


The Relationship Context for Sexual Activity and Its Associations With Romantic Cognitions Among Emerging Adults

Emerging Adulthood
1-11
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DOI: 10.1177/2167696815604529
ea.sagepub.com


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Abstract

Few studies have examined the associations of sexual activity with romantic cognitions, particularly longitudinally. We used a multianalytic approach to examine the longitudinal, between-person, and within-person associations between sexual activity and romantic cognitions. We distinguished among sexual activity with four different types of partners—romantic partners, friends, acquaintances, and friends with benefits. An ethnically/racially representative sample of 185 participants (94 males and 91 females) completed questionnaires when they were 2.5, 4, and 5.5 years out of high school. Frequent sexual activity with a romantic partner was associated with positive romantic cognitions, including less avoidant and anxious relational styles, greater romantic life satisfaction, and romantic appeal. Frequent sexual activity with various nonromantic partners was often associated with more negative romantic cognitions, including avoidant styles, lower romantic life satisfaction, and lower romantic appeal. Few longitudinal effects were found. Findings contribute to a developmental task theory conceptualization of sexual behavior.

Keywords

romantic relationships, casual sex, friends with benefits, hooking up, sexual behavior

Sexual activity with nonromantic partners is common among emerging adults in the United States. In a college sample, up to 60% of individuals reported having a friend with benefits in their lifetime (Bisson & Levine, 2009). In a study of both college and noncollege students, 40% of men and 31% of women engaged in vaginal intercourse, oral sex, or anal sex with a nonromantic partner during the last year (Furman & Shaffer, 2011); if nongenital sexual activity, such as kissing or “petting,” are included as well, 67% of men and 62% of women had engaged in such activity during the last year. Sexual activity with nonromantic partners has been associated with poorer mental health and other risky or problem behavior (Fielder & Carey, 2010; Furman & Collibee, 2014; Fortunato, Young, Boyd, & Fons, 2010; Mendle, Ferrero, Moore, & Harden, 2013). Although sexual activity with a nonromantic partner has been associated with some risks, such activity is generally accepted among emerging adults (Bogle, 2008; Paul, McManus, & Hayes, 2000) and often results in positive emotional reactions (Owen & Fincham, 2011).

Most work addressing the potential impact of sexual activity with nonromantic partners has focused on links between such sexual activity and psychosocial adjustment (see Claxton & van Dulmen, 2013). Yet, sexual activity with nonromantic partners may have a bigger impact on romantic cognitions. For example, some have postulated that such sexual activity may be risky because it detracts from the formation of committed

relationships or the development of intimacy (Manning, Giordano, & Longmore, 2006; Sandberg-Thoma & Kamp Dush, 2014). In particular, sexual activity with nonromantic partners may lead to romantic cognitions that deter from such developmental tasks. Therefore, we would anticipate finding similar, perhaps stronger, patterns for romantic cognitions as those found for adjustment. Unfortunately, links between sexual activity with nonromantic partners and romantic cognitions have received little attention, particularly longitudinally.

Our first objective was to better understand how sexual activity with romantic and nonromantic partners is associated with romantic cognitions in emerging adulthood. We examined three different types of cognitions, including relational styles, romantic appeal, and romantic life satisfaction. We examined all three types of cognitions as each can shape how a person approaches romantic experiences, behaves in romantic contexts, and interprets a partner’s behavior.

Most studies have examined sexual activity with only romantic or nonromantic partners, leaving it unclear whether

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similar or different associations would be found across different types of partners. Notably, the few studies that have examined sexual activity with both romantic and nonromantic partners highlight this important distinction (Furman & Collibee, 2014; Lehmler, VanderDrift, & Kelly, 2014; McCarthy & Casey, 2008).

Developmental Task Theory

Erikson (1968) proposed that young adults need to form intimate relationships with others. Building on this idea, developmental task theorists proposed that establishing intimate romantic relationships is a *salient developmental task* in emerging adulthood (McCormick, Kuo, & Masten, 2011). Sexual activity with a romantic partner should help one attain the developmental goal of fostering intimacy and, thus, promote positive romantic cognitions. Therefore, we hypothesized that romantic sexual activity would be associated with more positive romantic cognitions.

In contrast, the literature does not provide a clear prediction of how sexual activity with nonromantic partners may be associated with romantic cognitions. Although common, sexual activity with nonromantic partners may be at odds with emerging adults' developmental tasks of fostering intimacy and successfully developing romantic relationships (Arnett, 2004). Thus, the frequency of sexual activity with nonromantic partners may be negatively associated with positive romantic cognitions. Alternatively, emerging adulthood is a period of exploration; thus, experimentation with sexual relationships may serve important functions for identity development without detracting from intimacy development (Arnett, 2004; Claxton & van Dulmen, 2013). Although the literature does not provide a clear prediction of how sexual activity with nonromantic partners may be associated with romantic cognitions, we hypothesized that such sexual activity would be associated with more negative romantic cognitions due to the potential implications for intimacy development.

Sexual Activity With Romantic Partners

We hypothesized that more frequent sexual activity with a romantic partner would be associated with more positive romantic cognitions, including romantic styles. Romantic styles are cognitive representations of intimacy and closeness. They are conceptually similar to attachment styles but also incorporate expectations concerning caregiving, affiliation, and sexuality systems (Furman & Wehner, 1992). Like attachment theorists (Brennan, Clark, & Shaver, 1998), Furman and Wehner (1992) proposed that differences in these romantic styles can be characterized in terms of two continuous dimensions of avoidance and anxiety. Those high on the avoidant dimension are not comfortable with intimacy and prefer self-reliance, and those high on the anxious dimension may worry about their partner's availability. Those who are low on both are considered secure, and they are comfortable with intimacy and worry less about their partner's availability.

Sexual attitudes and behavior are thought to be associated with romantic styles (Furman & Wehner, 1992; Gillath & Schachner, 2006). Individuals with less avoidant romantic styles are more interested in romantic relationships entailing intimacy or commitment, and accordingly, they may be more likely to engage in sexual behavior with a romantic partner (Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006; Fraley, Davis, & Shaver, 1998). Thus, we hypothesized that more frequent sexual activity would contribute to valuing intimacy and commitment and thus would be associated with lower avoidant romantic styles. Further, although more anxious styles are associated with greater overall sexual motivation (Davis, Shaver, & Vernon, 2004), they are also associated with sexual disappointment and aversive sexual experiences (Birnbaum et al., 2006). As such, no hypotheses were tendered with regard to the associations between sexual activity with a romantic partner and anxious relational styles.

We also examined the associations between sexual activity with a romantic partner and romantic appeal and romantic life satisfaction. Romantic life satisfaction reflects not only the feelings toward a current partner but also the qualities of past relationships, the number of individuals they have seen romantically, and whether they have a current relationship or not. As we expected that sexual behavior with a romantic partner would contribute to success in the developmental task of establishing intimate romantic relationships, we hypothesized that this success would be reflected in greater romantic appeal and romantic life satisfaction. Empirical evidence supports such hypotheses. Greater sexual satisfaction is associated with greater relationship satisfaction (Sprecher, 2002). Frequency of sexual activity with a romantic partner is associated with global self-esteem (Furman & Collibee, 2014), which is associated with romantic appeal (Bouchey, 2007).

Sexual Activity With Nonromantic Partners

Sexual activity with nonromantic partners may be contrary to the developmental task of developing intimate romantic relationships during emerging adulthood. Accordingly, we hypothesized that sexual activity with nonromantic partners would be associated with more romantic avoidant and anxious styles. Indeed, individuals with more avoidant styles hold more accepting attitudes toward casual sex and are more likely to have "hookups" (Feeney, Noller, & Patty, 1993; Paul et al., 2000). Additionally, individuals with more anxious styles have more lifetime partners (Bogaert & Sadava, 2002) and may seek sexual behavior as a means to increase intimacy (Davis et al., 2004).

Similarly, we hypothesized that more frequent sexual activity with nonromantic partners would be associated with lower levels of romantic life satisfaction. Sexual activity with nonromantic partners lacks some of the positive elements of romantic relationships (Bradshaw, Kahn, & Saville, 2010; Furman & Shaffer, 2011; Williams & Russell, 2013). Further, individuals with friends with benefits report lower levels of satisfaction with the sexual and friendship aspects of their relationships

than those with romantic partners (Lehmiller et al., 2014). Therefore, sexual activity with nonromantic partners may be negatively associated with overall romantic life satisfaction.

Greater sexual frequency and experience may contribute to a greater sense of appeal. Alternatively, the sexual activity may sometimes occur in the hopes of developing a romantic relationship, something which usually does not transpire (Bisson & Levine, 2009; Bogle, 2008). The failure to negotiate a desired romantic relationship may contribute to a lower sense of romantic appeal in such cases. Given the alternative possibilities, no hypotheses were tendered on the associations between sexual activity with a nonromantic partner and romantic appeal.

Gender

Gender may impact the desires and expectations of intimacy development through romantic experiences. Men may be more comfortable with a “hookup” culture and have positive emotional responses to these experiences (Bogle, 2008; Owen, Rhoades, Stanley, & Fincham, 2010). In contrast, women may be more likely to have negative emotional response to sexual behavior with nonromantic partners (Owen et al., 2010; Townsend & Wasserman, 2011). As such, we expected that the hypothesized associations would be stronger for women.

Differences Among Nonromantic Partners

Our second objective was to assess the hypothesized associations between romantic cognitions and sexual activity with different nonromantic partners (i.e., friends, acquaintances, and friends with benefits). Typically, differentiations have not been made among various casual or nonromantic sexual partners, but differences exist in the prevalence of sexual activity with types of partners as well as the nature of those relationships (Furman & Shaffer, 2011). Such differentiations are theoretically important, as they reflect both how well the individuals know one another and how frequently sexual activity occurs (Claxton & van Dulmen, 2013). Although the literature suggests it is important to consider the specific nature of the partner, less is known about how these differences are associated with romantic cognitions. As such, no hypotheses were tendered regarding the associations of sexual activity with different types of nonromantic partners.

Three Forms of Associations

Our third objective was to address three forms of associations between sexual activity and romantic cognitions: (a) longitudinal associations, (b) between-person associations, and (c) within-person associations. The literature has relied heavily on cross-sectional designs. Therefore, it is impossible to infer direction of effects or rule out third variable explanations. We addressed this issue by examining the longitudinal links between sexual activity and romantic cognitions, assessing both potential directions between sexual activity and romantic cognitions.

We also examined between-person and within-person associations (Curran & Bauer, 2011). Between-person associations refer to whether differences between people on one variable are associated with differences in another variable. An example of a between-person association would be that individuals who engage in more frequent sexual activity with nonromantic partners are less satisfied with their romantic life than those who engage in less frequent sexual activity. Within-person associations refer to whether variations in sexual activity within a person over time are associated with variations in romantic cognitions within a person over time. An example of a within-person association would be that when a person engages in more sexual activity with a nonromantic partner than he or she usually does, he or she is less satisfied with his or her romantic life than he or she typically is. Studies of within-person variation may be less prone to spurious associations stemming from other variables because third variables that are relatively stable over time cannot account for variation within a person. Moreover, by examining three forms of associations, we are better able to understand the pattern of associations between the variables, address a greater diversity of questions, and assess alternative explanations for findings.

Hypotheses

The purpose of this study was to examine the associations between frequency of sexual activity and romantic cognitions with romantic and nonromantic partners. We hypothesized that (1) more frequent sexual activity with romantic partners will be positively associated with romantic life satisfaction, romantic appeal, and negatively associated with more avoidant styles. (2) More frequent sexual activity with nonromantic partners will be positively associated with more anxious and avoidant styles and negatively associated with romantic life satisfaction. The associations of sexual activity with nonromantic partners will be greater for women. (3) All hypothesized associations will be found in the longitudinal as well as the between-person and within-person analyses.

Method

Participants

The participants were part of a longitudinal study of close relationships and adjustment. Two hundred 10th-grade high school students (100 males and 100 females; M age = 15.87 years, $SD = 0.49$) were recruited from a diverse range of neighborhoods and schools in a large Western metropolitan area in the United States. We distributed brochures and sent letters to families residing in various ZIP codes and to students enrolled in various schools in ethnically diverse neighborhoods.

The sample consisted of 11.5% African Americans, 12.5% Hispanics, 1.5% Native Americans, 1% Asian American, 4% biracial, and 69.5% White and non-Hispanics. The sample was of average intelligence and comparable to national norms on multiple measures of adjustment (see Furman, Low, & Ho, 2009).

Data for the current analyses were collected during Waves 5, 6, and 7, when the participants were 2.5 years post high school (M age = 20.42 years, SD = 0.56), 4 years post high school, and 5.5 years post high school. Of the original 200 participants, 192 participated in Wave 5, 186 in Wave 6, and 178 in Wave 7. Those who participated in the study in Wave 7 did not differ from those who did not on the variables of interest as well as age, ethnicity, or maternal education.

At Wave 7, 89.3% said they were heterosexual/straight, whereas the other participants said they were bisexual, gay, lesbian, or questioning. Analyses without the sexual minorities yielded virtually identical results. The mother and a close friend, nominated by the participant, also completed questionnaires about the participant's romantic appeal (mothers: M per wave = 155 and friends M per wave n = 127).

Measures

Sexual behavior. Participants completed the Sexual Behavior and Attitudes Questionnaire–Revised (Furman & Shaffer, 2011; Furman, Wehner, & Shaffer, 2005). They were first asked about their sexual behavior in the last 12 months with three types of partners: (1) romantic partners, (2) friends, and (3) casual acquaintances or someone they just met. The participants were also told that they were going to be asked about all three types in advance and that there were three separate categories. The order of questions concerning the three relationships was fixed to eliminate potential confusion of categories (e.g., romantic partners are often considered friends as well). We did not define the terms to avoid excluding instances they considered to be one of these types of partners or including instances they would not consider to be one of these types of partners.

After they had answered the questions about the first three types of partners, we asked them to answer a parallel set of questions about friends with benefits. Because it was unclear how friends with benefits would be categorized and how distinct they were from other categories, we asked participants to use their own definition of friends with benefits even if their partners in this category overlapped with some partners in the categories they had answered about already. For each type of partner, participants were asked about the frequency of engaging in 10 types of sexual activity during the last year: (a) kissing on the lips, (b) cuddling, (c) “making out,” (d) massages, (e) light petting, (f) heavy petting, (g) dry sex, (h) oral sex, (i) vaginal intercourse, and (j) anal intercourse. They rated the frequency of sexual activity using a scale ranging from 1 (*not in the last 12 months*) to 8 (*almost every day or every day*). For each type of relationship, a total score was calculated by averaging the scores of the 10 types (M α = .95). This score reflected both the breadth and the frequency of each activity. For brevity, we refer to the variable as frequency of sexual activity.

The combination of different sexual activities is warranted conceptually and empirically. The inclusion of less intensive forms of sexual behavior is important, as some individuals

engage in some sexual activity but not necessarily intercourse with nonromantic partners (Furman & Shaffer, 2011). If we only examined the frequency of vaginal intercourse, we would have omitted the majority of sexual encounters with nonromantic partners (Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012). Moreover, it is important to differentiate those who engage in some of the less intensive forms of sexual activity from those who do not engage in any sexual activity. Importantly, those who only engage in less intensive forms of sexual behavior receive lower scores than individuals who engage in more intensive forms of sexual behavior with a partner, as the latter also engages in the less intensive forms of sexual behavior as part of the sexual activity. Specifically, of those who reported engaging in vaginal intercourse with a nonromantic partner, 97.7% reported kissing a nonromantic partner, 91.7% reported cuddling, and 93.7% reported engaging in light petting. In all instances of reported vaginal sex, some nongenital sexual behaviors were also reported.

We analyzed the frequency of sexual activity as a continuous variable because a simple dichotomization would fail to capture much of the variation in such sexual partnerships. The examination of within-person effects would be particularly constrained by the use of dichotomous scores.

Romantic styles. The Behavioral Systems Questionnaire (BSQ) assessed romantic representations in the form of relational styles (Furman, Simon, Shaffer, & Bouchee, 2002; Furman & Wehner, 1999). The BSQ resembles attachment style questionnaires but assesses intimacy and closeness with respect to caregiving, affiliation, and sexuality as well as attachment. Participants rate their agreement with each of the 36 items that assess secure, dismissing, or preoccupied romantic styles. These items were further divided into items related to the attachment, caregiving, affiliative, and sexual behavioral system. Consistent with the idea that romantic styles reflect all behavioral systems, and not just attachment, corresponding style scores of the four behavioral systems were substantially related to one another, M r = .45. Consequently, scores of the four were averaged to derive secure, dismissing, and preoccupied scores.

Next, two relational style scores were calculated: (1) an avoidant score that was computed by reverse scoring the secure score and averaging it and the dismissing score (M α = .86) and (2) an anxious style score, which was the preoccupied scale score (M α = .96). These dimensions had been obtained in prior analyses of this data set (Jones & Furman, 2011) and are the same as the avoidance and anxiety dimensions often found in attachment studies (Brennan et al., 1998).

Romantic life satisfaction. On the Dating History Questionnaire (Furman & Wehner, 1992), participants were asked, “How satisfied have you been with your romantic or dating life (or not dating, if you don't date)?”

Romantic appeal. Participants, friends, and mothers rated the participant's romantic appeal using an abbreviated form of the

Table 1. Descriptive Statistics.

	Wave 5 <i>n</i> = 192	Wave 6 <i>n</i> = 186	Wave 7 <i>n</i> = 178
Sexual frequency with romantic partners	4.44 (2.17)	4.43 (2.24)	4.61 (2.15)
Sexual frequency with friends	1.34 (0.47)	1.42 (0.56)	1.39 (0.52)
Sexual frequency with acquaintances	1.41 (0.57)	1.47 (0.60)	1.32 (0.46)
Sexual frequency with friends with benefits	1.40 (0.67)	1.55 (1.10)	1.40 (0.91)
Avoidant styles	-3.98 (0.55)	-4.15 (0.54)	-4.22 (0.57)
Anxious styles	2.23 (0.62)	2.06 (0.64)	2.03 (0.67)
Romantic appeal	0.08 (0.86)	-0.42 (0.76)	0.18 (0.85)
Romantic life satisfaction	3.52 (1.57)	3.55 (1.22)	3.55 (1.15)
Percentage reporting sexual activity with romantic partners	80	71	76
Percentage reporting sexual activity with friends	51	53	47
Percentage reporting sexual activity with acquaintances	50	50	41
Percentage reporting sexual activity with friends with benefits	27	23	17

Note. The table presents the mean sexual activity frequencies and romantic cognitions (with standard deviations in parentheses).

scale on the Self-Perception Profile for Adolescents (Harter, 1988). The scale consisted of 5 items using a 4-point structured alternative format ($M \alpha = .82$). A sample item was, "Some youth feel that if they are romantically interested in someone, that person will like them back, BUT other youth worry that when they like someone romantically that person *won't* like them. Which is more like you?" The three reporters' perceptions were significantly related to each other (mean $r = .50$). Accordingly, we standardized and averaged the different reporters' perceptions.

Results

Preliminary Analyses

Descriptive statistics can be found in Table 1 and Furman and Shaffer (2011). Multilevel models revealed that women reported more frequent sexual activity with a romantic partner, and men reported more frequent sexual activity with an acquaintance, $t_s \geq 3.00$, $p_s < .001$. No other gender differences were found. No gender differences were found regarding other partners.

Participants were asked if they had cheated on their romantic partner. Those who reported cheating were removed from the analyses because such sexual activity is conceptually different from other nonromantic sexual activity (Wave 5 $n = 15$, Wave 6 $n = 13$, and Wave 7 $n = 11$). Removing these individuals did not alter the results.

Romantic Partner

Longitudinal analyses predicting changes in romantic outcomes. We conducted a series of multilevel models using Hierarchical Linear Modeling Version 6.0 (Raudenbush, Bryk, Cheong, & Congdon, 2001) to test whether more frequent sexual activity with romantic partners at Time N would predict decreases in avoidant styles and anxious styles as well as increases in romantic appeal and romantic life satisfaction at Time $N + 1$. Each model had the following form.

$$\text{Level 1: } Y_i = \beta_0 + \beta_1(\text{age}) + \beta_2(\text{sexual activity with partner}) + \beta_3(\text{Outcome Time } N) + r_i$$

$$\text{Level 2: } \beta_0 = \gamma_{00} + \gamma_{01}(\text{gender}) + u_0$$

$$\beta_1 = \gamma_{10} + \gamma_{11}(\text{gender})$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{gender})$$

$$\beta_3 = \gamma_{30} + \gamma_{31}(\text{gender})$$

In these models, Y represented the romantic cognition-dependent variable (avoidant styles, anxious styles, romantic appeal, or romantic life satisfaction) for individual i . The influence of sexual activity on romantic cognition was assessed by β_2 . Frequency of sexual activities with partners at Time N significantly predicted increases in romantic appeal ($\beta_2 = .09$, $p < .001$) and romantic life satisfaction ($\beta_2 = .07$, $p = .03$), at Time $N + 1$, after controlling for prior levels. There were no other significant effects of sexual activity on romantic cognitions. Males were more avoidant than females ($\beta = -.13$, $p = .02$). These and all other analyses were also conducted separately with nongenital and genital sexual behavior and yielded similar patterns.

Longitudinal analyses predicting changes in sexual activity. We conducted a series of similar models predicting changes in sexual activity with romantic partners from each romantic cognition. No significant effects were found.

Between-person and within-person variation. We conducted models to examine the between-person and within-person associations for frequency of sexual activities with a romantic partner and avoidant styles, anxious styles, romantic appeal, and romantic life satisfaction. Sexual activity scores did not vary with wave, which permitted the traditional formulas for disaggregating within-person and between-person effects (Curran & Bauer, 2011). Each model had the following form:

$$\text{Level 1: } Y_i = \beta_0 + \beta_1(\text{age}) + \beta_2(\text{sexual activity with partners}) + r_i$$

$$\beta_1 = \gamma_{10} + \gamma_{11}(\text{gender})$$

$$\beta_2 = \gamma_{20} + \gamma_{21}(\text{gender})$$

In these models, Y represented the romantic cognition for individual i . The within-person association is examined at Level 1 by the term *sexual activity frequency with romantic partners* (β_2). This term was group-mean centered such that scores reflect the frequency of sexual activity with romantic

partners relative to that person's average frequency of sexual activity with romantic partners. At Level 1, *age* (β_1) was included as an uncentered variable as it varies within person. The between-person association is examined at Level 2 by the term *mean sexual activity frequency with romantic partners* (γ_{02}). This term is the person's average frequency of sexual activity and is grand mean centered so as to compare it with other participants' average frequency of sexual activity. In addition, interaction terms were included to explore gender as a potential moderator of effects. Within-person interactions between gender and sexual activity were estimated by cross-level interactions (γ_{21}). Between-person interactions between gender and sexual activity were calculated by computing the product of gender and each of the centered sexual activity terms at Level 2 (γ_{03}). Table 1 reports the results of these analyses for romantic partners. In terms of between-person effects, more sexual activity with romantic partners was associated with less avoidant styles, less anxious styles, greater romantic appeal, and greater romantic life satisfaction. Similarly, regarding within-person effects, more frequent sexual activity than an individual's mean with romantic partners was associated with less avoidant styles, greater romantic appeal, and romantic life satisfaction. Women had lower levels of avoidant styles.

Friends

Longitudinal analyses predicting changes in romantic cognitions. There were no significant effects of sexual activity with friends at Time *N* on romantic cognitions at Time *N* + 1 ($p < .05$). Males had higher levels of avoidant styles than females ($\beta_2 = -.13, p = .01$).

Longitudinal analyses predicting changes in sexual activity. No significant effects were found ($p < .05$).

Between-person and within-person variation. The between-person effects indicated that more sexual activity with friends was associated with more avoidant styles and lower romantic life satisfaction (see Table 2). Regarding within-person effects, more frequent sexual activity than an individual's mean with friends was associated with more avoidant styles, lower romantic appeal, and lower romantic life satisfaction. Women had lower levels of avoidant styles and greater romantic appeal. A significant moderating effect of gender was found for the between-person effect for romantic appeal and romantic satisfaction. To interpret significant interactions, we used Preacher, Curran, and Bauer's (2006) computational tools. Women's romantic appeal and life satisfaction decreased with more frequent activity ($\beta = -.49, p = .01$ and $\beta = -.87, p = .001$, respectively) and men's did not change.

Acquaintances

Longitudinal analyses predicting changes in romantic outcomes. Sexual activity with acquaintances as Time *N* predicted increases in avoidant styles at Time *N* + 1 ($\beta_2 = -.16, p = .002$), after controlling for prior levels. There were no other significant

effects of sexual activity on romantic cognitions ($p < .05$). No effects of gender were found.

Longitudinal analyses predicting changes in sexual activity. No significant effects were found ($p < .05$).

Between-person and within-person variation. The between-person effects indicated that more frequent sexual activity with acquaintances was associated with more avoidant styles and lower romantic life satisfaction (see Table 2). Regarding within-person effects, more frequent sexual activity than an individual's mean with acquaintances was associated with less romantic life satisfaction and lower romantic appeal. Women had less avoidant styles and greater romantic appeal. A significant moderating effect of gender was found for the between-person effect on romantic satisfaction. Women's satisfaction decreased with greater frequency ($\beta = -.94, p < .001$) and men's did not change significantly.

Friends With Benefits

Longitudinal analyses predicting changes in romantic outcomes. No significant effects were found ($p < .05$).

Longitudinal analyses predicting changes in sexual activity. No significant effects were found ($p < .05$).

Between-person and within-person variation. The between-person effects indicated that more sexual activity with friends with benefits was associated with more avoidant and more anxious styles and lower romantic life satisfaction (see Table 2). Regarding within-person effects, more frequent sexual activity than an individual's mean with friends with benefits was associated with more avoidant styles and lower romantic life satisfaction. No effects of gender were found.

Comparisons Across Partners

To better understand if the associations with romantic partners differed from those with nonromantic partners, we examined the potential overlap between the confidence intervals. In all but one instance, the confidence intervals for the longitudinal analyses overlapped. Therefore, we cannot conclude that longitudinal differences exist among the four types of partners. However, for the between-person and within-person analyses, the confidence intervals do not overlap with the corresponding association for romantic partners in all cases of significant associations between sexual activity with nonromantic partners and romantic cognitions (see Table 2). For example, the association between sexual activity with a friend with benefits and romantic cognitions differed from the association between sexual activity with a romantic partner and romantic cognitions. Therefore, not only do significant effects exist in opposite directions, but also the lack of overlap in confidence intervals suggests these effects are different from one another. Finally, in two instances, there was no overlap in confidence intervals, despite null effects for the nonromantic partner association.

Table 2. Summary of Multilevel Models Testing the Between- and Within-Person Associations Between Sexual Activity Partner Type and Romantic Cognitions.

	Avoidant Styles				Anxious Styles				Romantic Appeal				Romantic Life Satisfaction			
	B	SE	95% CI	ES	B	SE	95% CI	ES	B	SE	95% CI	ES	B	SE	95% CI	ES
Partner																
Intercept (β_0)	-2.39***	(0.31)	[-.14, -.06]	.14	3.29***	(0.39)	[-.13, -.01]	.03	-0.89	(0.51)	[.14, .26]	.21	3.16***	(0.73)	[.15, .31]	.16
Mean partners (γ_{01})	-0.10***	(0.02)	[.06, .10]	.13	-0.07**	(0.03)	[-.09, -.01]	.02	0.20***	(0.03)	[.00, .08]	.01	0.23***	(0.04)	[-.04, .08]	.00
Age (β_1)	0.08***	(0.01)	[-.07, -.03]	.05	-0.05**	(0.02)	[-.06, .02]	.00	0.04	(0.02)	[.01, .09]	.02	0.13***	(0.03)	[.07, .19]	.04
Partners (β_2)	-0.05**	(0.01)	[-.37, -.09]	.06	-0.02	(0.08)	[-.20, .12]	.00	0.13	(0.09)	[-.05, .31]	.01	0.15	(0.13)	[-.11, .41]	.01
Gender main effect (γ_{02})	-0.23**	(0.07)	[-.16, .00]	.02	-0.04	(0.05)	[-.13, .07]	.00	0.05	(0.05)	[-.05, .15]	.01	0.05	(0.08)	[-.11, .21]	.00
Mean Partner \times Gender (γ_{03})	-0.08	(0.04)	[-.03, .09]	.01	-0.03	(0.03)	[-.13, -.01]	.02	-0.03	(0.04)	[-.11, .05]	.00	-0.15	(.06)	[-.27, .03]	.03
Age \times Gender (γ_{11})	0.03	(0.03)	[-.10, .02]	.01	-0.07*	(0.04)	[-.06, .10]	.00	0.00	(0.05)	[-.10, .10]	.00	0.06	(0.07)	[.08, .20]	.00
Partner \times Gender (γ_{21})	-0.04	(0.03)			0.02	(0.04)			0.00	(0.05)			0.00	(0.06)		
Friends																
Intercept (β_0)	-2.41***	(0.31)	[.17, .53]	.08	3.26***	(0.04)	[-.11, .33]	.01	-0.94	(0.52)	[-.44, .12]	.01	3.03***	(0.75)	[-.78, -.06]	.03
Mean friends (γ_{01})	0.35***	(0.09)	[-.10, -.06]	.13	0.11	(0.11)	[-.09, -.01]	.02	-0.16	(0.14)	[.00, .08]	.01	-0.42*	(0.18)	[-.01, .08]	.00
Age (β_1)	-0.08***	(0.01)	[.03, .27]	.02	-0.05**	(0.02)	[-.07, .21]	.00	0.04	(0.02)	[-.47, .03]	.01	0.02	(0.03)	[-.60, -.04]	.01
Friends (β_2)	0.15**	(0.06)	[-.40, -.12]	.07	0.07	(0.07)	[-.24, .08]	.01	-0.25*	(0.11)	[-.03, .47]	.03	-0.32*	(0.14)	[.00, .56]	.02
Gender main effect (γ_{02})	-0.26**	(0.07)	[-.04, .68]	.02	-0.08	(0.08)	[-.17, .67]	.01	0.25*	(0.11)	[-.18, -.10]	.03	0.28*	(0.14)	[-.60, -.04]	.01
Mean Friends \times Gender (γ_{03})	0.32	(0.18)	[-.04, .08]	.00	0.25	(0.21)	[-.14, .02]	.02	-0.64*	(0.27)	[-.11, .05]	.00	-0.88*	(0.36)	[-.28, -.04]	.03
Age \times Gender (γ_{11})	0.02	(0.03)	[-.20, .24]	.00	-0.06	(0.04)	[-.28, .28]	.00	-0.03	(0.04)	[-.52, .24]	.00	-0.16	(0.06)	[-.68, .44]	.00
Friends \times Gender (γ_{21})	0.02	(0.11)			0.00	(0.14)			-0.14	(0.19)			-0.12	(0.28)		
Acquaintances																
Intercept (β_0)	-2.43***	(0.33)	[.22, .54]	.12	3.29***	(0.41)	[-.18, .22]	.00	-0.77	(0.52)	[-.20, .32]	.00	3.39***	(0.74)	[-.83, -.15]	.05
Mean acquaintances (γ_{01})	0.38***	(0.08)	[-.10, -.06]	.13	0.02	(0.10)	[-.09, -.01]	.01	0.06	(0.13)	[-.01, .07]	.01	-0.49**	(0.17)	[-.07, .05]	.00
Age (β_1)	-0.08***	(0.01)	[-.09, .15]	.00	-0.05**	(0.02)	[-.15, .17]	.00	0.03	(0.02)	[-.48, -.08]	.02	-0.01	(0.03)	[-.81, .21]	.03
Acquaintances (β_2)	0.03	(0.06)	[-.37, -.09]	.06	0.01	(0.08)	[-.27, .09]	.01	-0.28**	(0.10)	[.05, .49]	.03	-0.51**	(0.15)	[-.08, .48]	.01
Gender main effect (γ_{02})	-0.23**	(0.07)	[-.03, .69]	.02	-0.09	(0.09)	[-.21, .59]	.01	0.27*	(0.11)	[-.92, .12]	.01	0.20	(0.14)	[-.41, -.05]	.03
Mean Acquaintances \times Gender (γ_{03})	0.33	(0.18)	[-.02, .10]	.01	0.19	(0.20)	[-.14, -.02]	.03	-0.40	(0.26)	[-.12, .08]	.00	-0.73*	(0.34)	[-.24, .00]	.02
Age \times Gender (γ_{11})	0.04	(0.03)	[-.41, .07]	.01	-0.08	(0.03)	[-.55, .09]	.01	-0.02	(0.05)	[-.31, .49]	.00	-0.12	(0.06)	[-.46, .70]	.00
Acquaintances \times Gender (γ_{21})	-0.17	(0.12)			-0.23	(0.16)			0.09	(0.20)			0.12	(0.29)		
Friends with benefits																
Intercept (β_0)	-2.34***	(0.31)	[.13, .33]	.10	3.28***	(0.39)	[.01, .25]	.03	-0.94	(0.52)	[-.19, .13]	.00	2.92***	(0.75)	[-.51, -.07]	.04
Mean friends with benefits (γ_{01})	0.23**	(0.05)	[-.10, -.06]	.07	0.13*	(0.06)	[-.09, -.01]	.01	-0.03	(0.08)	[.00, .08]	.01	-0.29	(0.11)	[-.04, .08]	.00
Age (β_1)	-0.08***	(0.01)	[.02, .14]	.02	-0.05**	(0.02)	[-.04, .12]	.01	0.04	(0.02)	[-.17, .03]	.01	0.02	(0.03)	[-.34, -.02]	.01
Friends with benefits (β_2)	0.08*	(0.03)	[-.42, -.14]	.08	0.04	(0.04)	[-.25, .07]	.01	-0.07	(0.05)	[.47, .03]	.03	-0.18*	(0.08)	[.01, .57]	.02
Gender main effect (γ_{02})	-0.28***	(0.07)	[-.26, .18]	.00	-0.09	(0.08)	[.00, .04]	.00	0.25*	(0.11)	[-.61, .03]	.02	0.29*	(0.14)	[-.63, .26]	.01
Mean Friends With Benefits \times Gender (γ_{03})	-0.04	(0.11)			0.02	(0.01)			-0.29	(0.16)			-0.19	(0.22)		
Age \times Gender (γ_{11})	0.02	(0.03)	[-.04, .08]	.00	-0.06	(0.03)	[-.12, .00]	.02	-0.03	(0.04)	[-.11, .05]	.00	-0.16	(0.06)	[-.28, -.04]	.03
Friends With Benefits \times Gender (γ_{21})	0.02	(0.06)	[-.10, .14]	.00	0.02	(0.08)	[-.14, .18]	.00	-0.13	(0.11)	[-.35, .09]	.00	-0.11	(0.16)	[-.43, .21]	.00

Note. The primary numbers in the table are the unstandardized coefficients for the fixed effects. Standard errors are in parentheses, followed by 95% confidence interval, and effect size. CI = confidence interval; ES = effect size; SE = standard error.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

Specifically, the within-person effect for friends and friends with benefits was different from the within-person effect for romantic partners. In the other instances in which null effects occurred for the nonromantic partner association, the confidence intervals overlapped.

The confidence intervals overlapped across all four romantic cognitions for the three different nonromantic partners in the between-person and within-person analyses. Thus, the coefficients among nonromantic partners did not differ significantly.

Discussion

Consistent with developmental task theory, sexual activity with romantic partners was often associated with more positive romantic cognitions (McCormick et al., 2011). In contrast, sexual activity with nonromantic partners was often associated with more negative romantic cognitions, though findings were more mixed.

This study's examination of the associations with sexual activity further contributes to developmental task theory because sexual activity is a key developmental task that has received little empirical attention in that theory. A demonstration of the associations between sexual activity and romantic cognitions in emerging adulthood is particularly important, as romantic cognitions are especially likely to be related to the task of intimacy development. Moreover, developmental task theory would expect that the associations should be distinct and possibly different for romantic and nonromantic sexual activity due to their different levels of intimacy. This study is one of the first to provide evidence for the pair of predictions. Indeed, it offers empirical support for the idea that sexual activity with nonromantic partners may be at odds with emerging adults' developmental task of fostering romantic intimacy, whereas sexual activity within a romantic partnership may better align with these developmental goals.

Romantic Partners

As hypothesized, more frequent sexual activity with a romantic partner was broadly associated with more positive romantic cognitions. Frequency of sexual activity with a romantic partner was associated with less avoidant styles, less anxious styles, higher romantic life satisfaction, and higher romantic appeal. In virtually all instances, both between-person and within-person effects were found.

These findings are consistent with a developmental task theory conceptualization of sexual behavior, such that sexual activity within a romantic relationship during emerging adulthood is likely to be associated with positive romantic cognitions. These findings are also consistent with literature pointing to potential benefits of frequency of sexual activity or sexual satisfaction in emerging adulthood (Furman & Collibee, 2014; Sprecher, 2002) or the impact of romantic characteristics on the frequency of sexual activity in couples (Fortenberry et al., 2005). The findings further contribute by highlighting additional

links between sexual activity in romantic relationships and positive romantic cognitions.

Of particular interest may be the significant associations for romantic life satisfaction and romantic appeal, which included longitudinal as well as between-person effects and within-person effects. Increases in sexual activity frequency were associated with subsequent increases in romantic life satisfaction and romantic appeal. These effects were not found in the reverse direction, suggesting that sexual activity may contribute to changes in romantic cognitions.

The absence of longitudinal effects for avoidant romantic styles raises the possibility that a third variable may be responsible for the concurrent associations. Such concerns are particularly warranted if only a between-person effect was found or if only a within-person effect was found. The fact that both between-person and within-person effects were found reduces this concern. In order for a third variable to explain both between and within person effects, it could not be so stable that it precludes the possibility of within-person effects, and it could not be so unstable that it precludes the presence of between-person effects (see Furman & Collibee, 2014 for similar arguments). These are challenging criteria for a third variable to meet. More likely than such a third variable explanation is the idea that concurrent associations or short-term effects exist between sexual activity frequency and avoidant styles, but sexual activity frequency does not have a long-lasting effect on avoidant styles (or vice versa).

Nonromantic Partners

We hypothesized that engagement in sexual activity with nonromantic partners may be contrary to the developmental task of fostering intimate romantic relationships; therefore, we expected to find associations between more frequent sexual activity with nonromantic partners and more negative romantic cognitions. Broadly, more frequent sexual activity was associated concurrently with more negative romantic cognitions. Specifically, in half of the between and within analyses, more frequent sexual activity was associated with poorer romantic cognitions, and in none of the instances was more frequent sexual activity associated with more positive romantic cognitions. Few longitudinal associations were found.

In many instances, significant effects were found for some nonromantic partners but not for others; however, the confidence intervals overlapped among the different types of nonromantic partners. Accordingly, it seems premature to conclude there are or are not differences among nonromantic partners. Further work is needed to identify the differences or similarities across nonromantic partners.

The links between sexual activity with nonromantic partners and romantic cognitions are less consistent than the links between sexual activity with a romantic partner and romantic cognitions. Developmental task theory recognizes that tasks do not always occur at the same time for individuals (McCormick, et al., 2011). Expectations and desires for intimate romantic relationships may be more heterogeneous in

emerging adulthood. For example, emerging adults differ in whether they see sexual activity as an important form of experimentation or exploration during this developmental period (Claxton & van Dulmen, 2013). Given the range of emerging adults' beliefs, it may be unsurprising that the associations for sexual activity with nonromantic partners and romantic cognitions are less uniform.

Sexual Activity With Romantic and Nonromantic Partners

This study's findings are consistent with a developmental task theory, suggesting that sexual activity has a differing impact on romantic cognitions depending on the context in which it occurs. These findings are consistent with the work pointing to the importance of the relational context of sexual activity (Furman & Shaffer, 2011; Lehmiller et al., 2014; McCarthy & Casey, 2008; Shulman, Walsh, Weisman, & Schelyer, 2009). For example, sexual activity with a romantic partner is associated with greater satisfaction and romantic appeal, whereas sexual activity with nonromantic partners is often associated with less satisfaction and appeal. Indeed, an assessment of the confidence intervals suggests that the links to romantic cognitions for romantic partners are different from those for nonromantic partners. Our findings indicate that sexual activity per se does not translate to greater romantic life satisfaction or romantic appeal for emerging adults. Rather, emerging adults may feel more satisfied and romantically appealing when sexual activity occurs in tandem with the companionship and intimacy that a romantic relationship offers. Alternatively, emerging adults with low romantic life satisfaction or romantic appeal may seek out more frequent sexual activity with nonromantic partners.

Gender

In some instances, sexual activity with a nonromantic partner was associated with poorer outcomes for women. Specifically, more frequent sexual activity with an acquaintance or friend was associated with lower romantic life satisfaction for women but not men. Additionally, more frequent sexual activity with a friend was associated with lower romantic appeal for women but not men. Notably, no gender interactions occurred with friends with benefits. This suggests that sexual activity with an acquaintance or friend may be uniquely problematic for women. Perhaps most noteworthy is that few interactions with gender were found, suggesting that the associations between sexual activity frequency cognitions are more similar than different. Such a pattern is consistent with recent work finding a lack of gender differences in the associations between sexual activity and attitudes (Katz & Schneider, 2013).

Limitations and Future Directions

The current study is one of the first to simultaneously examine the longitudinal, between-person, and within-person associations between sexual activity and romantic cognitions. By

examining multiple forms of associations, we both obtained a more comprehensive test of the associations and were better able to understand the precise nature of these links. For example, few longitudinal effects of sexual behavior with a romantic partner were found; however, concurrent within-person and between-person effects were almost all significant. This pattern is most consistent with the idea that such sexual behavior has concurrent or short-term effects but not long-term effects. Our multiple analysis approach cannot draw firm causal conclusions, so an important direction for future research would be to examine the associations with a shorter time period between assessments. Shorter time periods between assessments could also reduce problems of participants recalling their sexual activity. Thus, studies using both long time intervals and short time intervals are needed to obtain a complete picture of the associations.

Participants were instructed to use their own definition of friends with benefits, even if their partners in this category overlapped with some partners in the categories they had answered about already. It seems likely that many friends with benefits had been categorized as friends or acquaintances as well (Furman & Shaffer, 2011). Thus, findings regarding friends with benefits are not independent of those regarding friends and acquaintances.

Despite these limitations, the present study represents one of the few to assess links between the frequency of sexual activity and positive and negative romantic cognitions in emerging adulthood. Furthermore, it reveals an important distinction: not all sexual activity is equal. Rather, the nature of the relationship is important. Although all sexual activity is associated with some risks (Furman & Collibee, 2014), this study is one of the first which documents that sexual activity within a romantic relationship is associated with positive romantic cognitions in emerging adulthood.

Acknowledgment

Appreciation is expressed to the Project Star staff for their assistance in collecting the data, and to the Project Star participants and their partners, friends and families. Correspondence concerning this article should be addressed to Wyndol Furman.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Preparation of this manuscript was supported by Grant 050106 from the National Institute of Mental Health (W. Furman, PI) and Grant 049080 from the National Institute of Child Health and Human Development (W. Furman, PI).

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