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Engagement in Risky Sexual Behavior: Adolescents' Perceptions of Self and the Parent–Child Relationship Matter

Jennifer L. Kerpelman[1], Alyssa D. McElwain[1], Joe F. Pittman[1] and Francesca M. Adler-Baeder[1]

Abstract

The current study examined associations among parenting practices, adolescents' self-esteem and dating identity exploration, and adolescents' sexual behaviors. Participants were 680 African American and European American sexually experienced adolescents attending public high schools in the southeast. Results indicated that risky sexual behavior was associated positively with parental psychological control, and negatively with self-esteem and dating identity exploration. Parental support positively predicted self-esteem and dating identity exploration; psychological control also showed a positive association with dating identity exploration. Contrary to expectation, neither self-esteem nor dating identity exploration mediated associations between parenting and risky sexual behavior; moderation tests showed few differences. However, dating identity exploration showed potential to serve as a protective factor for higher risk groups (i.e., males, African Americans), and psychological control appeared particularly detrimental for older adolescents. Finally, youth from stepfamilies showed associations among the variables that differed from youth living in single-parent and two-parent biological/adoptive families.

[1]Auburn University, Auburn, AL, USA

Corresponding author:
Jennifer L. Kerpelman, Auburn University, 210 Spidle Hall, Auburn, AL 36849, USA.
Email: jkerpelman@auburn.edu

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Despite the role that sexuality plays in human development, adolescence is a life stage when sexual activity can be particularly risky. Risky sexual behaviors can result in negative consequences, such as contracting sexually transmitted diseases or becoming pregnant unintentionally (Centers for Disease Control and Prevention [CDC], 2009). Although rates of sexual intercourse and pregnancy among youth have declined, the United States continues to have higher rates of teen pregnancy than other Western industrialized nations (Hoffman, 2008). By age 19, 70% of adolescents have become sexually experienced (Guttmacher Institute, 2011). Women who give birth to their first child before age 18 are at higher risk than their peers for dropping out of high school, not attending college, earning less, and relying on social welfare programs (Hoffman). Investigation into the factors associated with adolescent sexual risk taking is needed to help reduce and prevent negative consequences of this behavior (Kohler, Manhart, & Lafferty, 2008).

Some risk is inherent in the unplanned nature of most sexual activity among adolescents, who typically describe sexual acts as happening without much perceived warning (Layte & McGee, 2007; Moore & Rosenthal, 1993). Risky behaviors include early sexual debut (i.e., before age 15), persistent lack of contraceptive use, and a higher number of sexual partners (CDC, 2009; Guttmacher Institute, 2011). Due to the trend of "hooking-up" or nondating sexual relationships (Manning, Giordano, & Longmore, 2006) it is appropriate to consider the relational context in which the sexual activity occurs as a potential risk behavior.

Past research indicates that both parenting and psychological variables influence adolescents' romantic relationships and sexual behavior (for a review see Zimmer-Gembeck & Helfand, 2008). The current study addressed associations between adolescents' perceptions of parenting practices, adolescents' self-perceptions (i.e., the psychological variables of self-esteem and dating identity exploration), and risky sexual behaviors. Guiding our research were Erikson's (1968) psychosocial theory of development and Collin's (2003) theorizing about the developmental significance of adolescent romantic relationships. Erikson's psycho-social-biological theory of development indicates adolescence as a time of focusing on self-development and identity formation. Recent research based on Erikson suggests that identity formation occurs throughout adolescence and into early adulthood, and the

development of intimacy in relationships, while particularly active during young adulthood, begins to emerge during the adolescent years (Pittman, Keiley, Kerpelman, & Vaughn, 2011). In fact, theorizing by Collins suggests that romantic relationships matter for adolescent development and have important implications for adolescents' subsequent functioning in adulthood. Furthermore, recent research documents the influence of adolescent romantic relationships on experimenting with possible selves and future aspirations (Bouchey & Furman, 2003; Furman & Shaffer, 2003), as well as on increasing understanding of what it means to be a romantic partner (Collins, 2003; Montgomery, 2005). Finally, the work of Collins and colleagues (Collins, Hennighausen, Schmit, & Sroufe, 1997; Collins & Sroufe, 1999) has shown that parental support during childhood and early adolescence significantly predicts the stability and quality of adolescent peer relationships (including romantic relationships).

Certain demographic variables have been documented to influence adolescents' sexual behaviors. Specifically, gender differences have been found for number of sexual partners (CDC, 2009) and sexual risk taking tendencies (Robinson, Holmbeck, & Paikoff, 2007) with males showing the riskier pattern in each case. Furthermore, older adolescents are more likely than younger adolescents to have had intercourse (Kincaid, Jones, Cuellar, & Gonzalez, 2011) and the frequency and prevalence of sexual intercourse increases with age throughout adolescence (CDC; Fergus, Zimmerman, & Caldwell, 2007). Race/ethnic differences also have been noted in that African American youth are more likely than their European American peers to initiate sex before age 13, to have sex by the age of 18, to have more sexual partners, and to be currently sexually active (CDC). In addition, African Americans have more diagnosed sexually transmitted diseases than European Americans do (Centers for Disease Control and Prevention, [CDC] 2011), and higher rates of pregnancy, abortions, and births (Kost, Henshaw, & Carlin, 2010). Finally, past literature indicates that adolescents in homes with two biological parents are less likely to engage in risky sexual behavior than are adolescents in other family structures (Pearson, Mueller, & Frisco, 2006).

Risky Sexual Behaviors

The sexual behaviors examined in this study increase an adolescent's likelihood of negative physical, emotional, and social consequences associated with sexual activity. Such behaviors include engaging in sexual activity at a young age, early in a relationship with a casual partner, or having multiple sexual partners. The casual relational context of sexual activity among adolescents often referred to as "hook-ups" or "friends with benefits" presents

risk not only in terms of the sexual activity with a little known partner but also in the context of limited planning. In this context, a young person may feel less efficacious in resisting sexual activity and insisting on contraceptive use. In one study, over half of sexually experienced teens engaged in sexual activity outside of a dating relationship (Manning et al., 2006), and of these adolescents, 43% reported having sex with someone after knowing them for a very short period of time (i.e., few days to 1 month; Manning et al.). Having casual and nonexclusive romantic relationships puts adolescents at risk for jealousy, and adolescents who experience jealousy are less likely to use condoms consistently (Manning, Flanigan, Giordano, & Longmore, 2009). In contrast, the expectation that sexual activity will occur within the context of a committed romantic relationship is associated with delayed first intercourse and more consistent condom use (Parkes, Henderson, Wight, & Nixon, 2011).

Adolescents who engage in sexual activity at younger ages may be at risk because they are not emotionally or psychologically prepared for sexual activity (Steinberg, 2005). Research has shown that poor quality parent–adolescent relationships and low self-esteem increase the probability that youth will engage in early sexual intercourse (Price & Hyde, 2009). According to the national Youth Risk Behavior Survey (Youth Risk Behavior Surveillance System, 2011), approximately 15.3% of sexually experienced youth in grades 9 through 12 report having had sex with four or more people. Having higher numbers of sexual partners is associated with a greater probability of acquiring a sexually transmitted disease (Santelli, Brener, Lowry, Bhatt, & Zabin, 1998). Taken together, early sexual debut, having multiple sexual partners, and engaging in sexual activities with partners known only a short time or with whom one does not have a serious relationship, put an adolescent at greater risk for experiencing negative consequences.

Parenting and Adolescent Risky Sexual Behavior

Parenting has important implications for adolescents' sexual and romantic relationships. A plethora of studies have included family-related measures such as family structure, parental education, and family socioeconomic status (Zimmer-Gembeck & Helfand, 2008); however, the modest to moderate associations between these variables and adolescent sexual behavior suggest that family process variables, especially parenting, may be more relevant in predicting adolescent sexual outcomes (see Miller, Benson, & Galbraith, 2001).

Parental support includes any ongoing behavior carried out by a parent/parental figure that contributes to the well-being and nurturance of the adolescent. Parental support is related to lower levels of adolescent problem

behaviors, including sexual risk taking (Barnes & Farrell, 1992). Supportive parenting deters adolescents from having sex at earlier ages (Parkes et al., 2011; Price & Hyde, 2009; Zimmer-Gembeck & Helfand, 2008) and sexually inexperienced 10th grade youth report more supportive relationships with their parents than their sexually experienced counterparts (Parkes et al., 2011). A recent study found that more warmth in the family was associated with adolescents having lower numbers of sexual partners (Kan, Cheng, Landale, & McHale, 2010). Supportive parents who have warm and open relationships with their adolescents can communicate their values about relationships and sexuality, which in turn is related to the adolescent being less likely to take sexual risks (Aspy et al, 2007). Parental support also has been linked with social initiative and higher levels of adolescent self-esteem (Barber Stolz & Olsen, 2005).

In contrast to parental support, parental psychological control refers to manipulative or intimidating behaviors that attempt to control the adolescent's thoughts or beliefs. Parental psychological control can hinder social and psychological maturation by discouraging independent thinking or self-discovery, and/or by manipulating adolescent children in order to fulfill parental goals (Adams & Laursen, 2007; Barber et al., 2005; Rodgers, 1999). Psychologically controlling parents do not give adolescents the autonomy they strive for and can impede adolescent identity exploration (Turner, Irwin, Tschann, & Millstein, 1993; Pittman, Kerpelman, Soto, & Adler-Baeder, 2012). Pittman et al. suggest that parental psychological control has autonomy-stifling aspects that push adolescents away from close relationships with parents, making them potentially more vulnerable to risky behavior within their romantic relationships. Furthermore, parental psychological control has been found to be associated with sexual risk taking (Rodgers, 1999), with a recent study showing that parental psychological control was associated positively with engaging in sexual intercourse in a sample of African American youth from single parent families (Kincaid et al., 2011).

In sum, parental support and psychological control can influence adolescents' decision making, including the choices adolescents make about sexual behavior. Further, adolescents' views of self can be influenced by the relationships they have with their parents (Grotevant & Cooper, 1985), and adolescents' self-development influences decision making including choices adolescents make about sexual behavior.

Adolescents' Self-Esteem, Identity, and Risky Sexual Behavior

How adolescents evaluate their self-worth (i.e., self-esteem; Longmore, Manning, Giordano, & Rudolph, 2004; Price & Hyde, 2009; Rosenberg,

1989) and how they develop a sense of identity (Grotevant & Cooper, 1986; Montgomery, 2005), particularly within their relationships, matter for adolescents' decision making related to sexual activity. Self-esteem is indicated by perceived social acceptance, self-acceptance, and feelings of being appreciated by close companions and family members. Self-esteem is positively associated with higher quality in the adolescent–parent relationship (Paul, Fitzjohn, Herbison, & Dickson, 2000; Slicker, Patton, & Fuller, 2004), and would be expected to serve as a protective factor against risky sexual behavior.

Identity exploration (which promotes the formation of a coherent identity) is an important developmental process in adolescence that integrates experiences and social role expectations into how the person views him or herself and how they are perceived by others (Erikson, 1968). Individuals gather and contemplate information through exploration processes and incorporate information and experiences into their identity through commitment (Marcia, 1966). Identity exploration occurs in multiple domains including interpersonal relationships (Bartoszuk & Pittman, 2010; Goossens, 2001; Grotevant, 1987). Interpersonal experiences drive identity development within the interpersonal domain (Archer, 1992; Gilligan, 1982; Grotevant, Thorbecke, & Meyer, 1982; Kerpelman & White, 2006) where the interpersonal domain of dating relationships is particularly relevant to decisions made about sexual behavior since most sexual behavior occurs within dating relationships (Abma, Martinez, & Copen, 2010; Furman & Shaffer, 2003; Martinez, Copen, & Abma, 2011). Identity development within the dating domain involves constructing a set of philosophies, beliefs, and values about what it means to be a part of a romantic relationship (Grotevant et al., 1982). Although interpersonal domains of identity development may have important implications for the development of future healthy relationships (Montgomery, 2005), few studies have focused on these domains, particularly the dating relationship domain, for understanding sexual behavior (Bartle-Haring, 1997).

Adolescents' Perceptions of Self and Parents. Parenting has been linked to both adolescent identity formation and self-esteem. The ability to experience separateness from parents is associated with greater identity exploration behavior in general (Grotevant & Cooper, 1985) and specifically within the interpersonal domain (Bartle-Haring, 1997). Supportive parenting also is associated with greater identity exploration (Beyers & Goossens, 2008). Research suggests that psychologically controlling parents may pressure their children to conform to their own values, beliefs, and needs. This creates difficulties for adolescent children attempting to explore their interpersonal identities (Pittman

et al., 2012). In fact, young adults with psychologically controlling parents tend to have lower identity commitment (Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007). Furthermore, parental empathy is associated positively with self-esteem in young adults (Trumpeter, Watson, O'Leary, & Weatheringon, 2008). And in a longitudinal study conducted with high school students, authoritarian parenting (high control, low warmth) was associated with adolescents' low self-esteem over time, whereas low parental authoritarianism was associated with boosts in adolescents' self-esteem over time (Heaven & Ciarrochi, 2008). Taken together, family relationships are clearly important to consider along with adolescent identity development and self-esteem, all of which can be expected to influence how adolescents approach and make decisions within their dating relationships.

Goals of the Current Study

In the current study, a model was developed to examine adolescents' risky sexual behavior. Adolescent perceived parental support and psychological control, and adolescent self-esteem and dating identity exploration were addressed as predictors of risky sexual behavior. Our primary analytic procedure was fitting a structural model in order to determine how much variance in adolescent risky sexual behavior was explained by our parenting and psychological variables. Based on the literature reviewed it was expected that parental psychological control would be negatively related to age of sexual debut, length of time knowing a sexual partner, and seriousness of the relationship, but positively associated with number of sexual partners. Parental support was expected to show the opposite pattern (hypothesis 1). Self-esteem and dating identity exploration were expected to be positively related to age of sexual debut, length of time knowing the partner, and seriousness of the relationship, but negatively related to number of sexual partners (hypothesis 2).

The influence of the parental support and psychological control on the risky sexual behaviors were expected to be fully or partially mediated by adolescents' self-esteem and/or dating identity exploration (hypothesis 3), as these psychological self variables are more proximal to adolescent's sexual decision making. That is, parental support was expected to influence risky sexual behavior through its positive associations with self-esteem and dating identity exploration and parental psychological control was expected to influence risky sexual behavior through its negative associations with self-esteem and dating identity exploration (see Figure 1 for the hypothesized model). Age, gender, race, and family structure were controlled when testing the main

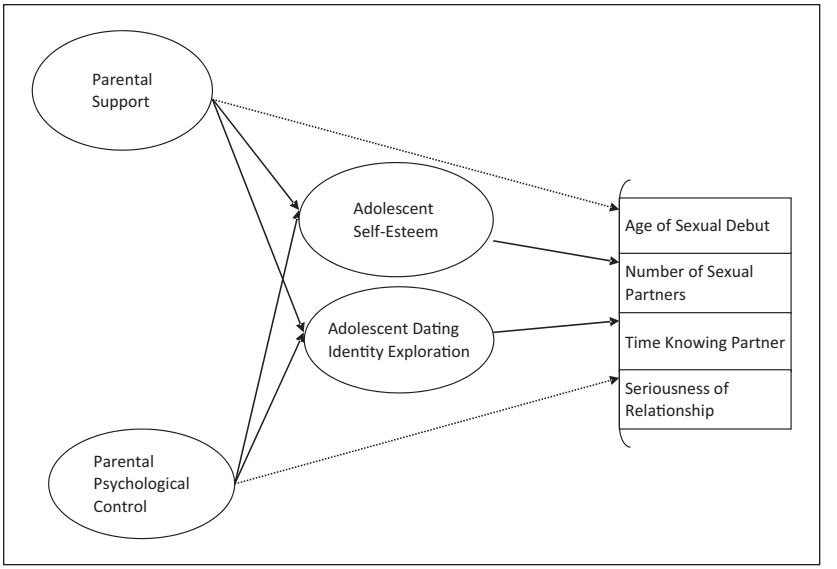

Figure 1. Parenting self-esteem and dating identity exploration influences on adolescents' risky sexual behavior: Hypothesized model.
Not Shown: Each sexual behavior outcome variable was predicted individually by each of the parenting and adolescent variables. The influences of age, gender, races, and family structure on risky sexual behavior were statistically controlled.

and mediated effects in the hypothesized model. Age, gender, race, and family structure also were tested as moderators of the model to ascertain whether associations among the parenting or self-variables and the sexual behavior variables differed according to these demographic variables already shown to directly affect adolescent sexual activity.

Method

Sample and Procedure

The sample for the current study was drawn from a larger evaluation study of youth-focused relationship education that included sexually experienced adolescents (i.e., adolescents who responded "yes" to having experienced sexual intercourse) attending public high schools across a Southern state. The sample ($N = 680$) comprised African American (48%) and European American (52%) youth who were living with at least one biological or adoptive parent (i.e., single or two-parent family structures that were either biological/

adoptive families or stepfamilies). The sample was evenly divided by gender (51% were female) and had a mean age of 16.5 years (SD = 1.05). The adolescents were nearly evenly divided between the three family structures (27% from single-parent households; 38% from two-parent stepfamily households and 35% from two-parent biological/adoptive households). Sixty-three percent of the adolescents indicated they were currently dating someone; the mean length of these current relationships was 8.92 months (SD = 11.33). Data used for the current study were collected prior to implementation of the relationship education lessons.

Measures

Participating adolescents completed a survey that contained a number of different constructs pertaining to self-development, family relationships, peer relationships, romantic relationships, and sexual attitudes and behaviors. In order to reduce the overall length of the survey, many of the subscales were shortened. Details of how the measures were shortened are provided below with each measure description.

Risky Sexual Behaviors. The dependent variables for this study were the adolescents' risky sexual behaviors, where sex was defined as heterosexual intercourse: (a) Age of sexual debut (Response categories: "9 years old or younger" to "18 years old or older," in 1-year increments); (b) number of partners (Response categories: "1" to "6 or more"); (c) relationship length prior to sex (Response categories:1 = less than a week, 2 = over a week but less than a month, 3 = 1 to 3 months, 4 = 3 to 6 months, 5 = more than 6 months); and (d) seriousness of relationship (Response categories: 1 = not dating, 2 = casually dating, 3 = seriously dating but seeing other people, 4 = seriously dating only date each other). All of the sexual behaviors were significantly correlated (range −.45 to .32; $p < .05$). The individual sexual behaviors were examined as separate outcomes in the model.

Parental Support. A latent factor indicated by five items selected from the seven-item Parental Support subscale of the Quality of Relationship Inventory (QRI; Pierce, Sarason, & Sarason, 1991) assessed adolescents' perceptions of parental support on a 4-point scale ranging from 1 (not at all like my parents) to 4 (very much like my parents). The five items were selected based on a prior factor analysis with a sample of college students (α = .83; accounted for 94% of the variance in the seven-item scale). Example items include being able to count on parents' honesty, help, and advice. Higher scores

indicate greater parental support. In the current sample the reliability for the five items was $\alpha = .88$.

Parental Psychological Control. A latent factor indicated by five items from the eight-item Psychological Control Scale (Barber, 1996) assessed the degree to which adolescents felt that their parents tried to control their adolescent's thoughts and feelings. The five items were selected based on a prior factor analysis with a college sample ($\alpha = .85$; accounted for 95% of the variance in the eight-item scale). The items were answered on a 3-point Likert-type scale (1 = not like them to 3 = a lot like them). A sample item is, "My parents are always trying to change how I feel or think about things." Higher scores indicate more psychological control. A reliability coefficient of $\alpha = .78$ was obtained in the current sample.

Dating Identity Exploration. A latent factor was created for dating identity exploration using three items from the five items of the Relational Exploration in Depth subscale of the Utrecht-Management of Identity Commitments Scale (U-MICS; Crocetti, Rubini, & Meeus, 2008). Items were answered on a 5-point Likert-type scale (1 = completely untrue; 5 = completely true) with higher scores coded to indicate greater exploration. Two of the items, which addressed asking others about one's dating relationship, were not included in the scale used in the current study due to their lack of coherence with the other three items in a confirmatory factor analysis (see Pittman et al., 2012). A sample items is "I try to find out a lot about my relationship." In the current sample the three items had a reliability of $\alpha = .83$.

Self-Esteem. A latent factor for self-esteem was indicated using five items from the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965; Silber & Tippett, 1965). The five positively worded items were selected for the current study (in a college sample, the positively and negatively worded items loaded onto separate factors). Answers were measured using a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). A sample item is "I feel that I have a number of good qualities." Reliability for the self-esteem scale in the current sample was $\alpha = .88$.

Demographic Control Variables and Moderators. Four demographic factors were included as controls and, in separate analyses, as moderator variables. They include race/ethnicity (African American = 0; European American = 1), age (coded continuously when serving as a control; but grouped into middle adolescents (14 to 16 years = 0), and late adolescents (17 to 20 years = 1) when treated as a moderator in the multigroup analysis, gender (male = 0; female = 1), and family structure. For family structure, three structures were classified:

single parent families = 1, two parent stepfamilies = 2, and two-parent biological/adoptive families = 3. These three categories were dummy coded with the two-parent biological/adoptive family as the omitted group.

Results

Measurement Model

Table 1 shows the means and standard deviations for each of the items used to indicate the factors in the model. Prior to testing the study hypotheses, the measurement model, using confirmatory factor analysis procedures in Mplus (Muthén & Muthén, 2009) was examined to assess initial model fit and to determine whether all of the factors had indicators with acceptable loadings. Although the χ^2 statistic was significant χ^2 (261) 474.101***, this statistic is sensitive to sample size. All other indices showed that the measurement model fit the data well: χ^2/df was 1.82 (a χ^2/df ratio < 3 indicates good model fit; Kline, 2011); CFI = .97, TLI = .95, RMSEA = .04, *n.s* (*a* CFI and TLI greater than .90 and a small nonsignificant RMSEA indicate good fit). Standardized factor loadings for all constructs were > .40 with the majority of loadings falling between .66 and .86. Parental support significantly covaried with parental psychological control (β = – 0.59***), self-esteem (β = 0.30***), and dating identity exploration (β = 0.12**). Parental psychological control covaried significantly with self-esteem (β = –0.20***), but not with dating identity exploration (β = 0.05). Self-esteem significantly covaried with dating identity exploration (β = 0.30***).

Testing the Hypothesized Structural Model

The structural model was fit with the four risky sex behavior variables serving as outcomes (see Figure 2). Age at sexual debut was predicted by parental psychological control (more control, younger debut) and self-esteem (higher self-esteem, older debut). Number of sexual partners was related only to parental psychological control (more control, more partners). A shorter relationship before having sex was associated with more parental psychological control and less dating identity exploration. Finally, engaging in sex in less serious relationships was related to less dating identity exploration. The results provide partial support for the first hypothesis. Although parental support was not directly protective, parental psychological control predicted greater risk in three of the four risky sexual behavior outcomes, as expected. Hypothesis 2 also was partially supported, more self-esteem went with later sexual debut, and more dating identity exploration was associated with a more extended relationship prior to engaging in sex, and a more serious relationship with the sexual partner.

Table 1. Descriptive Statistics for All Observed Variables (N = 680).

	Mean	SD
Parent support		
Item 1	2.73	(0.99)
Item 2	2.88	(1.06)
Item 3	3.09	(1.03)
Item 4	2.74	(1.11)
Item 5	2.62	(1.13)
Parent psychological control		
Item 1	1.48	(0.64)
Item 2	1.70	(0.77)
Item 3	1.95	(0.80)
Item 4	1.82	(0.82)
Item 5	2.01	(0.86)
Identity exploration		
Item 1	3.98	(1.19)
Item 2	4.17	(1.06)
Item 3	3.97	(1.16)
Self-esteem		
Item 1	3.79	(1.20)
Item 2	4.08	(1.08)
Item 3	4.07	(1.06)
Item 4	3.86	(1.11)
Item 5	3.85	(1.26)
Risky sexual behavior		
Age of sexual debut	14.01	(1.68)
Number of sexual partners	2.54	(1.55)
Time knowing partner[a]	4.16	(1.23)
Seriousness of relationship[b]	—	—

Note:
[a]between 3 and 6 months.
[b]50% seriously dating one person and only seeing each other, 34% not in a dating relationship, 16% casually dating one or more people or seriously dating one person but also seeing other people.

Testing Mediation

To test whether self-esteem and/or dating identity exploration mediated associations between the parenting variables and risky sexual behaviors (hypothesis 3) several steps had to be taken (see Baron & Kenny, 1986). The first two sets of tests must demonstrate that the bivariate associations between the

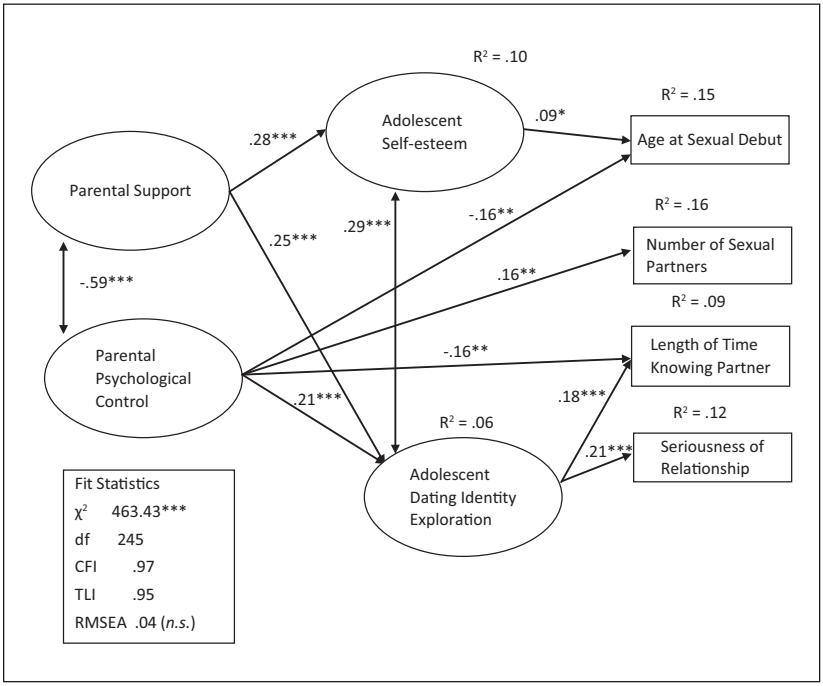

Figure 2. Parenting, self-esteem, and dating identity exploration influences on adolescents risky sexual behavior: empirically tested model.
Note. Only significant standardized paths of key predictors are shown. Covariances among the sexual behaviors: Sexual Debut: with number of partners β = –.43***, with length of time β = .09*, with seriousness β = .09*; Number of Partners: with length of time β = –.13**, with seriousness β = −.06; Length of time with seriousness β = 24***. Demographic control variables predicted age of sexual debut (gender β = –.23***, age β = –.19***, and race β = –. 21***); number of sexual partners (gender β = –.16***, age β =.16***, and race β = –. 24***); length of time knowing partner (gender β = –.22***); seriousness of relationship (gender β = –.21***; age β = –.10**)

parenting variables (the potentially mediated variables) and the self-related variables (the potential mediators) as well as the risky sexual behaviors (the outcomes) are significant. Only one path met these criteria. Specifically, the path from parental psychological control to dating identity exploration to length of time knowing one's partner before engaging in sexual activity. Full mediation is supported when the path from the mediated variable to the outcome is nonsignificant when the mediator is included in the model. For this test, a $\Delta \chi^2$ compared the model with the path from parental psychological control to length of time knowing the partner estimated versus constrained to

zero. The critical value of the test was exceeded, confirming that this path is not zero and therefore not mediated by dating identity exploration. Thus, the third hypothesis was not supported.

Although not meeting the criteria for testing mediation, we tested four potential indirect effects. An indirect effect means that variable A is associated with variable C, because both variables A and C are associated with variable B, the intervening variable. The four paths included: (a) parental support on age of sexual debut through self-esteem, (b) parental support on relationship length before sex through dating identity exploration, (c) parental support on seriousness of the relationship prior to sexual activity through dating identity exploration, and (d) psychological control on seriousness of the relationship prior to sexual activity through dating identity exploration. Results indicated three of the four were significant; the indirect effect of parental support on length of time knowing a partner prior to sexual activity ($\beta = .04$, $p < .01$), and seriousness of the relationship before engaging in sexual activity ($\beta = .06$, $p < .01$) were significant, both through dating identity exploration. In addition, the indirect effect for psychological control on seriousness of relationship before sex ($\beta = .04$, $p < .01$) by way of dating identity exploration was significant.

Testing Moderation

Multigroup analysis was conducted in Mplus (Muthén & Muthén, 2009) to examine whether gender, race, age, or family structure conditioned the strength or direction of associations in the hypothesized model. Results of the $\Delta \chi^2$ tests indicated that one path was moderated by gender, one path was moderated by race, two paths were moderated by age, and four paths were moderated by family structure.

Males and females differed in the path from dating identity exploration to length of time knowing the partner before having sex. The path was significant and positive for males ($\beta = .27$, $p < .001$); but nonsignificant for females ($\beta = .04$, $p = n.s.$). African American and European American youth differed in the path from dating identity exploration to age of sexual debut. The path was significant and positive for African American youth ($\beta = .15$, $p < .05$) but nonsignificant for European American youth ($\beta = -.09$, $p = n.s.$).

The associations between parental psychological control with age of sexual debut and number of sexual partners differed for the middle and late adolescent groups. Parental psychological control was associated with younger age of sexual debut for the late adolescent group ($\beta = -.20$, $p < .05$) but was unrelated to age of sexual debut for the middle adolescent group ($\beta = .09$, $p = n.s.$). For the late adolescent group, parental psychological control also was

related to more sexual partners ($\beta = .24$, $p < .01$) but was unrelated to number of sexual partners for the middle adolescent group ($\beta = -.06$, $p = n.s.$)

When testing moderation according to family structure, models for the three family structures were fit simultaneously using $\Delta \chi^2$ tests to compare the paths; for those comparisons that exceeded the critical value, comparisons were made between two family structures at a time in order to determine specific path differences. Although there were no differences in the strength or direction of the paths when the youth from single-parent and biological/adoptive families were compared, there were differences between youth from single parent families compared to stepfamilies, as well as between youth from the two-parental family structures (stepfamily and biological/adoptive). First, psychological control was significantly and negatively associated with age of sexual debut for youth from single-parent families ($\beta = -.32$, $p < .05$), but not for youth from stepfamilies ($\beta = .05$, $p = n.s.$). Second, psychological control was positively related to number of sexual partners for youth from single parent families ($\beta = .24$, $p < .05$) but not for youth from stepfamilies ($\beta = -.13$, $p = n.s.$). In single-parent families, youth initiated sexual relationships at a younger age and had more sexual partners if their parent used more psychological control. These patterns were not apparent for youth in stepfamilies. Third, identity exploration and length of time knowing a partner prior to engaging in sexual activity were positively related for youth from single-parent families ($\beta = .36$, $p < .001$) but not associated for youth from stepfamilies ($\beta = .06$, $p = n.s.$). Fourth and finally, the association between psychological control and number of sexual partners was positive and significant for youth from two-parent biological/adoptive families ($\beta = .27$, $p < .01$), but nonsignificant for youth from stepfamilies ($\beta = -.12$, $p = n.s.$).

Discussion

Adolescents' perceptions of parents and self were found to be meaningful predictors of their risky sexual behaviors. In particular, parental psychological control was associated with more risky sexual behavior, whereas both self-esteem and dating identity exploration were associated with less risky sexual behavior. Although parental support did not directly predict sexual behavior, it did predict both self-esteem and dating identity exploration, both of which mattered for explaining variance in sexual behavior. Furthermore, parental psychological control showed a positive association with dating identity exploration. Tests for indirect effects revealed that the parenting variables predicted some of the adolescent sexual behaviors indirectly through their associations with the self-esteem and dating identity exploration. Finally, moderation tests showed few differences in the associations among

the variables according to age, gender, and race, however, results suggested that dating identity exploration may serve as a protective factor for higher risk groups (i.e., males, African Americans), and that psychological control may be particularly detrimental for older adolescents. Finally, youth from stepfamilies showed associations among the variables that differed from youth living in single-parent and two-parent biological/adoptive families.

Parenting and Adolescent Risky Sexual Behavior

The finding that more risky behavior was associated with greater parental psychological control was expected and is consistent with past literature showing that psychological control is related to more internalizing and externalizing problems in adolescence (Barber, 1996; Kincaid et al., 2011; Steinberg, 1990), and more specifically sexual risk taking (Kincaid et al., 2011; Rodgers, 1999). It was surprising to find that parental support did not have a direct association with risky sexual behavior among adolescents. Past research has suggested that parental support is associated with less sexual risk taking (Barnes & Farrell, 1992), and later sexual debut (Parkes et al., 2011; Zimmer-Gembeck & Helfand, 2008). We wondered whether these positive effects were not found in the current study because parental psychological control masked them. To test this speculation, a model was fit with just the control variables and parental support predicting the sexual behaviors. The results indicated that parental support had a negative association with number of sexual partners ($\beta = -.10$, $p < .05$), a positive association with seriousness of the relationship with the sexual partner ($\beta = .12$, $p < .01$) and a marginal positive association with age at sexual debut ($\beta = .08$, $p = .05$). When parental support and psychological control were both included in the model, the results suggest that parental psychological control may be the more powerful parenting influence on whether adolescents engage in risky sexual behaviors, and that any contribution parental support makes is shared with the effect of parental psychological control.

Self-esteem, Dating Identity Exploration and Adolescents' Risky Sexual Behavior

Our expectations that self-esteem and dating identity exploration would be associated with less risky sexual behavior were mostly confirmed. The findings for self-esteem are consistent with the literature (e.g., Longmore et al., 2004), and the findings for dating identity exploration add to the literature. Theoretically, it makes sense that the more an adolescent engages in figuring

out how she or he views the dating identity the more likely that adolescent will think seriously about the meaning of engaging in sexual activity with a partner. Thus, dating identity exploration may promote waiting until a relationship is more serious and getting to know a partner longer before engaging in sexual activity with that partner. Alternately, adolescents who delay engagement in sexual activity with a partner may have greater opportunities and/or flexibility to explore their dating identities.

The lack of mediation of the parenting-risky sex associations by the self-variables did not support expectations. It was presumed that parenting influences on risky sex would be through the adolescents' beliefs about self. The powerful direct effect of parental psychological control on risky sexual behavior was not attenuated by an adolescent's level of self-esteem or extent of dating identity exploration. This suggests that parental psychological control influences risky sexual behavior in some way other than self-esteem and dating identity exploration. More efforts should be directed toward understanding how adolescents internalize parental psychological control and how this is transformed into decisions adolescents make about sexual behavior.

Moderation of Associations

Results of the moderation tests suggested that our model operated similarly for gender and race with the exception of dating identity exploration mattering more for males and for African Americans. For these groups with greater potential to engage in risky sexual behavior, putting more thought into *who one is* within the dating domain may be a protective factor that reduces sexual risk taking. The model also operated similarly for the middle and late adolescent groups, except that parental psychological control mattered for the age of sexual debut and number of sexual partners for the late adolescent group but not the middle adolescent group. This may be in part because the older group had more room than the younger group for variability in terms of age of sexual debut and number of partners. It also is plausible, that parental psychological control becomes more problematic as adolescents age and, developmentally, need greater independence in their thoughts, feelings, and decisions.

Finally, the most striking finding for family structure was how youth living in stepfamilies differed from youth living in other family structures. Specifically, the associations were consistently nonsigificant for youth from stepfamilies but consistent with expectations for youth from the other two family structures. The moderation tests raise the question of whether there is a qualitative difference in how adolescents think about their sexuality and their sexual decisions when they live in a stepfamily compared to other

family structures. There is some indication that adolescents in stepfamilies tend to emotionally separate, move toward independence from parental supervision, and leave home at earlier ages (Ihinger-Tallman & Pasley, 1997). Other research suggests this may be in response to parental disengagement. Stepparents tend to be less involved in active parenting of stepchildren (Marsiglio, 2004, Hofferth, 2006) and adolescents in stepfamilies often experience sharing their biological parent's time and resources with half-siblings and step-siblings (Tillman, 2008). This social capital approach is being used to explain findings that indicate more negative outcomes for adolescents with half and stepsiblings (Halpern-Meekin & Tach, 2008). It will be important for future research to look more explicitly at how youth from the different family structures perceive their relationships with parental figures and engage in communication with these adults about their lives and sexual behavior and decision making.

Overall, future research should continue to study adolescent sexual health while considering the relational context of sexual behavior. The increasing prevalence of shorter more casual sexual relationships among youth highlights the need for further understanding of the consequences of such behavior. The current study suggests potential links between identity processes and sexual health and sexual decision making. Although the variables included in this study did not mediate the association between psychological control and risky sexual behavior, the indirect effects found suggested dating identity may be a meaningful intervening variable, and there also may be other self-development factors that matter.

Limitations and Conclusions

The results of this study must be considered in light of several limitations. First, the cross-sectional design limits conclusions about the direction of effects and causality. It cannot be determined whether psychological control precedes adolescent risky behavior or whether controlling parenting is a response to adolescent risk taking. Another limitation is the exclusion of a condom-use variable from the measure of risky sexual behavior. The authors acknowledge the importance of condom use as a measure of sexual health and future studies should gather information about condom-use habits, as well as contraception use and other strategies aimed at making sexual behavior less risky. Overall, only modest amounts of variation were explained in the sexual behavior and adolescent self-perception variables. Future research will need to expand the set of predictors to include both parent and peer influences on self-development and sexual behavior.

Despite these limitations, the results of the current study make several important contributions. First, adolescents' relationships with their parents do matter for sexual decision making, although this varies according to family structure. Second, the beneficial role of parental support may be a less powerful influence on adolescents' sexual health than is the negative effect of parental psychological control. Third, self-esteem and dating identity exploration matter for how adolescents make choices about sexual behavior. Fourth and finally, it is important to continue examining associations among aspects of the family/social context and adolescent self-development to further understand the choices adolescents make about their sexual activity, and ultimately their sexual and psychological health.

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Author Biographies

Jennifer L. Kerpelman's research addresses identity development processes occurring within relationships with parents, peers, and romantic partners. In her work she also examines factors that help explain the nature and quality of adolescents' and young adults' romantic relationships, and the intersection between identity formation and romantic relationship beliefs and processes. In addition to conducting basic research, she is involved in the evaluation of the effectiveness of relationship education for adolescents.

Alyssa D.McElwain's research currently focuses on the interplay of identity processes in the interpersonal domain and romantic attachment security among adolescents in understanding sexual decision-making within dating and sexual relationships. She is broadly interested in normative influences and processes associated with sexual development in adolescents and young adults. In particular, she considers the role of family, dating relationships, intrapersonal factors, and sexual health education in promoting individual sexual well-being.

Joe F. Pittman's research focuses broadly on linkages between processes of identity formation and the dynamics of close relationships during adolescence and early adulthood. Young adulthood is of particular interest because it is a developmental period marked by many important changes that include the acquisition of new roles and changing expectations regarding interpersonal relationships. He also has become intrigued with the role of adult attachment orientations in the context of identity exploration, the formation of close relationships.

Francesca M. Adler-Baeder's uses an ecological systems perspective in the study of family dynamics and outcomes for individuals. Her basic research addresses resiliency and relational health and well-being in at-risk family contexts: low-resource families, complex family structures, military families, and physically abusive families. Her applied research is focused on the assessment of relationship and marriage education programs targeting a broad population of couples, adult singles, and youth.