & Jackson, 2003; Williams, Yu, Jackson, & Anderson, 1997). Responses were averaged to create an overall index of discrimination ($\alpha = .86$). The 13 items were divided into three randomly generated parcels that were used as indicators of a latent discrimination construct in the SEM.

Negative affect (T1, T2)—Two subscales from the Diagnostic Interview Schedule for Children–Revised (DISC–R; Shaffer et al., 1993) were used to measure NA: general anxiety (12 items; e.g., “In the last year, have you often worried about whether other people liked you” answered *yes* or *no*) and depression (22 items; e.g., “In the last year, was there a time when you often felt sad or depressed?” answered *yes* or *no*). The 34 items from these two subscales were combined to create an overall index of NA (α s: T1 = .88; T2 = .87).

Deviant affiliations (T1, T2, T3)—Youths responded to 15 items about their perceptions of their friends’ deviant behaviors. The specific behaviors concerned substance use (tobacco, alcohol, and other drugs), delinquency (e.g., stealing, damaging property), and sexual behavior (e.g., “During the past 12 months, how many of your close friends had sex?” answered from 1 = *none of them* to 3 = *all of them*). Items were aggregated to create a deviant affiliation score at each wave (α s: T1 = .85; T2 = .87; T3 = .85). For the SEM, affiliation was indexed by random parcels of the 15 items.

Attitudes (T3)—Youths’ attitudes about the acceptability of sexual behavior were assessed with three items, which asked how wrong they thought it was for someone their age (15 or 16) to have sexual intercourse, oral sex, and sex without a condom (from 1 = *not at all wrong* to 4 = *very wrong*); these were recoded so that higher scores indicate more acceptance ($\alpha = .80$); these items were used as indicators for the SEM index.

Sexual risk taking (T4)—Consistent with past research (e.g., Cooper, Wood, Orcutt, & Albino, 2003; DiClemente et al., 2001), we assessed sexual risk taking by aggregating several measures of risky sexual behavior across several time frames. The following five items were used for the index: “With how many people have you had sex” (from 1 = *none* to 6 = *seven or more*); “In the last 3 months, how many times have you had sex with a male/female [phrased so that the question asked about persons of the opposite gender]?” (open-ended); “When you have sex, how often do you use a condom?” (from 1 = *never* to 4 = *all of*

²Modifications from the original scale included measuring lifetime rather than past-year discrimination, measuring frequency rather than intensity of events, using a 4-point rather than a 6-point response scale to streamline the interview process, and adapting the wording from the adult version to increase comprehension by the youths.

the time; reverse-coded); “In the last 3 months, how many times have you had sex without using a condom (rubber)?” (open-ended); and “When you have sex, how often do you have some alcohol or drugs beforehand?” (from 1 = *never* to 4 = *most of the time*). Adolescents who were still virgins at T4 (14.9%) were given a score of zero for all measures; all items were then standardized and aggregated ($r = .79$). The five items were also divided into three randomly generated parcels to be used as latent indicators of risky sex in the SEM.

Covariates—Seven control variables that could confound the hypothesized effects were included in the SEM: age, gender, SES (parent-reported household income and level of education), neighborhood risk (frequency of problems such as crime and gang violence), risk taking impulsivity (adapted from Eysenck & Eysenck, 1977), early (T1 and T2) father absence, and T2 virginity status. All of these factors are related to sex-risk behaviors (see DiClemente et al., 2008), and most are also related to discrimination (Klonoff & Landrine, 1999; Stewart, Baumer, Brunson, & Simons, 2009).

Attentive parenting (T1, T2)—Two subscales from the adolescents and one subscale from the parents were used as indicators for the latent construct of attentive parenting. The subscale for *parental warmth* included nine youth-reported items (e.g., “How often in the last 12 months did your caregiver ... let you know he/she really cares about you? ... act loving and affectionate toward you?”). The subscales for *monitoring* used five items from the youths and four items from the parents (e.g., “How often [does your parent/do you] know what [you do/your child does] after school?”). All items were followed by a 4-point scale from *never* to *always* (r s: T1 = .80; T2 = .85; T3 = .88).

Results

Part 1: Risk Promotion

Descriptive statistics—Perceived racial discrimination at T1 (M age 10.5) was high in this sample, with 89% of children reporting at least some experience with discrimination (a response of “a few times” or “several times” to at least one item), and 38% reporting more than minimal experience (providing the highest possible response of “several times” to at least one item). At T3, 67% of the youths believed it was fairly wrong or very wrong for someone their age to have sex, and 92% said that it was fairly wrong or very wrong for someone their age to have unprotected sex. Overall, youths’ T3 attitudes about the acceptability of sex were not favorable, with a mean value of 1.69 ($SD = 0.80$) on the 1–4 scale. This mean value was significantly below the scale’s theoretical midpoint of 2.5 ($p < .001$).

In terms of sexual behaviors, 7.3% of the sample reported being sexually active at T2, 49.3% were sexually active by T3, and 85.1% by T4.³ Of those who were sexually active by T4, 41% said they did not use condoms consistently, and 64% reported having had sexual intercourse with three or more partners. At T1, 13% reported that some of their friends had engaged in sex, and at T2 the figure was 33%. By T3, this value was up to 60%. As a comparison, Kinsman, Romer, Furstenberg, and Schwarz (1998) collected data close to the same year as T1 of FACHS, and found that approximately 38% of their 11- and 12-year-olds reported that some of their friends had engaged in sex. Thus, the T1 and T2 estimates of friends’ sexual behavior do not appear to be exaggerated.

Zero-order correlations—The means, standard deviations, and zero-order correlations of the study variables are presented in Table 1. Consistent with the hypotheses, discrimination

³At T4, 18 participants (less than 3% of the sample) reported ever having had sex with someone of the same sex.

correlated significantly with all of the other constructs: NA at T1 and T2; deviant affiliations at T1, T2, and T3 (all p s < .001); sexual attitudes at T3 ($p = .02$); and sexual risk taking at T4 ($r = .14$, $p = .001$). Thus, youths who reported more discriminatory experiences at age 10 or 11—when they were all still virgins—were engaging in more risky sexual practices at age 18 or 19. T4 risky sexual behavior was also correlated with NA at T1 and T2, deviant affiliations at all three time points, and T3 sex attitudes (all p s < .01).

Correlations with the covariates—SES was negatively correlated with risky sex ($p = .02$). Age, which had relatively small variance in the sample ($SD = 0.85$ years), was positively correlated with deviant affiliations at T2 ($p = .005$), but not with any other constructs. Males were higher on T1 deviant affiliation and T3 attitudes about the acceptability of risky sex ($p = .001$). Neighborhood risk correlated positively with T1 and T2 NA (p s < .05) and deviant affiliations at T1 and T2 (p s < .001). Risk taking was positively associated with: discrimination ($p < .001$), T1 NA ($p < .001$), deviant affiliations at all three waves (p s < .05), and sex attitudes ($p = .02$). Interestingly, risk taking was not significantly related to subsequent risky sexual behavior. A father was present at both T1 and T2 for 19.3% of the youths; early father absence (T1 + T2) was related to greater discrimination ($p = .04$) and more risky sexual behavior ($p = .03$). Finally, early (T2) sexual debut was related to greater deviant affiliation at all three waves (p s < .01), more favorable attitudes about the acceptability of sex, and more risky sexual behavior (p s < .001).

Structural equation modeling

Measurement model: A confirmatory factor analysis (CFA) was conducted using full information maximum likelihood (FIML) with Mplus 3.11 (Muthén & Muthén, 1998–2004). The 10 constructs of interest were specified as latent, and the six covariates were specified as manifest. The CFA fit the data well: $\chi^2(269, N = 745) = 586.67$, $p < .001$; Tucker–Lewis index (TLI) = .934; comparative fit index (CFI) = .953; root-mean-square error of approximation (RMSEA) = .04; $\chi^2/df = 2.18$. All but two completely standardized factor loadings were greater than .59.

Structural model: The hypothesized SEM was tested as specified in Figure 2. The model fit the data well: $\chi^2(296, N = 745) = 580.88$, $p < .001$; TLI = .944, CFI = .957, RMSEA = .036, $\chi^2/df = 1.96$. There were no significant modification indices. The model explained 27% of the variance in T4 risky sexual behavior.

Hypothesis 1 and 2 Early perceived discrimination predicts an increase in risky sexual behaviors, and the relation is mediated by NA, deviant affiliations, and favorable attitudes about sex.

Consistent with our hypothesis, the SEM revealed that discrimination at age 10 or 11 was positively related to sex-risk behaviors at age 18 or 19. The total effect of early discrimination on risky sexual behavior was significant ($t = 4.52$, $p < .001$; see Figure 2; Table 2 lists indirect effects of interest). Early discrimination was also positively related to deviant affiliations, NA, and attitudes about sex (for total effects, all t s > 3.48, all p s < .001). As expected, T1 and T2 NA predicted greater deviant affiliations at T2 and T3 (all t s > 2.05, all p s < .05). Furthermore, NA mediated effects of discrimination on T2 and T3 deviant affiliations: There were significant indirect pathways from discrimination to T2 deviant affiliations through T1 NA and from discrimination to T3 deviant affiliations through T1 and T2 NA (all t s > 1.96, all p s < .05). Thus, T1 NA mediated the effect of discrimination on T1–T2 (change in) deviant affiliations, and T1–T2 NA mediated the effect of discrimination on T2–T3 deviant affiliations. In terms of pathways to risky sexual behavior, there were indirect paths from T1 discrimination to T4 risky sexual behavior through deviant affiliations at T1, T2, and T3, as well as through T1 NA (all t s > 2.25, all p s

< .05). Finally, the T1–T2 deviant affiliation risky sex relation was in part mediated by adolescents' attitudes about the acceptability of sex at T3 (age 15.5; $t = 2.64, p = .008$).⁴

Summary of results—This analysis found that African American youths who perceived more racial discrimination at age 10 or 11 were engaging in more sexual risk taking 8 years later. As expected, this relation was shown to be mediated by NA, deviant affiliations, and relatively favorable risk attitudes. Results also demonstrated that NA was a partial mediator of the relation between discrimination and deviant affiliations. Having identified the anticipated risk-promoting pathways, our next step was to investigate the hypothesized protective pathways from attentive parenting. Although parenting does play a direct protective role, our hypotheses—which concern mitigation of the harmful effects of discrimination and deviant affiliations—focused on indirect relations in which parenting affected sexual behavior through its effect on social and cognitive factors. Thus, Part 2 tested our full conceptual model and examined whether the anticipated relation between attentive parenting and risky sex was mediated by deviant affiliations and attitudes.

Part 2: Protective Parenting

Zero-order and partial correlations—Means, standard deviations, and zero-order correlations involving attentive parenting are presented in Table 1. Several correlations are worth pointing out: Discrimination correlated negatively with parenting at both T1 and T2 ($ps < .01$). Sexual risk taking at T4 was not related to parenting at T1, but it was negatively related to parenting at T2 ($p < .001$), as well as to changes in parenting from T1 to T2 (r with T2 parenting, partialling out T1 parenting = $-.19, p < .001$). Of the control variables, neighborhood risk, risk taking behavior,

Structural equation modeling

Measurement model: We conducted a CFA using FIML with Mplus 3.11. The 10 constructs of interest were specified as latent, and the seven covariates were specified as manifest. The CFA fit the data well: $\chi^2(433, N = 745) = 792.25, p < .001$; TLI = .936; CFI = .953, RMSEA = .033, $\chi^2/df = 1.83$. All but two completely standardized factor loadings were greater than .55.

Structural model: The hypothesized SEM was tested as specified in Figure 3. The model fit the data well: $\chi^2(455, N = 745) = 813.12, p < .001$; TLI = .940, CFI = .952, RMSEA = .033, $\chi^2/df = 1.79$. There were no significant modification indices.

Hypothesis 3 Attentive parenting reduces risky sexual behavior by reducing affiliation with deviant peers and by shaping adolescents' sex-related attitudes.

Adding attentive parenting to the SEM did not alter the significance of the paths discussed in Part 1 or reported in Table 2 (see Figure 3). For instance, the total effect of discrimination on T4 risky sexual behavior remained significant (and positive; $t = 3.98, p < .001$; see Table 3). The total effect of T1 parenting on T4 risky sexual behavior was negative and significant, $t = -4.73, p < .001$. Likewise, the total effect of T1–T2 parenting (T2 parenting controlling for T1 parenting) on risky sexual behavior was negative and significant, $t = -4.99, p < .001$. T1 parenting also had significant negative effects on affiliations at T1, T2, and T3 (all $|ts| > 4.75$, all $ps < .001$). In addition, the expected relation from T1–T2 parenting to T3 attitudes was significant, $t = -2.12, p = .03$; however, the mediated path from T1–T2

⁴In order to compare the strength of various model paths for males and females, we tested a multigroup model that was “stacked” on gender. Although not all the paths were equally strong for both genders, the two models overall looked very similar to each other and to the combined model.

parenting to risky sex via T3 attitudes was marginal, $t = -1.69$, $p = .09$. Thus, attentive parenting reduced risky sexual behavior indirectly, via its negative relation with deviant affiliations, and also somewhat via sex-related attitudes.

Hypothesis 4 There is a prospective reciprocal relation between deviant affiliations and attentive parenting.

The SEM also indicated significant direct paths from T1 deviant affiliation to T1–T2 parenting ($t = 2.09$, $p = .04$) and from T1–T2 parenting to T2–T3 deviant affiliations ($t = -3.39$, $p < .001$). These paths suggest that deviant affiliations at T1 were associated with (positive) changes in attentive parenting from T1 to T2 and that changes in attentive parenting were, in turn, associated with subsequent changes in deviant affiliations. A repeated-measures general linear model (GLM), conducted to check the direction of the change, indicated that attentive parenting significantly decreased from T1 to T2 [$F(1, 744) = 18.46$, $p < .001$]. Similar changes have been reported in other samples with adolescents this age (Masche, 2010; Pettit, Keiley, Laird, Bates, & Dodge, 2007). A second repeated-measures GLM showed that affiliation significantly increased from T2 to T3 [$F(1, 744) = 280.16$, $p < .001$]. Thus, T1 deviant affiliations predicted a smaller decline in attentive parenting from T1 to T2, and T2 parenting, in turn, predicted a smaller increase in deviant affiliations from T2 to T3. Overall, these findings suggest a prospective reciprocal relation whereby youths' deviant peer affiliations at age 10 or 11 prompted their parents to maintain more attentive parenting behaviors when the youths were 12 or 13; this response from the parents, in turn, predicted fewer deviant affiliations when the youths were 15 or 16.⁵ Findings from the SEM were thus consistent with our hypothesis regarding the protective influence of attentive parenting.⁶

Summary of results—The findings from Part 2 suggested that attentive parenting served as a protective factor, reducing the risky sexual behavior of the youths. Parents appeared to achieve this effect by reducing the favorability of their children's sex-related attitudes and by reducing the number of their children's deviant affiliations. In fact, the data reveal a reciprocal relation between attentive parenting and affiliations: Youths' early affiliation with deviant peers appears to have prompted parents to maintain relatively high levels of warmth and monitoring as their children reached adolescence. This response from the parents, in turn, attenuated the rise in youths' deviant affiliations that is typical at their age. Overall, these findings suggest that the detrimental influence of deviant peers was tempered by attentive parenting.

General Discussion

In line with recent suggestions that developmental studies examine both risk and protective factors simultaneously (e.g., Calkins & Fox, 2002; Emery & Forehand, 1994), this study used a comprehensive conceptual model to investigate the development of a diverse group of African American youths and arrived at two central findings. The first finding has to do with risk promotion: There was a prospective relation between African Americans' early

⁵This full model was also tested "stacked" on gender. As with the previous stacked model, the male and female models were very similar to each other and to the combined model.

⁶An alternative account is that the reciprocal relation between deviant affiliations and attentive parenting is spurious, and could be fully explained by the fact that both constructs are related to the deviant behavior of the target youths. To rule against this possibility, we conducted a cross-lag analysis that tested the relations among deviant affiliations, attentive parenting, and youth deviance at T1, T2, and T3, controlling for the same covariates (gender, age, SES, neighborhood risk, risk taking, and early father absence). The cross-lag model fit the data well, $\chi^2(235, N = 745) = 433.95$, $p < .001$; TLI = .943, CFI = .959, RMSEA = .034, $\chi^2/df = 1.85$. Consistent with the findings from the SEM, there was a significant positive path from T1 affiliation to T1–T2 parenting, $t = 2.44$, $p = .01$, and a significant negative path from T2 parenting to T2–T3 affiliation, $t = -3.86$, $p < .001$. Thus, after accounting for the relations between youth deviance and both deviant affiliations and parenting, the reciprocal relations between parenting and deviant affiliations remained significant.

experiences with racial discrimination and their subsequent risky sexual behavior. More than 88% of the youths in this sample reported at least some experience with racial discrimination, and greater perceived discrimination at age 10 or 11 predicted more sexual risk taking at age 18 or 19. This prospective relation was found after controlling for a number of factors that have been linked in the past with both discrimination and risky sex. Such a finding is consistent with the argument that discrimination is a central feature in the development of minority children (Garcia Coll et al., 1996) and adds to a growing body of literature indicating that the negative consequences of racial discrimination extend beyond the domain of mental health, to a variety of health-risk behaviors (Gibbons et al., 2007; Guthrie et al., 2002). The second major finding concerns the protective role of parenting styles: Attentive parenting—as reported by both the parents and the children—attenuated the rise in youths’ risky sexual behaviors that normally occurs during this age. Furthermore, reciprocal relations indicated that parents exerted some of this protective influence by responding effectively to the early deviant affiliations of their children. The results of the current investigation are, therefore, consistent with the perspective taken by Myers (2009) and others (e.g., Clark et al., 1999; Sanders-Phillips et al., 2009) as they demonstrate how the interaction of various mechanisms (e.g., affective, behavioral, and cognitive) explain a relation between youths’ race-based adversities and subsequent health behaviors.

Risk Promotion

Deviant peers—Consistent with previous theory and research concerning the risk-promoting effects of deviant peers (e.g., Diiorio et al., 2008; Jessor & Jessor, 1977), we found that the adverse effect of discrimination on subsequent sexual behavior was mediated by affiliation with deviant peers during adolescence. Deviant peers appeared to exert their impact on risky sexual behaviors both directly, as well as indirectly, by promoting more favorable attitudes about sex. This latter relation—mediation of the deviant affiliation risk relation by attitudes—is consistent with health theory explanations of peers’ influence via social-cognitive factors (Gibbons, Pomery, & Gerrard, 2008). The relation is also consistent with broader models of minority health (Clark et al., 1999; Myers, 2009), which describe how psychosocial factors mediate the effect of discrimination on subsequent health. Ultimately, the finding that affiliation at age 12 or 13 (with T1 affiliation controlled) was related to risky sexual behaviors 6 years later (at T4) is particularly telling about the power of early peer influence.

Negative affect—We also found that the discrimination → deviant affiliation relation was mediated by NA, which sheds some light on how the progression occurs: Experiencing discrimination produces negative affect (e.g., depression and anxiety), and this psychological consequence is one factor associated with seeking out deviant peers and, ultimately, with greater risky sexual behavior. Mediation by NA is likewise consistent with recent developmental theories, which posit that the specific effects of discrimination depend on how adolescents respond both cognitively and emotionally to discriminatory experiences (Myers, 2009; Sellers, Copeland-Linder, Martin, & Lewis, 2006; Spencer, Dupree, & Hartman, 1997). Future studies should draw upon such theories in order to understand our findings more thoroughly. In particular, now that there is evidence for a discrimination → NA → deviant affiliation relation, further research can elucidate how the NA → deviant affiliation relation unfolds: Do youths experiencing NA from discrimination choose to affiliate with deviant peers in order to enhance their self-esteem (Kaplan, 1980) or because NA from discrimination promotes a greater tolerance of deviance (Jessor & Jessor, 1977)?

Protective Parenting

In contrast to the detrimental influences of discrimination and deviant peers, attentive parenting was associated with less risky sexual behaviors. These results are consistent with

past research demonstrating the generally protective role of parental warmth and monitoring (e.g., Brody et al., 2001, 2003; Hutchinson et al., 2003; Murry et al., 2007). In addition, the present investigation provides a more thorough understanding of the mechanism by which parents exert their effects: The protective influence of parenting on risky sexual behavior was mediated through less favorable attitudes about sex and reduced affiliation with deviant peers. Parents and deviant affiliations, in fact, demonstrated a reciprocal relation, which appears to have been instigated by the youths' early deviant affiliations. Specifically, the data revealed a T1 deviant affiliation → T1–T2 parenting pathway, and a T1–T2 parenting → T2–T3 deviant affiliation pathway. Thus, it appears that parents were responsive to the early affiliations of their children, and the resultant changes in their parenting style effected subsequent changes in the youths' affiliations. These findings on attentive parenting are encouraging, since they indicate that—despite the increase in peer influence relative to parental influence that occurs in adolescence (Fuligni & Eccles, 1993)—parents can nevertheless have some positive impact on their children's deviant affiliations. Moreover, through this influence on deviant affiliations (and thereby favorable sex-related attitudes and risky sexual behavior), parents can partially counter the trajectory set in motion by early discrimination experiences.

Limitations

Several limitations of the current investigation need to be mentioned. This investigation used self-reported measures of discrimination and peer behavior and thus lacked objective assessment of these items. However, because the goal of this study was to take a psychosocial approach, the most important reality to consider was, arguably, the adolescents' *perceptions*. Measures of perceived peer behavior, for instance, reflect adolescents' perceived social norms. Moreover, the fact that only 33% of youths reported that some of their friends had engaged in sex at T2 suggests that the youths were not exaggerating their responses. Our measure of perceived discrimination was based on a scale that has demonstrated good reliability and validity in the past (see Klonoff & Landrine, 1999). Nevertheless, future research would benefit by incorporating additional measures of deviance and discrimination, including those that are more objective. Another limitation is that only one ethnic group was examined in the current study. Although our focus was restricted so that we could address the specific need for research among African Americans (Williams & Mohammed, 2009), future studies of discrimination effects should include other ethnic minorities for comparison purposes. Likewise, although FACHS recruitment from suburban and rural areas is an advantage of this sample (the vast majority of African American samples use urban populations), future studies should seek to replicate our findings with African American populations in different areas of the country.

It is also worth noting that our SEM models predicted risky sexual behaviors at a mean age of 18.5, a time by which sexual activity is very common, and therefore should not necessarily be labeled as “problematic.” However, it is important to recognize that our model was not predicting whether individuals were engaging in sexual activity (as 85.1% of them were) but rather the degree of risk in their sexual practices. In other words, the model was meant to predict behaviors that put sexually active young people, regardless of age, at risk for STIs. Finally, our findings are limited by the fact our sample was overwhelmingly heterosexual. There is some evidence that the rate of HIV infection is increasing among women and heterosexual men (Centers for Disease Control and Prevention, 2006; Hodder et al., 2010); nevertheless, since approximately 53% of transmissions still occur via male-to-male sexual contact (Centers for Disease Control and Prevention, 2009a), it is important for future research to also examine populations of young African American men who have sex with men.

Implications and Future Directions

That early experiences with racial discrimination could adversely affect risky sexual behavior 8 years later is noteworthy and supports the argument that discrimination can be extremely harmful when experienced during childhood (Cooper et al., 2008; Gibbons et al., 2007; O'Hara et al., 2011). These findings are of added importance given the disproportionately high incidence of HIV/AIDS and other STIs within the African American community (Centers for Disease Control and Prevention, 2009a, 2009b; Kaiser Family Foundation, 2009). Accordingly, the present study is consistent with a growing recognition in the health literature that racial differences in health cannot be explained by socioeconomic or contextual measures alone, but instead require the additional understanding of psychosocial factors. Research based on broad, comprehensive approaches provides insight into how these psychosocial factors operate within the context of one another—and, ultimately, what the real-world consequences would be of targeting them in an intervention.

One recent intervention that targeted psychosocial factors was successful in reducing risk behavior. This intervention, the Strong African American Families Program (SAAF) improved caregiving practices among a group of parents who had an African American child in early adolescence (see Brody et al., 2004); intervention-induced changes in parenting were, in turn, predictive of less sexual risk behavior at a 29-month follow-up (Murry et al., 2007). Despite the advances of such interventions, however, much remains unexplored in terms of the factors, pathways, and trajectories that lead African American adolescents to become risk-taking young adults. For instance, future research is needed to elucidate the specific aspects of parental warmth and monitoring (as well as other elements of the parent-child relationship, such as racial socialization and communication) that maximize parenting's protective function. More work is also needed to investigate additional cognitive and emotional factors that mediate between early discrimination and deviant peer affiliations. Ultimately, further research will not only improve our understanding of how the relation between discrimination and risky health behavior unfolds, but also suggest how it might be reduced.

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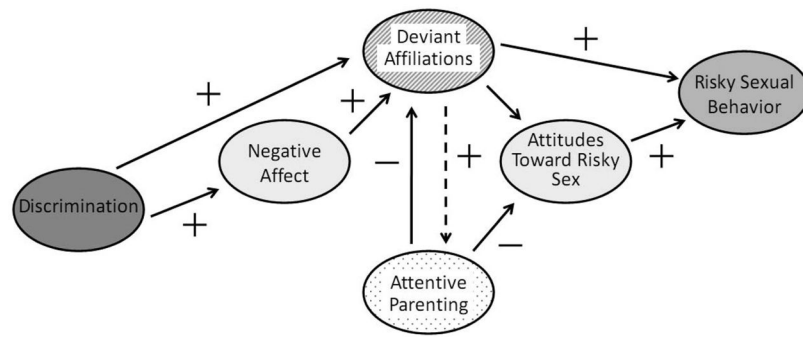


Figure 1. Conceptual model used in the present study, describing how cognitive, affective, and social variables influence behavior. The dashed line indicates a relation that has not yet been examined longitudinally.

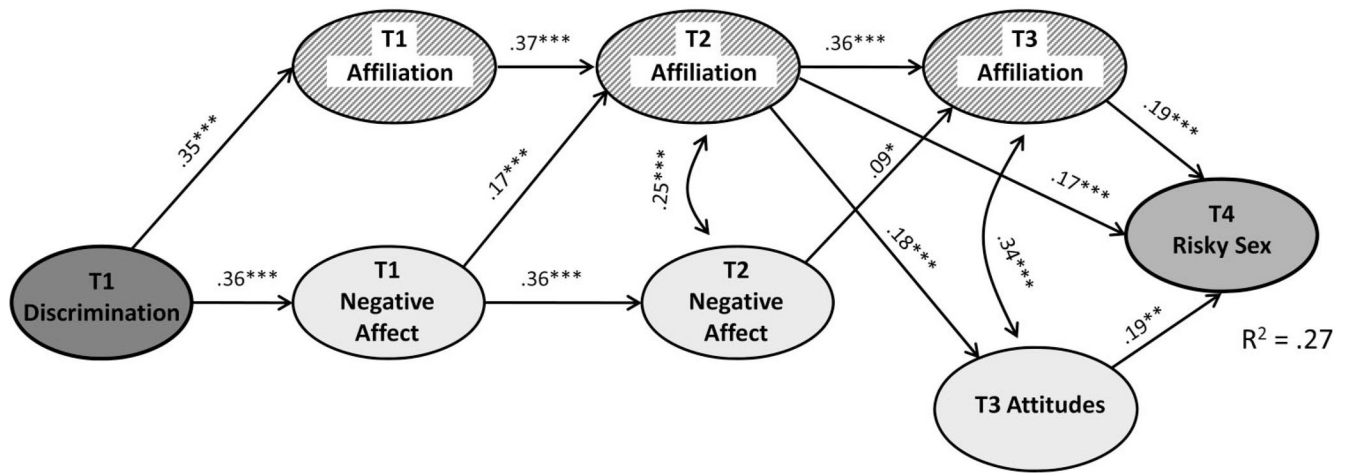


Figure 2. Structural equation model for the relationship of discrimination and risky sexual behavior, controlling for socioeconomic status, age, gender, neighborhood risk, risk taking, father absence, and sexual debut at T2. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4. * $p < .05$. ** $p < .01$. *** $p < .001$. and father absence were all negatively related to parenting ($p < .05$).

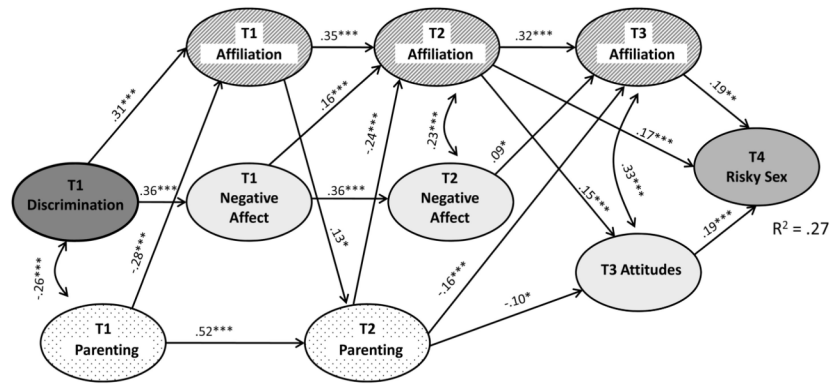


Figure 3. Structural equation model for the role of parenting within the relationship of discrimination and risky sexual behavior. The model controls for socioeconomic status, age, gender, neighborhood risk, risk taking, father absence, and sexual debut at T2. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 1

Means, Standard Deviations, and Correlations of all Variables

Variable/covariate	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Variable																	
Part 1																	
1. Discrimination (T1) ^a																	
2. Negative affect (T1) ^b	.32***																
3. Negative affect (T2) ^b	.21***	.29***															
4. Deviant affiliations (T1) ^c	.39***	.17***	.11**														
5. Deviant affiliations (T2) ^c	.25***	.20***	.30***	.37***													
6. Deviant affiliations (T3) ^c	.18***	.09	.14***	.17***	.35***												
7. Attitudes (T3) ^d	.09	—	—	.12**	.19***	.40***											
8. Risky sex (T4) ^c	.14**	.10	.13**	.09	.27***	.26***	.26***										
Part 2																	
9. Parenting (T1) ^c	-.17***	-.11**	-.09	-.28***	-.16***	-.14***	—	—	—	—	—	—	—	—	—	—	—
10. Parenting (T2) ^c	-.08	-.08	—	—	-.21***	-.22***	-.16***	-.19***	.45***	—	—	—	—	—	—	—	—
Covariates																	
11. SES	-.12**	—	—	-.17***	-.09	—	—	-.10	—	—	—	—	—	—	—	—	—
12. Age	—	—	—	—	.11**	—	.10**	.10	—	—	—	—	—	—	—	—	—
13. Gender ^d	—	—	.09	-.12**	—	—	-.27***	—	—	—	—	—	—	—	—	—	—
14. T2 sexual debut ^e	—	—	—	.12**	.14**	.16***	.23***	.19***	—	—	-.08	.21***	-.18***	—	—	—	—
15. Neighborhood risk	.36***	.17***	.11**	.34***	.19***	—	—	—	-.15***	-.10	-.23***	—	—	—	—	—	—
16. Risk taking	.19***	.14***	—	.29***	.09	.09	.09	—	-.26***	-.12**	—	—	-.08	—	.13**	—	—
17. Father absence ^f	.08	—	—	—	—	—	—	.09	-.09	—	-.27***	—	—	—	—	—	—
Mean (SD)	1.61 (0.51)	1.28 (0.20)	1.30 (0.19)	-0.02 (0.56)	0.01 (0.59)	0.01 (0.56)	1.69 (0.80)	-0.02 (0.73)	0.00 (1.00)	0.00 (1.00)	0.01 (0.84)	12.28 (0.85)	1.55 (0.50)	0.07 (0.26)	1.39 (0.42)	1.48 (0.40)	0.81 (0.40)

Note. N = 745. All shown correlations: $p < .05$. All variables are coded such that high scores indicate more of the construct. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; SES socioeconomic status.

^aScale range = 1–4.

^bScale range = 0–30.

^cScale is standardized.

^dCoded 1 = male, 2 = female.

^eCoded 1 = virgin, 2 = nonvirgin.

^fCoded 0 = present, 1 = absent.

** $p < .01$.

*** $p < .001$.

Table 2

Total Indirect and Specific Indirect Pathways of Interest for Figure 2 (Part 1 of the Investigation)

Pathway	<i>t</i>
Total indirect effects	
T1 discrimination T4 risky sex	.05 4.52
T1 deviant affiliations T4 risky sex	.10 4.58
T1 NA T4 risky sex	.05 3.55
Specific indirect effects	
T1 discrimination T1 NA T2 deviant affiliations	.06 3.42
T1 discrimination T1/T2 NA T3 deviant affiliations	.01 1.97*
T1 discrimination T1/T2/T3 deviant affiliations T4 risky sex	.01 2.61*
T1 discrimination T1 NA T2 deviant affiliations T4 risky sex	.01 2.36*
T1 discrimination T1 NA T2 deviant affiliations T3 attitudes T4 risky sex	.004 2.37*

Note. $N = 745$. Part 1 of the investigation does not include parenting factors. T1 = Time 1; NA = negative affect; T2 = Time 2; T3 = Time 3; T4 = Time 4.

* $p < .05$. All other t values, $p < .001$.

Table 3

Total Indirect and Specific Indirect Pathways of Interest for Figure 3 (Part 2 of the Investigation)

Pathway	<i>t</i>
Total indirect effects	
T1 discrimination T4 risky sex	.04 3.98
T1 parenting T4 risky sex	-.08 -4.73
Specific indirect effects	
T1 parenting T1/T2/T3 deviant affiliations T4 risky sex	-.06 -2.39*
T1/T2 parenting T3 deviant affiliations T4 risky sex	-.02 -2.18*

Note. $N = 745$. Part 2 of the investigation includes parenting factors. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4.

* $p < .05$. All other t values, $p < .001$.