

2022

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Saint-Eloi Cadely, H., Spears, E., Finnegan, V., & Kerpelman, J. L. (2022). Emotional and Social Cognitive Predictors of Sexual Risk Indicators among Adolescents in Committed and Noncommitted Partnerships. *Journal of Adolescence*. In press. <https://doi.org/10.1002/jad.12073>  
Available at: <https://doi.org/10.1002/jad.12073>

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**Emotional and Social Cognitive Predictors of Sexual Risk Indicators among Adolescents in  
Committed and Noncommitted Partnerships**

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Research data is not shared. This study was supported through grants from the U.S. Department of Health and Human Services, Office of Planning Research and Evaluation (90OJ2017) and the Alabama Department of Child Abuse and Neglect Prevention/Children's Trust Fund (CFFS 2006-301). The authors have no conflict of interest to report. Compliance with the American Psychological Association ethical standards was followed in the treatment of this sample and in the conduct of this study. Participants assented and received consent from their parents/caregivers to participate in the study. We did not reproduce material from other sources. This study was not a clinical study thus a clinical trial registration is not applicable to this study.

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### Abstract

**Introduction:** Little is known about the risks of casual sexual partnerships during adolescence despite many adolescents having sex within noncommitted relationships. We applied theories of adult attachment, planned behavior, and problem behavior to examine emotional and social cognitive predictors of variability in sexual risk indicators among adolescents in committed and noncommitted partnerships.

**Method:** Data were drawn from 801 adolescents (53.6% female; ages 14-20 ( $M = 16.25$ )) living in a southern state in the United States.

**Results:** Findings showed that healthy sex attitudes were related to knowing one's sexual partner longer; this association was stronger for females, particularly those in noncommitted sexual partnerships. Additionally, healthy sex attitudes predicted fewer sexual partners across adolescents, except for male adolescents in noncommitted sexual partnerships. Romantic attachment insecurity and constraining relationship beliefs had different associations with sexual risk indicators according to gender and relationship status.

**Conclusion:** Findings contribute to current understanding of risks associated with adolescents' sexual engagement and offer insights about adolescents' casual sexual partnerships.

*Keywords:* adolescence, constraining relationship beliefs, healthy sex attitudes, insecure romantic attachment, noncommitted sexual partnerships, sexual risk indicators

## **Emotional and Social Cognitive Predictors of Sexual Risk Indicators among Adolescents in Committed and Noncommitted Partnerships**

Adolescents' sexual partnerships vary from committed to casual, and although adolescents' sexual activity is part of normative development (Harden, 2014; Manning et al., 2014; Olmstead, 2020; Tolman & McClelland, 2011), it comes with associated risks. Noncommitted partnerships can include being in one or more casual relationships that are not viewed as exclusive or serious; whereas committed partnerships typically are exclusive and monogamous (Olmstead, 2020; Whitton et al., 2013). Emotions and social cognitions associated with experiences in romantic and sexual relationships matter for the riskiness of adolescents' sexual engagement (Manning et al., 2006; McElwain et al., 2015; Saint-Eloi Cadely et al., 2020), and adolescents in noncommitted sexual relationships have been shown to have higher odds of experiencing negative mental health outcomes including depression and low self-esteem (Manning et al., 2005; 2014), as well as negative romantic experiences in young adulthood (Manning et al., 2014; Shulman et al., 2020). Compared with adolescents in committed romantic relationships, risk for unplanned pregnancies and sexually transmitted infections is higher when adolescents engage in sexual activity within noncommitted partnerships (Claxton & van Dulmen, 2013; Gurvey et al., 2005). Sources vary specific to condom use. Some studies show adolescents in noncommitted partnerships are less likely to use condoms or other contraceptives during sex (Manlove et al., 2007; Manning et al., 2000), whereas other research notes a switch from condoms to other birth control methods (e.g., the pill) is more common among adolescents in committed relationships, potentially increasing risk for sexually transmitted infections (Espada et al., 2015).

More research is needed to understand and address variability in risks associated with adolescents' sexual engagement, particularly in noncommitted relationships given that many adolescents report sexual experiences with casual partners (Manning et al., 2006; Olmstead, 2020). [To help address this gap in the literature, we examine associations between emotional and social cognitive factors and sexual risk indicators among male and female adolescents in committed and noncommitted cisgender heterosexual sexual partnerships.](#)

### **Casual Relationships, Sexual Risk Indicators, and Gender**

Most studies addressing noncommitted, casual sexual experiences focus on emerging adult and college samples (Barriger & Velez-Blasini, 2013; Black et al., 2019; Bradshaw et al., 2010; Collins et al., 2009; Helm et al., 2015; Katz & Schneider, 2013; Montes et al., 2017; Olmstead, 2020; Owen et al., 2010; 2011). Research with college students shows attitudes about sex and love are associated with involvement in noncommitted sexual relationships; those endorsing permissive attitudes report more comfort with casual genital-contact (Katz & Schneider, 2013). In addition, anxious attachment among young adults (i.e., overly needing emotional closeness with a partner) is linked with riskier sexual behavior (e.g., condomless sex, having multiple partners concurrently; Kim & Miller, 2020), and avoidant attachment (i.e., discomfort with emotional closeness with a partner) is associated with acceptance of casual sex (Moors et al., 2014) and likelihood of engaging in sexual activity within noncommitted relationships (Olmstead, 2020; Schachner & Shaver, 2004).

Although research with young adult samples offers insights for adolescents' sexual relationships, Arnett (2015) points out that young adult relationships differ from adolescent relationships and are more likely to be stable and involve serial monogamy. For instance, in a recent study including 6,098 sexually experienced Dutch adolescents and young adults,

adolescents were more likely than young adults to report recent sexual activity with a casual partner (van de Bongardt & de Graaf, 2020). Findings across studies of young adults show that noncommitted sex often is related to earlier formed perceptions of norms and beliefs about romantic relationships (Barriger & Velez-Blasini, 2013; Black et al., 2019; Montes et al., 2017; Owen et al., 2010; 2011). Additionally, numerous studies of young adults' noncommitted sexual partnerships frequently report significant gender differences (Barriger & Velez-Blasini, 2013; Black et al., 2019; Bradshaw et al. 2010; Helm et al. 2015; Owen et al., 2011), with males more than females preferring casual partnering (Bradshaw et al., 2010; Helm et al., 2015).

Furthermore, in a recent decade review, Olmstead (2020) notes that little is known about adolescents' involvement in noncommitted or casual sexual partnerships and that addressing this gap is central to our understanding of adolescents' experiences and how patterns established matter for adolescents' developmental trajectories. The present study aims to add to limited research by comparing adolescents in committed and noncommitted sexual partnerships. Gender differences within and across groups will also be examined.

Many adolescents are having sexual intercourse with dating partners. For example, among a national sample of 6,117 adolescents, ages 12-19, 40.5% of adolescents indicated they had sexual intercourse with their romantic dating partner (Carver et al., 2003). A substantial percentage of adolescents also report having sex in casual, noncommitted relationships. For example, Manning et al.'s (2006) study of seventh, ninth and eleventh graders showed that 61% of sexually active adolescents reported having sex in noncommitted dating relationships. In another study of sexually active middle and late adolescents 23.8% indicated having sex solely with a nonromantic partner, and 14% had sex with both a romantic and a nonromantic partner (Manning et al., 2005).

Gender also matters for understanding adolescents' perceptions of noncommitted sexual partnerships, with adolescent boys more than adolescent girls reporting sexual activity within non-dating relationships (Manning et al., 2005; 2006; Olmstead, 2020; van de Bongardt & de Graaf, 2020), and boys relative to girls note gaining more casual romantic experiences over time (Kindelberger et al., 2020). More adolescent girls than boys state they avoid sexual activity (Byers et al., 2016), with a recent study showing that girls' beliefs for avoiding unwanted outcomes of sexual activities (e.g., sexually transmitted infections; loss of respect from peers) were related to resisting engagement in unwanted sexual activity (Eaton & Stephens, 2019). Furthermore, girls who believed engaging in sexual activity was important to developing or maintaining a dating relationship were at a higher risk for giving in to verbal sexual coercion. In contrast, boys who believed engaging in verbal coercion would lead to having sex viewed having sex as a "benefit," whereas negative relationship outcomes (e.g., loss of the relationship) were viewed as a risk.

### **Frameworks for Understanding Adolescents' Sexual Risk Indicators**

In the current study, we emphasize adolescents' social cognitions and emotions as key predictors of sexual risk indicators. Specifically, the frameworks of adult attachment theory (Brennan et al., 1998), problem-behavior theory (Jessor, 1991), and the theory of planned behavior (Ajzen, 1985; Stevens et al., 2019) guide our selection of emotional and social cognitive factors. Adult attachment theory identifies insecure romantic attachment in the forms of avoidance and anxiety that affect desire for and comfort with intimacy and can undermine the quality of romantic relationships (see Pittman et al., 2011 for discussion of romantic attachment and adolescent development). Within this framework, anxious attachment is feeling overly dependent on the relationship partner to meet emotional needs, whereas avoidant attachment

involves evading closeness with a romantic partner, often due to worry of losing independence or fear of rejection (Brennan et al., 1998). These dimensions of romantic attachment insecurity are linked to adolescents' sexual risk-taking, such as low condom use during intercourse (Feeney et al., 2000; Saint-Eloi Cadely et al., 2020) and cumulative sexual risk-taking (McElwain et al., 2015). Romantic attachment insecurity affects how adolescents think about themselves and their close relationships (Kerpelman et al., 2012; Pittman et al., 2011; Schachner & Shaver, 2004), which is associated with their decisions around sexual activity (Davis et al., 2004; Feeney et al., 2000; Saint-Eloi Cadely et al., 2020; Tracy et al., 2003). Adolescents higher in anxious attachment are more likely to make sexual decisions based on pleasing their partner or to keep their partner even when such a decision is risky; adolescents higher in avoidant attachment may engage in sexual activity without considering the emotional consequences to themselves or their partner (McElwain et al., 2015).

Problem behavior theory points to the importance of focusing on psychosocial factors that affect the likelihood or proneness towards engaging in risky behaviors and decisions (i.e., risk and protective factors). One such psychosocial factor is idealizing relationships, also referred to as constraining relationship beliefs (Arnold et al., 2013; Larson, 1992). As with insecure romantic attachment, constraining relationship beliefs rise in prominence during adolescence (Driesmans et al., 2016) and can affect sexual activity decisions (Gebhardt et al., 2003; Saint-Eloi Cadely et al., 2020). Like adults, adolescents hold expectations for relationships and the behaviors of partners in romantic relationships (Ma et al., 2014; Montgomery, 2005). Constraining relationship beliefs in Western cultures are those that tend to “idealize” the notion of romantic relationships (Larson, 1992). Beliefs such as “love is enough to sustain a relationship” take form during adolescence (Driesmans et al., 2016) and affect partner selection

in young adulthood (Cobb et al., 2003). In their study of romantic relationship beliefs among Belgian adolescent girls (ages 11-14), Driesmans et al. (2016) found that many endorsed the constraining belief that one's true love will be nearly perfect. Other research shows that adolescents whose motives for having sex are to build intimacy and to express love are at risk for engaging in unprotected sex (Gebhardt et al., 2003). Furthermore, casual sexual partnerships are shown to be associated with adolescents' expectations or hopes that more conventional dating relationships will emerge from such partnerships (Manning et al., 2006). Adolescents and young adults with higher levels of constraining relationship beliefs are more likely to take sex-related risks if such risks support their idealized views of romantic relationships (Arnold et al., 2013; Saint-Eloi Cadely et al., 2020).

Whereas constraining relationship beliefs and insecure attachment are associated with greater indicators of sex-related risk, healthy sex attitudes are consistent with what problem behavior theory would call a protective factor and are expected to minimize the likelihood of adolescents engaging in risky behaviors and decisions (McElwain et al., 2015; Saint-Eloi Cadely et al., 2020). Healthy sex attitudes are attitudes about sex emphasizing emotional connection and having greater maturity prior to sexual engagement that help protect against negative outcomes associated with sexual engagement (McElwain et al., 2015; Saint-Eloi Cadely et al., 2020). Consistent with the theory of planned behavior, which identifies perceptions, attitudes, and beliefs that influence intentions to perform and subsequently implement behaviors, adolescents' attitudes about when to engage in sexual activities affects their intentions and ensuing sexual behavior (McEachan et al., 2011). Healthy sex attitudes also influence sexual decisions, with positive implications for adolescents' well-being (Harden, 2014; McElwain et al., 2015). For instance, adolescents' negative sexual health expectations (e.g., getting a sexually transmitted

infection) were found to predict less engagement in oral sex and vaginal intercourse (Bersamin et al., 2006). Moreover, McElwain et al. (2015) showed that adolescents' endorsement of healthy sex attitudes was related to lower cumulative sexual risk-taking, and a meta-analysis indicated that adolescents' beliefs of other peoples' thinking about how one should engage in a behavior were associated with adolescents' intentions for safer sex (McEachan et al., 2011).

### **The Current Study**

The primary aim of the current study is to add to the understanding of risks in adolescents' sexual relationships, particularly in noncommitted partnerships. Based on past research, we selected risk indicators of condom use consistency, age at sexual debut, number of sexual partners, and whether the sexual partner is a shorter- or longer-term acquaintance. This collection of risk indicators includes behaviors and conditions shown to be associated with potential negative outcomes for adolescents (Gebhardt et al., 2003; Letcher & Slesnick, 2014; Tracy et al., 2003). We examine indicators of risk separately, rather than combined, because prior research shows variability in associations among risk and protective factors with different sexual risk indicators (Saint-Eloi Cadely et al., 2020). Across adolescents, we anticipate attachment insecurity and constraining relationship beliefs will be associated with a greater indication of sex-related risks (Feeney et al., 2000; Gebhardt et al., 2003; Letcher & Slesnick, 2014; Olmstead, 2020), whereas healthy sex attitudes will be associated with a lower indication of such risks (Harden, 2014; McElwain et al., 2015). We test whether these expected associations hold across gender and relationship status (committed and noncommitted partnerships). We expect varying associations among our identified risk and protective factors and different sexual risk indicators according to gender (Manning et al., 2005; 2006) and relationship status (Olmstead, 2020). Because age, majority/minority ethnic background, and socioeconomic status

have been shown to influence risky sexual engagement (Harris et al., 2002; Manning et al., 2000, 2005, 2006), these are controlled in the present study.

## **Method**

### **Participants and Procedure**

Data were drawn from students attending required Health classes in public high schools across a conservative southern state in the United States. These students were participating in a larger study examining effectiveness of relationship education; data used for the current study were collected prior to implementation of the relationship education program. The research project was initially approved by the state superintendent who noted specific parameters around permissible questions addressing heterosexual activity. The study questionnaire also was approved by the researchers' university institutional review board prior to data collection. Participating teachers (across the state) received training from the researchers on the study protocol. All teachers obtained permission from their school principals to participate in the project. Teachers distributed and collected the questionnaires in their classrooms and mailed the questionnaires to the researchers. Precautions were taken to protect the identities of the students. Participants assented and received consent from their parents/caregivers to participate in the study. The sample selected for the current study ( $N = 801$ ) were drawn from the samples collected in the third and fourth year of the five-year study ( $N = 2,577$  for the third-year cohort;  $N = 1,942$  for the fourth-year cohort). Only currently sexually active adolescents who indicated they had vaginal sex in the past 30 days prior to data collection were included. From this sample, four groups were created based on gender and whether the adolescent was having sex only with a serious, exclusive dating partner (committed-males ( $n = 193$ ), committed-females ( $n = 318$ )) or with a partner they were either not dating or dating casually (noncommitted-males ( $n = 179$ ),

noncommitted-females ( $n = 111$ ). The sample was predominately 10th graders (62.4%) followed by 11<sup>th</sup> graders (15.6%); age range was 14-20 years old ( $M = 16.25$ ;  $SD = 1.04$ ). Slightly over half of the participants were female (53.6%) and over half indicated they were receiving free/reduced lunch (58.1%). Moreover, 43.6% identified with ethnic majority status (European-American) and 55.9% identified with ethnic minority status (African American (47.4%), Hispanic/Latino (3.7%), Native American (1.6 %), Asian American (0.5 %), or other minority (2.6%)). Demographics of the analysis sample are representative of adolescents attending public high schools where data were collected.

## **Measures**

### ***Insecure Attachment Dimensions***

Two dimensions of insecure attachment were assessed by 18 selected items (nine for each dimension) from the *Experiences in Close Relationships Scale* (Brennan et al., 1998). Items for the avoidant dimension assessed discomfort with intimacy (e.g., “I get uncomfortable when a romantic partner wants to be very close”); items for the anxious dimension assessed dependency on the relationship (e.g., “My desire to be close sometimes scares people away”). Items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the current sample, Cronbach alphas were .74 for the avoidant dimension and .82 for the anxious dimension. A composite mean score for each attachment dimension was created. Higher scores indicated greater attachment avoidance and greater attachment anxiety.

### ***Healthy Sex Attitudes***

Seven selected items from Gardner et al. (2004) were used to assess healthy sex attitudes. The selected items assessed the ability to wait to have sex until there is an emotional bond (e.g., “In future dating relationships, I intend to wait to have sex until I really feel emotionally

connected with my partner”) and the importance of having a level of maturity before having sex (e.g., “It is risky for young teens to have sex”). Items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*); ( $\alpha = .74$  for the current sample). A composite mean score was created. Higher scores indicated more endorsement of healthy sex attitudes.

### ***Constraining Relationship Beliefs***

Constraining relationship beliefs were assessed via eight items selected from the *Attitudes and Romance Mate Selection Scale* (Cobb et al., 2003). The selected items assessed adolescents’ beliefs that there is one person meant for one to marry (e.g., “There is one true love out there who is right for me to marry”) and love is enough to sustain a relationship (e.g., “In the end, our feelings of love for each other should be enough to sustain a happy marriage”). Items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*); ( $\alpha = .76$  for the current sample). A composite mean score was calculated. Higher scores indicated more endorsement of constraining relationship beliefs.

### ***Sexual Risk Indicators***

Assessment of sexual behavior was limited to questions about vaginal sexual intercourse in accordance with school approvals received for the study. The following items served as sexual risk indicators: (a) Age at first sex (“How old were you when you first had sexual intercourse?”). Responses ranged from 10-16 years old or older; higher age indicated less risk. (b) Number of sexual partners (“During your life, with how many people have you had sexual intercourse?” 1 (*one person*) – 5 (*five people or more*)); more partners indicated more risk, (c) Condom use (“In the last month, how much of the time did you or your sexual partner use a condom (rubber) when you had sexual intercourse?”; 1 (*None of the times*) – 5 (*Always*)); higher scores indicated condom use consistency and lower risk, and (d) Relationship length (“How long did you know

the person with whom you most recently had sexual intercourse?"; 1 (*Knew the person less than a week*) – 5 (*Knew the person for more than six months*)); higher scores indicated lower risk.

### ***Demographic Control Variables***

Except age, demographic variables were dichotomized (**Ethnic status:** 0 = *majority ethnic status*, 1 = *minority ethnic status*; **Free/reduced lunch:** 0 = *No*, 1 = *Yes*). Free/reduced lunch was used to assess participants' socioeconomic status. **Age** was coded in years and ranged from 14-20 years old.

### **Analyses**

Preliminary analyses were conducted in SPSS Version 26 (IBM Corp, 2018). The main analyses were conducted in MPLUS Version 8 (Muthén & Muthén, 1998-2016). Full Information Maximum Likelihood (FIML) was used to manage missing data. This is a recommended procedure for the handling of data that are missing at random as it produces better parameter estimates and statistical properties where data are missing as opposed to listwise deletion or imputation methods (Schafer & Graham, 2002). This procedure also allows for the use of all available data for each participant, as it uses the available data to estimate parameters where data are missing. *Most participants had complete data on all the study variables. Missing data ranged from two to nine cases for the sexual risk indicators, one to seven cases for the emotional/social cognitive predictor variables, and three to 13 cases for the demographic control variables.*

An SEM model was first fit to the data to examine model fit using the full sample (see Figure 1). This model included pathways to each of the sexual risk indicators from each of the composite predictors while controlling for demographic variables. Multiple group analyses were conducted to compare the pathways of the SEM model across the four groups created by

combinations of relationship status and gender. Comparisons were made for two groups at a time (e.g., committed-males vs. committed-females). For each comparison, pathways that were significant across both groups were constrained to equality. The  $\chi^2$  of the constrained models were then compared to the unconstrained models via  $\Delta\chi^2$  tests. Pathways were concluded to be significantly different across groups should change in the overall  $\chi^2$  exceeded the critical value for one degree of freedom ( $\chi^2 (1) = 3.84, p < .05$ ) for the constrained models relative to the unconstrained models.

### Results

Descriptive statistics can be found in Table 1. Chi-square findings indicated that committed-females were more likely to be of ethnic majority status, whereas noncommitted-males were more likely to be part of an ethnic minority group ( $\chi^2 (3) = 30.81, p < .001$ ). Analysis of variance results with Bonferroni correction revealed that noncommitted-females were more likely to be younger than adolescents in the other groups ( $F (3, 794) = 5.85, p < .001$ ), and committed-females reported the lowest condom use ( $F (3, 790) = 9.42, p < .001$ ). Across groups, females endorsed higher levels of healthy sex attitudes than males and noncommitted-males reported lower endorsement of healthy sex attitudes relative to the other groups ( $F (3, 796) = 149.95, p < .001$ ). Adolescents in noncommitted relationships were higher than adolescents in committed relationships in avoidant attachment ( $F (3, 790) = 23.35, p < .001$ ), and noncommitted-females were higher than committed-males in anxious attachment ( $F (3, 790) = 2.57, p = .05$ ). Additionally, committed-females endorsed the highest level of constraining relationship beliefs ( $F (3, 792) = 23.01, p < .001$ ). Examination of the sexual risk indicators indicated that noncommitted-males were youngest at sexual debut ( $F (3, 795) = 35.15, p < .001$ ). They also had the most sexual partners ( $F (3, 788) = 40.97, p < .001$ ), and knew their sexual

partners for the shortest length of time ( $F(3, 791) = 37.63, p < .001$ ) compared to the other groups of adolescents. Effect sizes were calculated for group differences that were statistically significant based on Bonferroni post-hoc findings. Results showed that effect sizes across group differences ranged from .25 – 1.37, suggesting that the differences across groups ranged from small-to-large (Cohen, 1992; McLeod, 2019).

Next, the SEM model was fit to the data across all four groups (see Tables 2 and 3 for standardized and unstandardized coefficients and standard errors). Although certain pathways were found to be significant across multiple groups, specific pathways were significant uniquely for some of the groups. For instance, for the committed-males, high scores on the avoidant dimension were related to more condom use. Committed-males with high scores on the anxious dimension were marginally more likely to have had sex for the first time at an older age. Additionally, high endorsement of healthy sex attitudes was related to a later age for first sexual intercourse, having less sexual partners, and knowing the sexual partner longer (see Table 2).

For the committed-females, high scores on the avoidant dimension were marginally related to an older sexual debut. High scores on the anxious dimension were marginally related to lower condom use during sex. Lastly, high endorsement of healthy sex attitudes was related to having fewer lifetime sexual partners and more time knowing one's sexual partner (see Table 2).

Surprisingly, none of the hypothesized pathways were found to be statistically significant for the noncommitted-males. For the noncommitted-females, it was found that high scores on the anxious dimension were marginally related to less time knowing one's sexual partner. High endorsement of healthy sex attitudes was marginally related to less lifetime sexual partners and was related to more condom use during sex and knowing one's sexual partner longer (see Table 3).

For all but the noncommitted-males group, healthy sex attitudes operated as expected in terms of being related to having less lifetime sexual partners and knowing the sexual partner for a longer time. These pathways were compared to determine whether they differed in strength across groups. Specifically, these pathways were constrained to equality and were then compared (two groups at a time) using  $\Delta\chi^2$  tests. Pathways were significantly different when change in the overall  $\chi^2$  between the constrained and unconstrained model exceeded the critical value for one degree of freedom ( $\chi^2(1) = 3.84, p < .05$ ). Paired comparisons for the path from healthy sex attitudes to number of sexual partners indicated that the groups did not differ in the strength of this negative association (i.e., the  $\Delta\chi^2$  tests did not exceed the critical value). However, the path from healthy sex attitudes to length of time knowing the sexual partner was found to differ in strength between groups. Results from the  $\Delta\chi^2$  test comparing males and females in committed relationships exceeded the critical value ( $\Delta\chi^2 = 4.34, p < .05$ ); the positive association was stronger for females in committed relationships. The comparison between committed males and noncommitted females indicated that the positive association was stronger for noncommitted females ( $\Delta\chi^2 = 13.17, p < .05$ ). Finally, when this path was compared for females in committed and noncommitted relationships, this association was found to be stronger for noncommitted females ( $\Delta\chi^2 = 4.45, p < .05$ ).

Taken together, healthy sex attitudes were a consistent protective factor for three of the four groups, as they were related to having less lifetime sexual partners and knowing the partner for a longer time. Moreover, the relationship between healthy sex attitudes and length of time knowing the sexual partner was stronger for females and strongest for noncommitted females. However, constraining beliefs and romantic attachment insecurity did not always operate as

expected or consistently across groups and none of the pathways were found to be significant for noncommitted males.

### **Discussion**

Guided by adult attachment, planned behavior, and problem behavior theoretical frameworks and focusing on emotional and social cognitive factors, we examined variability in sexual risk indicators among adolescents according to relationship status and gender, adding to the literature examining adolescents' noncommitted sexual partnerships. Although some of our findings coincide with previous studies showing that males and adolescents in noncommitted partnerships engage in more risky sexual behaviors (Claxton & Van Dulmen, 2013; Olmstead, 2020) and report higher scores in attachment avoidance (Brennan et al., 1998; Moors et al., 2014; Olmstead, 2020; Schachner & Shaver, 2004), our results also show that indication of sex-related risks are not exclusive to males nor to adolescents in noncommitted relationships.

### **Comparing Adolescents in Committed and Noncommitted Sexual Partnerships**

Overall, noncommitted-males had greater sexual risk indicators than adolescents in the other groups, and compared to committed-females, noncommitted-females reported more sexual partners and younger sexual debut. However, the risk and protective factors assessed in the present study varied in how they related to sexual risk indicators across groups. Some factors were consistently associated with sex-related risks across groups, whereas other factors were not as consistent.

### ***Protective Factor: Healthy Sex Attitudes***

Healthy sex attitudes were protective for adolescents in committed relationships and females in noncommitted relationships. When adolescents believe it is important to have an emotional connection to their partner and to be mature enough to make good decisions about when to have sexual intercourse, they are less likely to engage in risky sexual behaviors or

decisions (Harden, 2014; McElwain et al, 2015). Compared to all other groups, noncommitted-females had the strongest positive association between healthy sex attitudes and length of time knowing the sexual partner, and when their healthy sex attitudes were higher, they also reported more consistent condom use and fewer sexual partners. These associations suggest that healthy sex attitudes can help protect adolescents, particularly female adolescents in noncommitted sexual partnerships, from risks of unintended pregnancy and sexually transmitted infections, as well as emotional and physical risks associated with having multiple sex partners and having sex with someone they do not know well. Consistent with past research, sexual health expectations are associated with less risk-taking among girls (Bersamin et al, 2006) and girls, regardless of whether they are in a committed or noncommitted partnerships, are more cautious about sexual activity when they hold attitudes that promote avoiding negative consequences (Eaton & Stephens, 2019).

***Risk Factors: Attachment Insecurity and Constraining Relationship Beliefs***

When noncommitted-females had greater anxious attachment, they were more likely to have sex with a partner they had known for a shorter length of time, and those with higher constraining relationship beliefs had a younger sexual debut. It may be that noncommitted female adolescents decided to engage in noncommitted sexual partnerships as a starting point for romantic dating relationships, as it is not uncommon for adolescents to become involved in a noncommitted partnership in the hopes that it will progress to a committed relationship (Manning et al., 2006; Paul et al., 2008). Should adolescents at a young age develop beliefs that their casual partner is their one true love, they may be more likely to engage in sex to develop a romantic relationship with their noncommitted partner. Alternatively, for some noncommitted-females, it may be a lack of skills or experiences for developing romantic relationships, as well

as worry about rejection, that can result in sexual activity with casual partners (Davis et al., 2004; Hafen et al., 2014; Impett et al., 2006; Kim & Miller, 2020). Thus, the need to be close to a partner, idealizing romantic relationships, lacking skills, or fearing rejection may lead some adolescent girls to engage in sexual activity too quickly with a new or noncommitted partner (Manning et al., 2000).

For adolescents in committed relationships, females with higher avoidant attachment were more likely to have their first sexual experience at an older age. Males were more likely to use condoms consistently if they had higher avoidant attachment, whereas females who were higher in anxious attachment were less likely to use condoms consistently. Additionally, female adolescents in committed relationships reported less condom use than their male and female counterparts in committed and noncommitted relationships, respectively. For female adolescents, particularly for those who are anxious to please their partners, being in a committed relationship may create a sense of monogamy where they feel less need to use protection or are using alternative means of birth control (Espada et al., 2015). In general, females with greater anxious attachment may be more likely to put their own needs second to those of their partner (Davis et al., 2004; Kim & Miller, 2020; Letcher & Slesnick, 2014), even if it means having unprotected sex (committed-females) or engaging in sex with someone they do not know well (noncommitted-females). Our findings partially overlap with Feeney et al. (2000) and Tracy et al. (2003) who found that anxiety over relationships (anxious attachment) was linked to less safe sexual practices, but discomfort with closeness (i.e., avoidant attachment) was associated with less sexual experiences and with a tendency for males to be cautious about sexual risk-taking. Interestingly, one exception we found was for male adolescents in committed partnerships who were more likely to have a later sexual debut when they were higher in anxious attachment.

Possibly a stronger need for emotional closeness is associated with some male adolescents being more likely to view sexual intercourse as part of a relationship and fulfilling desires for intimacy rather than an activity independent of an emotional bond (Ott, 2010).

### ***What about Males in Noncommitted Sexual Partnerships?***

Unlike their female counterparts or males in committed relationships, neither romantic attachment insecurity, constraining relationship beliefs, nor healthy sex attitudes predicted any of the sexual risk indicators for noncommitted-males. To explore the unexpected lack of associations, individual correlations and scatterplots for this group were fit to the data to visualize the patterns. Across the study variables, we observed a lack of association between the predictors and outcomes. Therefore, the risk and protective factors examined in this study were not what mattered for noncommitted-males in explaining risks associated with their sexual engagement. For male adolescents in noncommitted partnerships, sexual activity may have different meaning or may be motivated by other factors, such as observing behaviors of peers or role models, gaining status, or obtaining immediate reward (Eckstrand et al, 2017; Olmstead, 2020). On average, the noncommitted-males were younger at sexual debut, had more sexual partners, and knew their current sexual partners for a shorter length of time compared to the other groups. For males in mid-adolescence, especially those not in committed relationships, there may be a greater tendency generally to participate in risk-taking, including sexual risk-taking (Burnett et al., 2010; Romer, 2010; Shulman et al., 2015). For instance, casual sex engaged in by adolescent males has been found to be related to low impulse control (Knowles et al., 2019). Prior work also suggests that when adolescents perceive substantial benefits of having sex, this may increase their engagement in noncommitted sexual activity and its associated risks (Eaton & Stephens, 2019; Manning et al., 2005; Stinson, 2010). Understanding how these male

adolescents view sexual activity, the perceived benefits and costs of such activity, and the role models that guide their decisions may offer insights into their sexual engagement and risk-taking.

### **Limitations**

A limitation of the current study is its' cross-sectional design, making this study a snapshot of participating adolescents' sexual partnerships which can and do change across time. Data collected based solely on the participating adolescents' self-report without their sexual partner also is a limitation. However, the topic under study is difficult to examine without reliance on adolescents' reporting on their sexual activity. The addition of adolescents' sexual partners' views on their romantic relationships and sexual activities could also bring value to the literature. Another limitation is that the range of sexual risk indicators examined was restricted by the school systems located in the southern state where data were collected. Sex education in conservative southern states, when offered, primarily focuses on abstinence for adolescents or abstinence until marriage. Thus, findings of the present study may differ from similar studies conducted in locations where views on sexual activity are more liberal (e.g., some participants may have reported fewer lifetime sexual partners than they actually had due to social expectations). The cultural context where data were collected also provided restrictions for asking information on same-sex relationships, limiting this study to cisgender heterosexual relationships.

### **Future Directions**

Future research should examine a broader array of sexual experiences among adolescents in committed and noncommitted partnerships and how their beliefs about relationships and sex work together to influence potential risks and risk-taking. Broader assessment of adolescents' reasons for engaging in sexual activity, how they view sex within and

outside of committed relationships, and their desire and capacity for embracing risk would shed light on variability observed in adolescents' sexual activity and may have important implications for enhancing protective factors. Future research also could expand assessments of risk and protective factors to include factors such as alcohol use, found to be associated with young adults' sexual risk-taking (Olmstead, 2020), as well as adolescents' perceptions of risk and protective factors associated with their close relationships (e.g., parent-teen sexual communication and sexual risk-taking of friends) that can influence their sexual decisions and behaviors (Hutchinson & Wood, 2007; Wetherhill, Neal, & Fromme, 2010). Furthermore, consistent with previous findings (Manning et al., 2000), ethnic minority males were overrepresented in the noncommitted relationship group; stressing the need to examine ethnic differences in associations among risk and protective factors and indicators of sexual risk-taking in future studies. The examination of ethnic differences in future studies should also seek to understand how contextual factors such as racism, financial oppression, and gentrification can lead to ethnic minority adolescents' vulnerability to negative consequences associated with sexual risk-taking. The investigation of whether the hypothesized associations can be found among LGBTQ populations in future studies would also be beneficial. Finally, using a dyadic approach to examine adolescents' sexual relationships would permit inclusion of both partners' perceptions of their unions and employing a longitudinal design would help address temporal order among social, emotional, and cognitive factors, and sexual activity.

### **Conclusion**

Despite its limitations, findings of the current study involved a community sample of diverse adolescents and highlight the importance of examining adolescents' attitudes about sex. We demonstrated that healthier sex attitudes are associated with adolescents having fewer sexual

partners and taking the time to get to know their sexual partners. Healthy sex attitudes buffered against sex-related risks for female adolescents, and for male adolescents in committed partnerships. Notably, healthy sex attitudes were particularly protective for female adolescents in noncommitted sexual partnerships, stressing the value of fostering healthy sex attitudes within this group. Additionally, our findings emphasize how emotional and social cognitive factors collectively matter for explaining variability in different indicators of the riskiness of adolescents' sexual engagement. Taken together, the current study offers insights into male and female adolescents' sexual engagement within noncommitted partnerships. Both risk and protective factors are present in these adolescents' sexual experiences and offer avenues for further research, as well as for effective relationship and sexual health education. Specifically, our findings suggest that prevention and intervention programs targeting adolescents' sexual risk-taking should discuss with adolescents risks of becoming sexually active within a noncommitted relationship and should emphasize developing an emotional connection and reaching a level of maturity before having sex. Such programs also can address how "unrealistic" expectations interfere with the quality of romantic relationships, as do discounting closeness or overly pushing for closeness in a relationship. Alternative strategies for building healthy relationships that are supportive of adolescents' personal growth and well-being should be emphasized.

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Table 1. Differences across relationship groups in demographics and reports of insecure attachment dimensions, healthy sex attitudes, constraining relationship beliefs, and sexual risk indicators (N = 801).

	Committed-Males (n = 193; 24.1%)	Committed-Females (n = 318; 39.7%)	Noncommitted-Males (n = 179; 22.3%)	Noncommitted-Females (n = 111; 13.9%)
<b>Cross-Tabulation Results</b>				
<b>Race<sup>***</sup></b>				
White (43.6%) <sup>+</sup>	42.4%	51.9% <sup>o</sup>	27.0% <sup>u</sup>	50.0%
Minorities (55.9%) <sup>+</sup>	57.6%	48.1% <sup>u</sup>	73.0% <sup>o</sup>	50.0%
<b>Free/Reduced Lunch</b>				
No (40.3%) <sup>+</sup>	45.3%	41.2%	38.1%	37.8%
Yes (58.1%) <sup>+</sup>	54.7%	58.8%	61.9%	62.2%
<b>ANOVA Results</b>				
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Age <sup>***</sup>	16.43 <sup>a</sup> (1.12)	16.24 <sup>a</sup> (.96)	16.27 <sup>a</sup> (1.05)	15.92 <sup>b</sup> (1.00)
<b>Insecure Attachments</b>				
Avoidant <sup>***</sup>	1.92 <sup>a</sup> (.67)	1.83 <sup>a</sup> (.69)	2.30 <sup>b</sup> (.66)	2.23 <sup>b</sup> (.68)
Anxious <sup>~</sup>	2.55 <sup>a</sup> (.82)	2.68 <sup>ab</sup> (.93)	2.58 <sup>ab</sup> (.82)	2.82 <sup>b</sup> (.87)
Healthy Sex Attitudes <sup>***</sup>	3.33 <sup>a</sup> (.77)	4.21 <sup>b</sup> (.56)	3.05 <sup>c</sup> (.72)	4.11 <sup>b</sup> (.69)
Constraining Beliefs <sup>***</sup>	3.67 <sup>a</sup> (.79)	3.93 <sup>b</sup> (.79)	3.34 <sup>c</sup> (.69)	3.70 <sup>a</sup> (.77)
<b>Sexual Risk Indicators</b>				
Age at First Sex <sup>***</sup>	13.96 <sup>a</sup> (1.59)	14.58 <sup>b</sup> (1.13)	13.25 <sup>c</sup> (1.70)	14.19 <sup>a</sup> (1.20)
# of Sex Partners <sup>***</sup>	2.80 <sup>a</sup> (1.60)	2.29 <sup>b</sup> (1.38)	3.80 <sup>c</sup> (1.40)	2.83 <sup>a</sup> (1.44)
Condom Use <sup>***</sup>	3.64 <sup>a</sup> (1.52)	3.25 <sup>b</sup> (1.71)	3.99 <sup>a</sup> (1.41)	3.77 <sup>a</sup> (1.48)
Length w/Partner <sup>***</sup>	4.37 <sup>a</sup> (.98)	4.53 <sup>a</sup> (.92)	3.46 <sup>b</sup> (1.44)	4.29 <sup>a</sup> (1.19)

Note. <sup>†</sup>Percentages of the total sample. <sup>o</sup> (Over-represented), <sup>u</sup> (Under-represented). Classes that share the same superscript in the ANOVA results are not different. <sup>~</sup>*p* < .10, <sup>\*</sup>*p* < .05, <sup>\*\*</sup>*p* < .01, <sup>\*\*\*</sup>*p* < .001.

Table 2. *Committed relationship group: Standardized and unstandardized parameter estimates and R-squares for insecure attachment dimensions, healthy sex attitudes, and constraining relationship beliefs predicting sexual risk indicators.*

	Age at First Sex			Number of Sex Partners			Condom Use			Length w/ Partner		
	<i>B</i>	(S.E)	$\beta$	<i>B</i>	(S.E)	$\beta$	<i>B</i>	(S.E)	$\beta$	<i>B</i>	(S.E)	<i>B</i>
<b>Males</b>												
( <i>n</i> = 193)												
Avoidant Dimension	-.22	(.17)	-.09	.08	(.18)	.03	.43	(.19)	.19*	.05	(.12)	.03
Anxious Dimension	.23	(.13)	.12~	-.11	(.14)	-.05	-.14	(.14)	-.08	-.06	(.09)	-.05
Healthy Sex Attitudes	.26	(.13)	.17*	-.50	(.13)	-.30**	.09	(.14)	.06	<b>.15</b>	<b>(.09)</b>	<b>.16~</b>
Beliefs	.05	(.13)	.03	-.18	(.14)	-.09	-.11	(.14)	-.06	-.02	(.09)	-.02
Race	-.98	(.23)	-.31**	.99	(.24)	.30**	-.08	(.24)	-.03	.19	(.16)	.09
Free/Reduced Lunch	-.14	(.22)	-.04	.13	(.23)	.04	.03	(.23)	.01	-.13	(.15)	-.07
Age	.28	(.06)	.20**	.17	(.06)	.12**	-.15	(.07)	-.11*	.01	(.04)	.02
<b>R-Squares</b>												
Age at First Sex	.22											
# of Sex Partners	.27											
Condom Use	.06											
Length w/ Partner	.03											
<b>Females</b>												
( <i>n</i> = 318)												
Avoidant Dimension	.17	(.09)	.10~	.08	(.12)	.04	.13	(.14)	.05	.02	(.08)	.01
Anxious Dimension	-.09	(.07)	-.07	.07	(.09)	.05	-.19	(.11)	-.11~	-.04	(.06)	-.04
Healthy Sex Attitudes	.10	(.10)	.06	-.37	(.13)	-.16**	.05	(.16)	.02	<b>.43</b>	<b>(.09)</b>	<b>.28**</b>
Beliefs	-.03	(.08)	-.02	-.15	(.10)	-.09	-.01	(.12)	-.01	-.10	(.06)	-.09
Race	.16	(.14)	.07	-.27	(.17)	-.10	.66	(.21)	.19**	-.05	(.11)	-.03
Free/Reduced Lunch	-.28	(.14)	-.12*	.28	(.18)	.10	-.17	(.21)	-.05	-.10	(.11)	-.05
Age	.34	(.05)	.28**	.14	(.06)	.10*	-.16	(.07)	-.09*	-.03	(.04)	-.03

Table 2 continues

Table 2 (contd.)

Females ( <i>n</i> = 318)	Age at First Sex			Number of Sex Partners			Condom Use			Length w/ Partner		
	<i>B</i>	(S.E)	<i>β</i>	<i>B</i>	(S.E)	<i>β</i>	<i>B</i>	(S.E)	<i>β</i>	<i>B</i>	(S.E)	<i>B</i>
<b>R-Squares</b>												
Age at First Sex	.10											
# of Sex Partners	.06											
Condom Use	.06											
Length w/ Partner	.09											

*Note.* Beliefs = Constraining Relationship Beliefs. Bolded coefficients were statistically significant across groups.  
 $\sim p < .10$ ,  $* p < .05$ ,  $** p < .01$ .

Table 3. *Noncommitted groups: Standardized and unstandardized parameter estimates and R-squares for insecure attachment dimensions, healthy sex attitudes, and constraining relationship beliefs predicting sexual risk indicators.*

	Age at First Sex			Number of Sex Partners			Condom Use			Length w/ Partner		
	<i>B</i>	(S.E)	$\beta$	<i>B</i>	(S.E)	$\beta$	<i>B</i>	(S.E)	$\beta$	<i>B</i>	(S.E)	$\beta$
<b>Males</b>												
<i>(n = 179)</i>												
Avoidant Dimension	-.09	(.20)	-.04	.20	(.17)	.10	-.10	(.17)	-.05	-.03	(.18)	-.02
Anxious Dimension	.17	(.16)	.08	-.14	(.13)	-.08	-.07	(.14)	-.04	-.09	(.14)	-.05
Healthy Sex Attitudes	.21	(.18)	.14	-.22	(.15)	-.18	-.19	(.16)	-.16	.21	(.16)	.17
Beliefs	.23	(.19)	.11	.02	(.15)	.01	-.09	(.16)	-.05	-.03	(.17)	-.02
Race	-.56	(.31)	-.15~	.40	(.26)	.14	.51	(.27)	.17~	.24	(.28)	.08
Free/Reduced Lunch	-.52	(.29)	-.14~	.48	(.24)	.16*	-.22	(.25)	-.08	-.02	(.25)	-.01
Age	.21	(.07)	.13**	.12	(.06)	.09~	-.04	(.07)	-.03	-.04	(.06)	-.03
<b>R-Squares</b>												
Age at First Sex	.19											
# of Sex Partners	.18											
Condom Use	.08											
Length w/ Partner	.03											
<b>Females</b>												
<i>(n = 111)</i>												
Avoidant Dimension	.04	(.16)	.03	.10	(.21)	.05	.18	(.21)	.09	-.19	(.15)	-.12
Anxious Dimension	.10	(.14)	.07	.15	(.18)	.09	-.21	(.18)	-.12	-.22	(.13)	-.16~
Healthy Sex Attitudes	.08	(.16)	.04	-.39	(.21)	-.19~	.50	(.22)	.24*	<b>.80</b>	<b>(.15)</b>	<b>.47**</b>
Beliefs	-.34	(.15)	-.22*	-.13	(.19)	-.07	.09	(.20)	.05	.12	(.14)	.08
Race	-.32	(.23)	-.13	.07	(.30)	.03	.00	(.31)	.00	.25	(.22)	.10
Free/Reduced Lunch	-.19	(.24)	-.08	.25	(.31)	.09	-.26	(.32)	-.09	-.26	(.23)	-.11
Age	.39	(.07)	.34**	.14	(.08)	.10~	-.25	(.09)	-.18**	-.13	(.06)	-.12*

Table 3 continues

Table 3 (contd.)

Females ( <i>n</i> = 111)	Age at First Sex			Number of Sex Partners			Condom Use			Length w/ Partner		
	<i>B</i>	(S.E)	<i>β</i>	<i>B</i>	(S.E)	<i>β</i>	<i>B</i>	(S.E)	<i>β</i>	<i>B</i>	(S.E)	<i>β</i>
<b>R-Squares</b>												
Age at First Sex	.17											
# of Sex Partners	.06											
Condom Use	.09											
Length w/ Partner	.25											

*Note.* Beliefs = Constraining Relationship Beliefs. Bolded coefficients were statistically significant across groups.  
 $\sim p < .10$ ,  $* p < .05$ ,  $** p < .01$ .

Figure 1. Hypothesized SEM model of insecure attachment dimensions, healthy sex attitudes, and constraining relationship beliefs predicting sexual risk indicators. Analyses controlled for ethnic status, free/reduced lunch, and age ( $N = 801$ ).

