

Sexual Activity with Romantic and Nonromantic Partners and Psychosocial Adjustment in Young Adults

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Abstract The present study examined whether positive or negative links occur between psychosocial adjustment and sexual activity with four types of partners—romantic partners, friends, acquaintances, and friends with benefits. We examined longitudinal associations and concurrent between-person and within-person associations. A representative sample of 185 participants (93 males, 92 females), their friends, and mothers completed questionnaires when the participants were 2.5, 4, and 5.5 years out of high school. Regardless of the type of partner, more frequent sexual activity relative to the sexual activity of other young adults was associated with more substance use and risky sexual behavior (i.e., between-person effects). Similarly, for all types of nonromantic partners, more frequent sexual activity relative to one's own typical sexual activity was associated with more substance use and risky sexual behavior (i.e., within-person effects). Differences in frequency of sexual activity with friends and acquaintances were associated with greater internalizing and externalizing symptoms as well as lower self-esteem. Follow-up analyses revealed the associations were particularly strong for friends with benefits. Women's sexual activity frequency with a nonromantic partner was more commonly associated with poorer psychosocial adjustment than such activity by men. More frequent sexual activity with a romantic partner was associated with higher self-esteem and lower internalizing symptoms. Few long-term effects were found for any type of sexual activity. The findings underscore the importance of examining relationship context and illustrate the value of using multiple analytic strategies for identifying the precise nature of associations.

Keywords Romantic relationships · Casual sex · Friends with benefits · Hooking up · Sexual behavior

Introduction

A significant amount of research exists on the frequency and predictors of casual sexual activity in young adulthood (e.g., Furman & Shaffer, 2011; Grello, Welsh, & Harper, 2006; Owen, Rhoades, Stanley, & Fincham, 2010; Paul, McManus, & Hayes, 2000). Casual sexual activity is associated with an increased likelihood of sexually transmitted infections and pregnancies. Casual sexual activity also commonly co-occurs with drinking or intoxication, during which individuals may not be in control and at some physical risk (Abbey, Ross, McDuffie, & McAuslan, 1996). Less is known about the other consequences of casual sexual activity. Few longitudinal studies have been conducted. The purpose of the present study was to examine the links between psychosocial adjustment and sexual activity with four types of partners—friends, casual acquaintances, friends with benefits, and romantic partners.

Theoretically, casual sexual activity, or as referred to in this article, sexual activity with a nonromantic partner, may have a positive effect or at least no adverse effect on psychosocial adjustment. Sexual activity with a nonromantic partner is very common (Furman & Shaffer, 2011) and young adults perceive it to be even more common (Paul & Hayes, 2002). Such sexual activity is generally accepted or encouraged among young adults (Paul et al., 2000). The mass media typically portrays sexual activity in a positive light with infrequent reference to risk (Kunkel, Eyal, Finnerty, Biely, & Donnerstein, 2005). Young adults typically react positively to engaging in sexual activity with someone on a single occasion (i.e., “hooking up”) (Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012; Owen & Fincham, 2011a, b). Young adults' positive beliefs about, and reactions to, casual sexual activity supports a theoretical perspective

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which posits that these experiences may be part of normative development and, as such, may promote adjustment.

On the other hand, some social scientists have theorized that sexual activity with nonromantic partners places individuals at emotional and social risk (e.g., Paul & Hayes, 2002). Specifically, nonromantic sexual activity follows a sexual script, which is not consistent with the script for sexual behavior in a romantic partnership (Bogle, 2008). The script for genital sexual behavior implies some level of intimacy, yet sexual relationships with nonromantic partners are usually less intimate than romantic relationships (Furman & Shaffer, 2011; Williams & Russell, 2013). Indeed, social scripts for sexual encounters with a nonromantic partner are ambiguous, which may be stressful or at least confusing (Bisson & Levine, 2009; Bogle, 2008; Glenn & Marquadt, 2001). The experiences entail substantial ego involvement, which can make the process of understanding and justifying them challenging (Paul & Hayes, 2002). Young adults' reflections on sexual activity with a nonromantic partner are characterized by a lack of self-worth and an insecure or uninformed sense of themselves as sexual and relational beings; moreover, feelings of confusion are not commonly communicated and instead are internalized (Paul, 2006).

Not only do theoretical perspectives of the effects of sexual activity with nonromantic partners differ, but the empirical evidence is inconsistent. Grello et al. (2006) found that college women who engaged in sexual intercourse with a nonromantic partner were more depressed than those who engaged in sexual intercourse with a romantic partner or did not engage in sexual intercourse. College men who engaged in intercourse with a nonromantic partner did not differ in depressive symptoms from those who had not engaged in sexual intercourse. Other studies on the associations between sexual activity with nonromantic partners and well-being or depression, however, have yielded inconsistent findings (Owen et al., 2010; Owen & Fincham, 2011b). Those who had hooked up with someone have also been found to have lower self-esteem than those who had not (Paul et al., 2000). On the other hand, no significant differences in self-esteem were found between those who last engaged in intercourse with a romantic partner and those who last engaged in intercourse with a nonromantic partner (Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009). Hooking up has been consistently found to be linked to substance use (Owen & Fincham, 2011a; Owen et al., 2010; Paul et al., 2000). In sum, the scientific literature provides some evidence for the concerns being raised about sexual activity with nonromantic partners, but the findings are not fully consistent. The number of empirical studies is also small and the existing literature is limited in several respects.

Most of the research on sexual activity with nonromantic partners is cross-sectional in nature, making it impossible to infer direction of effects. The positive effects and negative effects theoretical perspectives both propose that sexual activity affects psychosocial adjustment, but it is also possible that

psychosocial adjustment affects sexual activity or that some third variable may be responsible for any associations. Indeed, substance use predicts subsequent sexual activity with a nonromantic partner (Fielder & Carey, 2010; Olmstead, Paley, & Fincham, 2012; Owen, Fincham, & Moore, 2011). In one of the few longitudinal studies that examined changes in psychosocial adjustment, college women who engaged in sexual activity with nonromantic partners had higher levels of depression both before and after such sexual activity, but no statistically significant longitudinal effects were found (Fielder & Carey, 2010). No significant differences before or after sexual activity were found for college men's depression or for either gender's self-esteem. In another study, no overall changes in depression were found after sexual activity with a nonromantic partner, but the level of depression was less stable after such activity (Owen et al., 2011). To the best of our knowledge, no study has examined both whether sexual activity with a nonromantic partner predicted changes in psychosocial adjustment and whether psychosocial adjustment predicted changes in sexual activity with a nonromantic partner. Thus, a test of the different possible theoretical explanations of the cross-sectional associations between sexual activity with a nonromantic partner and psychosocial adjustment has not been conducted.

We are also unaware of any study that has examined whether changes in a person's sexual activity are associated with concurrent changes in their adjustment. That is, do changes in sexual activity co-occur with changes in adjustment? Recent statistical advances now provide means of examining 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 on another variable. For example, are people who engage in more frequent sexual activity with nonromantic partners more depressed than those who engage in less frequent activity? Within-person associations refer to whether variations in frequency of sexual activity within a person over time are associated with variations in adjustment within a person over time. For example, if a person is engaging in more frequent sexual activity with nonromantic partners than one usually does, is one's level of depression greater than one's typical level of depression? Studies of within-person variation are central to many psychological theories, as social scientists are often interested in understanding changes or differences within a person, rather than differences between people per se. For example, developmental psychologists have increasingly relied on longitudinal studies of the same people over time, rather than inferring change from cross-sectional comparisons of different individuals. Studies of within-person effects can also provide information about when activities occur (vs. who is likely to engage in them). They may also be less prone to spurious associations stemming from third variables because third variables that are relatively stable over time cannot account for variation within a person. More generally, between-person and within-person effects are not necessarily the same (see Curran & Bauer, 2011).

Another limitation of the existing literature is that many studies have focused on hook-ups. Although it is important to understand the predictors and nature of hookups, it is less evident that single episodes of non-coercive sexual activity would typically affect psychosocial adjustment, especially as hookups often do not involve vaginal or oral sex (Lewis et al., 2012). Examining the frequency and extent of sexual activity over longer periods of time may yield patterns of associations with adjustment that are not apparent when examining whether individuals have simply hooked up or not.

Additionally, differentiations have not been made among different types of relationship contexts within the general category of nonromantic sexual partners. Sexual relationships with nonromantic partners are heterogeneous in nature (Williams & Russell, 2013). For example, most young adults describe “friends with benefits” as individuals with whom they have engaged in heavy nongenital or genital sexual activity on more than one occasion; the amount of sexual activity in such relationships is greater than that with friends or acquaintances, yet other aspects of the relationships are less intimate than friendships (Furman & Shaffer, 2011).¹ Such differences among the various relational contexts of sexual activity with a nonromantic partner may affect the impact these experiences have.

Furthermore, many studies have only examined sexual activity with a nonromantic partner, leaving it unclear whether similar or different associations would be found for sexual activity with a romantic partner. The literature suggests these distinctions are important. For example, adolescents who engage in sexual activity with a nonromantic partner show increases in delinquency, whereas those who engage in sexual activity with a romantic partner show decreases in delinquency (Harden & Mendle, 2011; McCarthy & Casey, 2008). As noted previously, college women, who engaged in sexual intercourse with a nonromantic partner, were more depressed than those who engage in sexual intercourse with a romantic partner or did not engage in sexual intercourse (Grello et al., 2006). Few other studies of young adults, however, have examined how associations with psychosocial adjustment may vary as a function of the type of relationship.

Present Study

The purpose of the present study was to examine whether positive or negative associations exist between psychosocial

adjustment and sexual activity with romantic partners and with different nonromantic partners (friends, acquaintances, and friends with benefits). We had no strong basis for making differential predictions for the three types of nonromantic partners, but, by examining all three, we are able to obtain more specific information about the nature of the associations and shed light on the possible explanations for such associations. We examined multiple facets of psychosocial adjustment, including substance use, risky sexual behavior, internalizing symptoms, externalizing symptoms, and self-esteem. We selected these variables because they are broad and important aspects of adjustment and have been the focus of prior studies on sexual activity with nonromantic partners. Finally, the inclusion of a range of adjustment variables allowed us to test both theoretical ideas that sexual activity with nonromantic partners has positive effects and those that suggest that they have negative effects.

We examined four kinds of associations between sexual activity and psychosocial adjustment to obtain information about the possible direction of any effects. We first examined whether frequency of sexual activity predicted longitudinal changes over time in various facets of psychosocial adjustment. Second, we examined whether psychosocial adjustment predicted changes over time in the frequency of sexual activity. Finally, we examined the between-person association between frequency of sexual activity and psychosocial adjustment and the within person association between frequency of sexual activity and psychosocial adjustment (Curran & Bauer, 2011).

Consistent with the existing literature (Owen & Fincham, 2011a; Owen et al., 2010; Paul et al., 2000), we hypothesized that more frequent sexual activity with nonromantic partners would be predictive of substance use and risky sexual activity. We expected these associations to be found in the longitudinal analyses predicting changes in psychosocial adjustment, the between-person associations, and the within-person associations. Although we make similar predictions for the these three types of associations in all cases, the examination of all three types of associations provides a means of determining if any changes occur over a long period of time (18 months) and ruling out stable third variable explanations by documenting within-person associations. Consistent with the literature (Olmstead et al., 2012), we also hypothesized that substance use would be predictive of increases in sexual activity with nonromantic partners.

We also hypothesized that some associations between sexual activity with nonromantic partners and psychosocial adjustment would vary by gender. Double standards regarding sexual standards continue to exist in the United States (Crawford & Popp, 2003). Men’s sexual prowess and experience can be admired, whereas women’s may be disapproved of (Paul, 2006). Female sexuality is suppressed, because of the effect it has on reputation (Baumeister & Twenge, 2002). As noted previously, women are less approving of casual

¹ The current study and Furman and Shaffer (2011) examined sexual behavior using the same sample of data, but for different purposes. Furman and Shaffer examined young adults’ conceptions of friends with benefits and reported descriptive information on the sexual activity in different relationship contexts at Wave 5 whereas the present study focused on the associations with psychological adjustment across Waves 5–7.

sexual behavior and more likely to have negative reactions to sexual behavior with nonromantic partners (Owens et al., 2010; Townsend & Wasserman, 2011). Based on these ideas and the existing literature (Grello et al., 2006), we hypothesized that more frequent sexual activity with nonromantic partners would be associated with greater internalizing symptoms and lower self-esteem for women. No hypotheses were made regarding whether psychosocial adjustment was predictive of subsequent sexual activity with nonromantic partners, as the literature has been inconsistent on that issue. We also tendered no hypotheses regarding the associations between sexual activity with nonromantic partners and externalizing symptoms for either gender.

We hypothesized that more frequent sexual activity with a romantic partner would be associated with greater sexual risk taking, but otherwise would be associated with positive psychosocial adjustment. Theoretically, sexual activity heightens or maintains the psychological and emotional bond with a partner (Hazan and Zeifman, 1994); stronger bonds in turn may lead to greater psychosocial adjustment and well-being (Kamp Dush & Amato, 2005; Williams, Frech, & Carlson, 2010).

Hypotheses

1. We hypothesized that more frequent sexual activity with nonromantic partners would be predictive of substance use and risky sexual activity.
2. We also hypothesized that substance use would be predictive of increases in sexual activity with nonromantic partners.
3. We hypothesized that more frequent sexual activity with nonromantic partners would be associated with greater internalizing symptoms and lower self-esteem for women.
4. We hypothesized that more frequent sexual activity with a romantic partner would be associated with greater sexual risk taking, but otherwise would be associated with positive psychosocial adjustment.

Method

Participants

The participants were part of a longitudinal study investigating the role of relationships with parents, peers, and romantic partners on psychosocial adjustment. A total of 200 10th grade high school students (100 males, 100 females; M age = 15.87 yr old, $SD = .49$) were recruited from a diverse range of neighborhoods and schools in a large Western metropolitan area. We distributed brochures and sent letters to families residing in various zip codes and to students enrolled in various schools in ethnically diverse neighborhoods. We were unable to determine the

ascertainment rate because we used brochures and because letters were sent to many families who did not have a 10th grader. To insure maximal response, we paid families \$25 to hear a description of the project in their home. Of the families that heard the description, 85.5 % expressed interest and carried through with the Wave 1 assessment.

We selected families to describe the project to such that the sample would be representative of the ethnic distribution of the United States; thus, the sample consisted of 11.5 % African Americans, 12.5 % Hispanics, 1.5 % Native Americans, 1 % Asian American, 4 % biracial, and 69.5 % White, non-Hispanics. The sample was of average intelligence and comparable to national norms on multiple measures of substance use, internalizing symptoms, and externalizing symptoms (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 old, $SD = 0.56$), 4 years post high school (M age = 22.08 years old, $SD = 0.64$), and 5.5 years post high school (M age = 23.5 years old, $SD = 1.05$). Attrition over the seven waves of data collection was low. Specifically, 185 of the original 200 participated in Wave 5, 180 in Wave 6, and 178 in Wave 7.

At Wave 7, 89.3 % said they were heterosexual/straight whereas the other participants said they were bisexual, gay, lesbian, or questioning. Analyses with and without the sexual minorities included yielded virtually identical results. We chose to retain the sexual minorities in the sample to be inclusive. We did, however, exclude the 5.5 % who were married at the time of an assessment, as extramarital sexual activity would seem qualitatively different than an unmarried person's sexual activity with a nonromantic partner.

The mother and a close friend nominated by the participant also completed questionnaires about the participant's adjustment (Mothers: Wave 5 $N = 163$; Wave 6 $N = 156$; Wave 7 $N = 145$; Friends: Wave 5 $N = 137$; Wave 6 $N = 126$; Wave 7 $N = 113$). Questionnaires were sent to the participants, mothers, and friends, which they completed at their convenience. All were compensated financially for completing the questionnaires (participant and friend \$50, mother \$20). The study was approved by the university's Institutional Review Board. The confidentiality of the participants' data was protected by a Certificate of Confidentiality issued by the US Department of Health and Human Services.

Measures

Sexual Behavior and Attitudes Questionnaire-Revised (SBAQ-R)

On the SBAQ-R (Furman & Shaffer, 2011; Furman, Wehner, & Shaffer, 2005), participants were first asked about their sexual behavior in the last 12 months with three types of partners:

romantic partners, friends, and casual acquaintances or someone they just met (subsequently referred to as acquaintances). The participants were told they were going to be asked about all three types in advance and the order of the 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 as we did not want to exclude instances that they considered to be one of these types of partners nor include instances that they would not consider to be one of these types of partners.

After they had answered the questions about the first three types of sexual partners, we asked them to answer a parallel set of follow-up 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 of their partners in the categories they had answered about already. This strategy of asking about friends with benefits in a series of follow-up questions allowed us to examine how a term was naturally used and provided a means of obtaining information about whom young adults consider to be friends with benefits. We also believed that our strategy would be less confusing to the participants than initially asking them about all four categories as the friend with benefits category overlapped with the other categories, especially friends. Consistent with prior research (Bisson & Levine, 2009), most participants thought that one would not be a friend with benefits unless sexual behavior occurred more than once; moreover, the sexual activity involved heavy nongenital or genital behavior and not just light nongenital behavior (see Furman & Shaffer, 2011).

For each type of partner, participants were asked about the frequency of engaging in 10 types of sexual activity during the last year: kissing on the lips, cuddling, “making out,” massages, light petting, heavy petting, dry sex, oral sex, vaginal intercourse, and 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*). We asked about sexual activity over the last year, because it seemed more likely that patterns of sexual activity would affect adjustment than any brief period of sexual activity. For each type of relationship, a total sexual activity score was calculated by averaging the scores of the 10 types of sexual activity ($M\alpha = .95$). This score reflected both the breadth of sexual activity and the frequency of each activity; the number of different activities engaged in, however, was correlated with the frequency of each activity ($Mr = .47$). For the sake of brevity, we refer to the variable as frequency of sexual activity. We analyzed frequency of sexual activity as a continuous variable (vs. whether one had/had not engaged in sexual activity with a particular type of partner) for several reasons. Theoretically, we expected that the frequency of sexual activity, and not presence/absence

of sexual activity, would be associated with the adjustment indices. Secondly, sexual activity was quite prevalent, especially with a romantic partner. 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. Finally, the statistical analyses we used (multilevel modeling) were more appropriate for continuous variables.

Scale of Sexual Risk Taking (SSRT)

Participants completed the SSRT (Metzler, Noell, & Biglan, 1992), a 13-item scale assessing sexual risk-taking in the last 12 months (e.g. birth control use, drinking before or during sexual activities, sexual activities with a drug user drinking) and risk for HIV. We removed the five items asking about the occurrence and frequency of sexual intercourse, casual sex, or anal sex as these items would be confounded with our measure of sexual activity. The internal consistency of the scale was low ($M\alpha = .40$), but we retained the measure as it was a formative one (Edwards & Bagozza, 2000); that is, all items measured types of sexual-risk taking, and the more endorsed, the greater the risk. The questionnaires on sexual activity were administered by computer assisted self-interviewing techniques to increase the candor of responses.

Beck Depression Inventory (BDI)

Depressive symptomatology was assessed using the 21-item BDI (Beck, Steer, & Garbin, 1988; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Participants rated their feelings during the last week using a 3-point scale.

State-Trait Anxiety Inventory (STAI)

Anxiety was assessed using the 20-item trait anxiety scale on the STAI (Spielberger, 1983). Each item was rated on a 4 point scale and then averaged to create a total anxiety score for each wave ($M\alpha = .92$).

Adult Behavior Checklist (ABCL)

Friends and mothers rated the participants' externalizing behavior during the last six months on the ABCL (Achenbach, 1997). Each of the 35 items were rated on a 3-point scale and then averaged to obtain externalizing symptom scores for each wave ($M\alpha = .91$).

Adult Self Report (ASR)

Participants completed the ASR, which contained a 35 item externalizing scale and a 39 item internalizing symptom scale

(Achenbach, 1997). Participants rated how often they experienced these symptoms during the last six months on a 3-point scale ($M \alpha = .89$).

Drug Involvement Scale for Adolescence (DISA)

On the DISA (Eggert, Herting, & Thompson, 1996), participants reported on their use of beer, wine, liquor, marijuana, and other drugs (e.g., cocaine) over the last 30 days. Frequency of each substance use was scored on a 7-point scale ranging from never to every day. Additionally, they completed a 16 item measure assessing adverse consequences arising from substance use ($M \alpha = .92$) and an 8 item measure assessing difficulties in controlling substance use ($M \alpha = .88$). The questionnaires on sexual activity and substance use were administered by computer assisted self-interviewing techniques (CASI).

Friend's Report of Substance Use

As part of their version of Messer and Harter's (1986) Adolescent Self-Perception Profile (ASPP), friends were asked additional questions about the participant's use of alcohol and drugs and problems related to the use of those substances. The scale consisted of 5 items using a 4 point structured alternative format ($M \alpha = .86$). For example, one item read "Some people have problems by drinking alcohol BUT other people *don't* have problems caused by alcohol". Friends were asked to select the statement which was true of the participant, and then asked to indicate if it was "Really True of My Friend" or "Sort of True of My Friend." The five items were averaged to derive the friend report of the participant's substance use and problems ($M \alpha = .82$).

Adult Self-Perception Profile (ASPP)

Participants, friends, and mothers rated the participant's global self-esteem using an abbreviated form of Messer and Harter's (1986) scale on the ASPP. The scale consisted of 5 items using a 4 point structured alternative format ($M \alpha = .86$).

Derivation of Composites

We derived composite scores for most psychosocial adjustment variables so as to increase the validity of the measure and reduce problems of shared method variance. Participants', mothers', and friends' reports on the ASPP were standardized across waves and averaged to obtain a composite measures for each domain. Similarly, the participants report of externalizing symptoms on the ASR and the friends and mothers' reports of externalizing symptoms on the ABCL were standardized across waves and averaged to derive an index of externalizing symp-

toms ($M r$ among reporters = .32). Consistent with the hierarchical model of internalizing symptoms (Achenbach, 1991), BDI depression scores, STAI anxiety scores, and ASR internalizing symptom scores were each standardized across waves and averaged to derive an index of internalizing symptoms ($M r$ among scales = .70).

The participants' reports of beer/wine drinking and their reports of drinking liquor were each standardized across waves and averaged to derive a measure of alcohol use. Similarly, the participants' reports of marijuana use and their reports of other drug use were standardized across waves and averaged to derive a measure of drug use. The participants' reports of problems and their reports of control problems were each standardized across waves and averaged to derive a measure of problem usage. The friends' reports of substance use were also standardized across waves. The alcohol, drug, and problem usage, and friends' reports of substance use were correlated with each other ($M r = .49$) and thus averaged to derive a measure of substance use.

Results

Preliminary and Descriptive Analyses

The small proportion of outliers on the variables ($M = 3.8\%$) were Winsorized to fall 1.5 times the interquartile range below the 25th percentile or above the 75th percentile. The skew and kurtosis of the resulting variables were all satisfactory (Behrens, 1997).

Eighty percent reported sexual activity with a romantic partner in Wave 5, 71 % in Wave 6, and 76 % in Wave 7. Fifty-one percent reported sexual activity with a friend in Wave 5, 53 % in Wave 6, and 47 % in Wave 7. Fifty percent reported sexual activity with an acquaintance in Wave 5, 50 % in Wave 6, and 41 % in Wave 7. Twenty-eight percent reported sexual activity with a friend with benefits in Wave 5, 23 % in Wave 6, and 17 % in Wave 7. Correlations between frequencies of sexual activity with a partner across waves ranged from $r(171) = .49$ to $.69$, those with a friend ranged from $r(170) = .35$ to $.42$; those with an acquaintance ranged from $r(168) = .37$ to $.47$, and those with a friend with benefits ranged from $r(172) = .23$ to $.31$. Further descriptive statistics can be found in Furman and Shaffer (2011) or upon request from the corresponding author.

Longitudinal Analyses Predicting Change in Adjustment

Friends

We conducted hierarchical linear models to test whether more frequent sexual activity with friends at Time N would predict increases in substance use, risky sex, internalizing

symptoms, externalizing symptoms, and self-esteem at Time $N + 1$. For these analyses, each model had the following form.

$$\begin{aligned} \text{Level 1 : } Y_i &= \beta_0 + \beta_1(\text{sexual activity with friends}) \\ &\quad + \beta_2(\text{adjustment time } N) + \beta_3(\text{Age}) + r_i \\ \text{Level 2 : } \beta_0 &= \gamma_{00} + \gamma_{01}(\text{gender}) + u_0 \\ \beta_1 &= \gamma_{10} + \gamma_{11}(\text{gender}) \\ \beta_2 &= \gamma_{20} + \gamma_{21}(\text{gender}) \\ \beta_3 &= \gamma_{30} \end{aligned}$$

In these models, Y represented the dependent adjustment variable (substance use, risky sex, internalizing symptoms, externalizing symptoms, or self-esteem) for individual i at Time $N + 1$. We examined the effect of sexual activity with friends (β_1) controlling for the effects of adjustment at Time N (β_2) and age (β_3). To test for potential interactions between sexual activity and gender, gender was included in a second step as an additional Level 2 variable. The model was conducted in two steps to examine the interaction effects independently from the main effects to avoid concerns of conditionality (Little, 2013). Frequency of sexual activities with friends at Time N did not significantly predict substance use, risky sex, internalizing, externalizing, or self-esteem at Time $N + 1$, after controlling for prior levels of the corresponding adjustment variables and age. There were no significant main or moderating effects of gender.

Acquaintances

We conducted similar models to test whether more frequent sexual activity with acquaintances at Time N would predict increases in substance use, risky sex, internalizing symptoms, externalizing symptoms, and self-esteem at Time $N + 1$. Frequency of sexual activity with acquaintances at Time N significantly predicted risky sex at Time $N + 1$ ($\beta_1 = 0.31$, $p = .003$), after controlling for prior levels of risky behavior and age. Sexual activity with acquaintances at Time N did not significantly predict substance use, internalizing, externalizing, or self-esteem at Time $N + 1$. There were no significant main or moderating effects of gender.

Friends with Benefits

We conducted similar models to test whether more frequent sexual activity with a friend with benefits at Time N would predict increases in substance use, risky sex, internalizing symptoms, externalizing symptoms, and self-esteem at Time $N + 1$. Frequency of sexual activity at Time N did not significantly predict substance use, risky sex, internalizing, externalizing, or self-esteem at Time $N + 1$, after controlling for prior levels of the corresponding adjustment variables. Similarly, no main or moderating effects of gender were found.

Romantic Partners

We conducted similar models to test whether more frequent sexual activity with a romantic partner at Time N would predict increases in substance use, risky sex, internalizing symptoms, externalizing symptoms, and self-esteem at Time $N + 1$. Frequency of sexual activities with romantic partners at Time N did not significantly predict substance use, risky sex, internalizing, externalizing, or self-esteem at Time $N + 1$, after controlling for prior levels of the corresponding adjustment variable and age. There were no significant main or moderating effects of gender.

Longitudinal Analyses Predicting Change in Sexual Activity

Next, we conducted a series of similar models predicting changes in sexual activity with each type of partner from each psychosocial adjustment measure at Time N , controlling for the corresponding sexual activity at Time N and age. Only two significant effects were found. Risky sex at Time N predicted increases in sexual activity with friends at Time $N + 1$ ($\beta = 0.09$, $t(316) = 2.78$, $p = .006$). In addition, higher self-esteem at Time N predicted increases in sexual activity with a romantic partner at Time $N + 1$ ($\beta = 0.33$, $t(335) = 2.58$, $p = .01$). No gender interactions were found. In summary, we found little evidence of positive or negative longitudinal effects in either direction.

Between- and Within-Person Variation

Friends

We conducted hierarchical linear models to examine the between-person and within-person associations for frequency of sexual activities with a friend and substance use, risky sex, internalizing symptoms, externalizing symptoms, and self-esteem. Preliminary analyses were conducted to determine if the sexual activity scores varied with wave; no significant effects were found, which permitted us to use the standard formulas for disaggregating within-person and between-person effects (Curran & Bauer, 2011). Each model had the following form.

$$\begin{aligned} \text{Level 1 : } Y_i &= \beta_0 + \beta_1(\text{sexual activity with friends}) \\ &\quad + \beta_2(\text{age}) + r_i \\ \text{Level 2 : } \beta_0 &= \gamma_{00} + \gamma_{01}(\text{gender}) \\ &\quad + \gamma_{02}(\text{sexual activity with friends mean}) \\ &\quad + \gamma_{03}(\text{gender} \times \text{sexual activity with friends mean}) \\ &\quad + u_0 \\ \beta_1 &= \gamma_{10} + \gamma_{11}(\text{gender}) \\ \beta_2 &= \gamma_{20} \end{aligned}$$

In these models, Y represented the dependent adjustment variable (substance use, risky sex, internalizing symptoms, externalizing symptoms, or self-esteem) for individual i . The within-person association was examined at Level 1 by the term *sexual activity frequency with friends* (β_1). This term was group-mean centered—i.e., the scores reflected the frequency of sexual activity with friends relative to that person's average frequency of sexual activity with friends. At Level 1, *age* (β_2) was also included as an uncentered variable. The between-person association was examined at Level 2 by the term *mean sexual activity frequency with friends* (γ_{02}). This term was the person's average frequency of sexual activity and was grand mean centered so as to compare it to other participants' average frequency of sexual activity. In addition, interaction terms were included to explore gender as a potential moderator of both within-person and between-person effects of sexual activity on adjustment. 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}). As before, the models were conducted once to determine the main effects and a second time with the addition of the interaction terms, in order to avoid concerns of conditionality (Little, 2013).

Table 1 shows the results of these analyses. Though the main effects and interaction effects are shown together in Table 1, the results for the main effects were based on the first step of the model and the results for the interactions on the second step of the model. Consistent with our hypotheses, the substance use and risky sex within-subject effects were significant (see Table 1). That is, greater frequency of sexual activity with friends relative to one's own average frequency was associated with more substance use and more risky sexual behavior. Additionally, three between-person effects were significant. Specifically, consistent with our hypotheses, more frequent sexual activity with friend relative to other participants was associated with more substance use, riskier sex, and more externalizing symptoms. There were no main effects or within-person interactions of gender on the outcomes. Significant between-person gender interactions were found on externalizing symptoms and self-esteem. To interpret significant interactions, we plotted the associations between sexual activity frequency and the dependent variables for males and females using computation tools provided by Preacher, Curran, and Bauer (2006). The plots of externalizing symptoms and self-esteem are shown in Figs. 1 and 2, respectively. For women, externalizing symptoms was greater with more frequent sexual activity and self-esteem tended to be lower, $\beta = 0.92$, $t(465) = 4.04$, $p < .001$ and $\beta = -0.35$, $t(470) = 1.77$, $p = .08$, respectively. For men, externalizing symptoms and self-esteem did not significantly vary as a function of sexual activity frequency, $\beta = 0.06$, $t(465) = 0.33$, $p = .74$ & $\beta = 0.24$, $t(470) = 1.21$, $p = .23$, respectively.

Acquaintances

We conducted models to examine the between-person and within-person associations between sexual activity frequency with acquaintances and psychosocial adjustment (see Table 1). The substance use, risky sex, externalizing, and self-esteem within-subject effects were significant. As hypothesized, greater frequency of sexual activities with acquaintances relative to one's own average frequency was associated with greater substance use, greater risky sex, and more externalizing symptoms as well as lower self-esteem; externalizing symptoms were also greater. Additionally, three of the five between-person effects were significant. Specifically, more frequent sexual activity with acquaintances was associated with more substance use, risky sex, and externalizing symptoms.

A significant main effect of gender was found for risky sex, such that females had higher levels of risky sex than males. Significant gender interactions were found for the between-person effect of externalizing symptoms as well as for the within-person effect of substance use. To interpret significant interactions, we plotted the estimated effects of sexual activity frequency on change in the adjustment variables for males and females as previously described. The plots of externalizing and substance use can be found in Figs. 3 and 4, respectively. For women, externalizing symptoms and substance use were higher with greater sexual activity frequency, $\beta = .82$, $t(461) = 4.96$, $p < .001$ and $\beta = .19$, $t(466) = 2.07$, $p = .04$, respectively. For men, externalizing symptoms did not change and substance use increased, $\beta = .06$, $t(461) < 1$ and $\beta = .43$, $t(466) = 4.66$, $p < .01$, respectively.

Friends with Benefits

We conducted models to test the between-person and within-person associations with psychosocial adjustment for friends with benefits (see Table 1). All five of the within-subject effects were significant. As hypothesized, the more frequent sexual activity with friends with benefits relative to one's own average frequency, the more substance use, risky sex, internalizing symptoms, as well as lower self-esteem; externalizing symptoms were also greater. In addition, three of the five between-person effects were significant. Consistent with hypotheses, more frequent sexual activity with friends with benefits relative to other participants' frequency was associated with more substance use and risky sex; externalizing symptoms were also greater. There were no significant main or moderating effects of gender.

Romantic Partners

Finally, we conducted models to test the between-person and within-person associations with psychosocial adjustment for

Table 1 Summary of multilevel models testing the association between sexual activity with different types of partners and adjustment

| | Substance use | | | Risky sex | | | Internalizing | | | Externalizing | | | Esteem | | | |
|--|---------------|-------|-------------|-----------|-------|-------------|--------------------|-------|-------------|--------------------|-------|-------------|---------|-------|-------------|--|
| | B | SE | Effect size | B | SE | Effect size | B | SE | Effect size | B | SE | Effect size | B | SE | Effect size | |
| | | | | | | | | | | | | | | | | |
| Friends | | | | | | | | | | | | | | | | |
| Intercept (β_0) | 0.31*** | (.04) | | 2.34*** | (.06) | | 0.00 | (.06) | | -0.09 [†] | (.05) | | 0.02 | (.05) | | |
| Mean friends (γ_{00}) | 0.39*** | (.09) | .08 | 1.00*** | (.14) | .22 | 0.03 | (.15) | .00 | 0.36*** | (.13) | .05 | -0.03 | (.14) | .00 | |
| Friends (β_1) | 0.19*** | (.05) | .03 | 0.42*** | (.10) | .11 | 0.1 | (.07) | .00 | 0.07 | (.07) | .01 | -0.07 | (.06) | .00 | |
| Age (β_2) | 0.05** | (.01) | .03 | 0.03 | (.03) | .01 | -0.04* | (.02) | .01 | -0.05** | (.02) | .02 | 0.00 | (.02) | .00 | |
| Gender main effect (γ_{02}) | 0.00 | (.06) | .00 | 0.07 | (.12) | .00 | 0.17 | (.12) | .01 | -0.11 | (.01) | .00 | 0.08 | (.11) | .00 | |
| Mean friends \times Gender (γ_{03}) | 0.24 | (.21) | .01 | 0.27 | (.29) | .01 | 0.49 | (.29) | .00 | 0.66** | (.25) | .04 | -0.58* | (.28) | .02 | |
| Friends \times Gender (γ_{21}) | 0.15 | (.11) | .01 | 0.04 | (.21) | .00 | 0.10 | (.14) | .00 | 0.09 | (.14) | .00 | -0.05 | (.13) | .00 | |
| Acquaintances | | | | | | | | | | | | | | | | |
| Intercept (β_0) | 0.30*** | (.04) | | 2.33*** | (.05) | | -0.00 | (.06) | | -0.08 | (.05) | | 0.02 | (.06) | | |
| Mean acquaintances (γ_{01}) | 0.44*** | (.09) | .13 | 1.29*** | (.12) | .41 | 0.07 | (.14) | .00 | 0.35** | (.12) | .06 | -0.08 | (.13) | .00 | |
| Acquaintances | | | | | | | | | | | | | | | | |
| (β_1) | 0.24** | (.06) | .02 | 0.73*** | (.10) | .25 | 0.01 | (.07) | .00 | 0.14* | (.07) | .03 | -0.17** | (.06) | .02 | |
| Age (β_2) | 0.04*** | (.02) | .03 | 0.05* | (.03) | .01 | -0.04* | (.02) | .01 | -0.05* | (.02) | .00 | -0.01 | (.02) | .00 | |
| Gender main effect (γ_{02}) | -0.08 | (.10) | .00 | 0.28** | (.10) | .00 | 0.18 | (.12) | .01 | -0.05 | (.10) | .00 | 0.07 | (.11) | .00 | |
| Mean acquaintances \times gender (γ_{03}) | -0.04 | (.19) | .00 | 0.19 | (.24) | .01 | 0.41 | (.29) | .01 | 0.76** | (.23) | .06 | -0.35 | (.27) | .01 | |
| Acquaintances \times gender (γ_{21}) | -0.25* | (.11) | .01 | -0.09 | (.20) | .00 | -0.05 | (.14) | .00 | 0.07 | (.14) | .00 | 0.12 | (.13) | .00 | |
| Friends with benefits | | | | | | | | | | | | | | | | |
| Intercept (β_0) | 0.31*** | (.04) | | 2.34*** | (.06) | | 0.00 | (.06) | | -0.09 [†] | (.05) | | 0.02 | (.06) | | |
| Mean friends with benefits (γ_{01}) | 0.16* | (.06) | .04 | 0.62*** | (.09) | .23 | 0.01 | (.09) | .00 | 0.16* | (.08) | .02 | -0.04 | (.08) | .00 | |
| Friends with benefits (β_1) | 0.07** | (.03) | .02 | 0.25*** | (.05) | .05 | 0.08* | (.04) | .01 | 0.08* | (.04) | .01 | -0.09* | (.03) | .01 | |
| Age (β_2) | 0.05*** | (.01) | .03 | 0.04 | (.03) | .01 | -0.04 [†] | (.02) | .01 | -0.05** | (.02) | .02 | 0.00 | (.02) | .00 | |
| Gender main effect (γ_{02}) | -0.09 | (.10) | .00 | 0.03 | (.11) | .00 | 0.17 | (.12) | .01 | -0.12 | (.1) | .00 | 0.08 | (.11) | .00 | |
| Mean friends with benefits \times Gender (γ_{03}) | 0.18 | (.12) | .01 | -0.27 | (.19) | .01 | 0.15 | (.18) | .00 | 0.13 | (.15) | .00 | -0.25 | (.17) | .01 | |
| Friends with benefits \times Gender (γ_{21}) | -0.02 | (.06) | .00 | -0.06 | (.11) | .00 | -0.03 | (.08) | .00 | 0.02 | (.07) | .00 | 0.02 | (.07) | .00 | |
| Romantic | | | | | | | | | | | | | | | | |
| Intercept (β_0) | 0.31*** | (.04) | | 2.35*** | (.06) | | -0.00 | (.06) | | -0.09 | (.05) | | 0.03 | (.05) | | |
| Mean partners (γ_{01}) | 0.07** | (.02) | .04 | 0.16*** | (.04) | .08 | -0.08* | (.03) | .03 | -0.02 | (.03) | .00 | 0.11** | (.03) | .07 | |
| Partners (β_1) | -0.01 | (.01) | .00 | 0.02 | (.03) | .02 | 0.03 | (.02) | .00 | -0.01 | (.02) | .00 | -0.01 | (.02) | .00 | |
| Age (β_2) | 0.05*** | (.01) | .03 | 0.03 | (.03) | .01 | -0.04* | (.02) | .01 | -0.05** | (.02) | .02 | -0.00 | (.02) | .00 | |
| Gender main effect (γ_{02}) | 0.1 | (.06) | .00 | -0.11 | (.13) | .00 | 0.22 [†] | (.12) | .01 | -0.1 | (.01) | .00 | 0.02 | (.11) | .00 | |
| Mean partner \times Gender (γ_{03}) | -0.01 | (.06) | .00 | -0.1 | (.08) | .01 | 0.05 | (.07) | .00 | 0.02 | (.06) | .00 | 0.03 | (.06) | .00 | |
| Partner \times Gender (γ_{21}) | 0.01 | (.03) | .00 | -0.02 | (.05) | .00 | -0.01 | (.04) | .00 | -0.01 | (.03) | .00 | -0.04 | (.03) | .00 | |

The primary numbers in the table are the unstandardized coefficients for the fixed effects. Standard errors are in parentheses. Effect sizes follow the standard errors

[†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

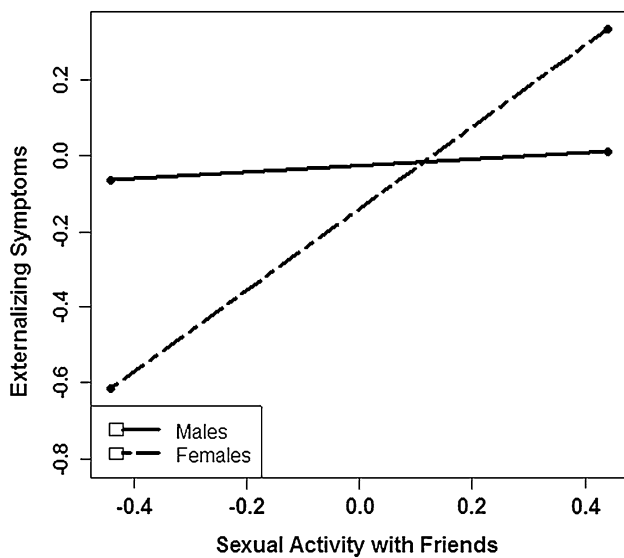


Fig. 1 Interaction between sexual activity frequency with friends and gender on externalizing symptoms

friends with benefits (see Table 1). Consistent with our hypotheses, more frequent sexual activity with romantic partners relative to other participants was associated with greater self-esteem, fewer internalizing symptoms, more substance use and more risky sex. No within-person effects on adjustment were significant. There were no significant main or moderating effects of gender.

Discussion

Theoretical arguments concerning nonromantic sexual activity have presented two conflicting perspectives; the first is that sexual activity with a nonromantic partner is associated with no adverse outcomes or potentially positive outcomes. The second theoretical perspective is that sexual activity with a nonromantic partner is associated with negative outcomes. The current study aimed to address and test these conflicting perspectives by examining the links between psychosocial adjustment and sexual activity with four types of partners (friends, acquaintances, friends with benefits, and romantic partners), using four different analytic strategies.

As discussed subsequently, we found little support for the theoretical idea that sexual activity with nonromantic partners is associated with positive psychosocial adjustment; instead, sexual activity, especially with friends with benefits, was primarily linked to negative aspects of psychosocial adjustment. The associations were only concurrent, not longitudinal, though the within-person associations make many third variable explanations seem implausible. In contrast, findings regarding sexual activity with a romantic partner were more mixed; sexual activity with romantic partners was

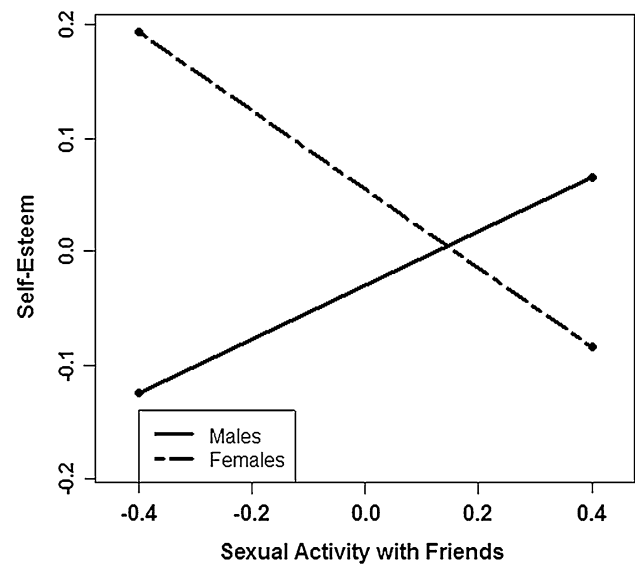


Fig. 2 Interaction between sexual activity frequency with friends and gender on self-esteem

linked to both positive psychosocial adjustment and risky behavior.

Similarities Across Types of Partners

Substance use was associated with sexual activity frequency with each of the different partner types. All between group effects were significant and all within-person effects, except that with a romantic partner, were significant. That is, the average frequencies of sexual activity with each type of partners were associated with more substance use; additionally, greater frequencies of sexual activity with each type of nonromantic partner relative to one's own typical frequency with that type of partner was also associated with greater substance use at that time. The present study's findings contribute to the literature in several ways. First, the present findings indicated that the association with substance use occurred not just with risky sex, but also with sexual activity in general, a topic that has received less attention. Moreover, the links occurred with all partners, not just nonromantic partners. Finally, the findings were present for within-persons as well as between-persons.

Although virtually all of the concurrent between-person and within-person effects were significant, sexual activity frequency was not predictive of subsequent increases in substance use nor was substance use predictive of changes in sexual activity frequency. When predictive relations are not found in either direction, a third variable is possibly responsible for the concurrent association. For example, individuals who were more extroverted and social may have been more likely to both engage in sexual activity and use substances.

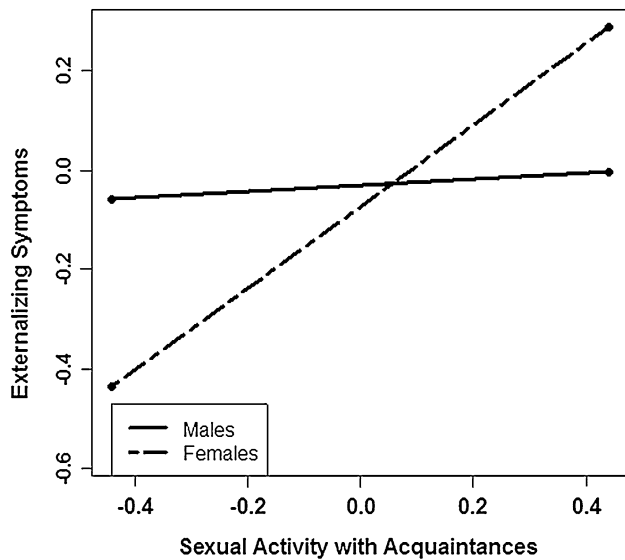


Fig. 3 Interaction between sexual activity frequency with acquaintances and gender on externalizing symptoms

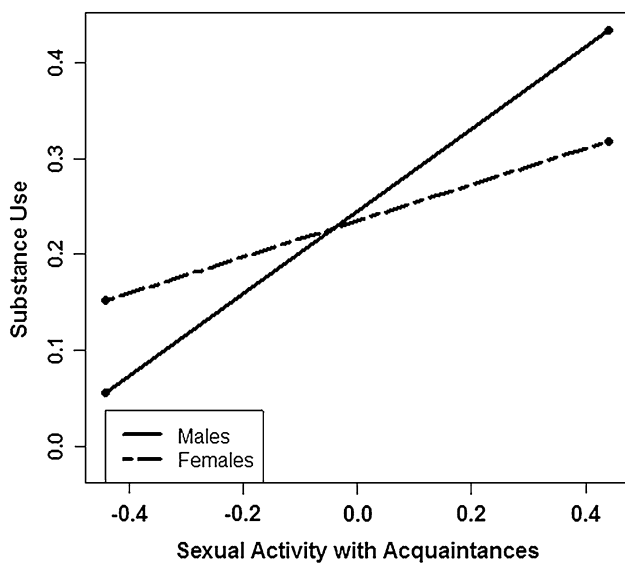


Fig. 4 Interaction between sexual activity frequency with acquaintances and gender on substance use

The present findings, however, cannot simply be attributed to a stable extroversion trait, as within-person effects were found as well. Such within-person effects required that the variable responsible for the effects varied over time with the outcome variable. Thus, an explanation for the current findings would need to include a state-like variable that varied over time with both sexual activity and substance use to account for the within-person effects but was also stable enough to account for the between-person effects. Perhaps the most plausible explanation is that there were concurrent

associations or short-term effects, but sexual activity frequency did not have a lasting effect on substance use (or vice versa).

Sexual activity frequency with each of the different type of partners was also associated with risky sexual behavior. All of the between-group effects were significant and all the within-person effects, except that with the romantic partner, were significant. The association between sexual activity frequency and risky sexual behavior could simply mean that more frequent sexual activity increased the chances that some risky sexual activity occurs; to put it another way, engaging in little or no sexual activity made it unlikely that risky sexual activity occurs. Alternatively, it is possible that those who engaged in more frequent sexual activity were more likely to engage in risky sexual behavior, even taking into account the amount of sexual activity they engaged in; that is, the proportion of sexual activity that is risky is higher. For example, those who have more sexual experience may feel more comfortable engaging in risky sexual behavior. Importantly, within-person effects also occurred. Thus, it was not simply the case that the type of person who engaged in more frequent sexual activity was more likely to engage in proportionally more risky sexual behavior; rather, when the person was engaging in more frequent sexual activity, s/he was also engaging in more risky sexual activity. This could have occurred if the kind of sexual activity varied as a function of the amount of sexual activity. Unfortunately the current study did not include the measures needed to test these alternative explanations. Nevertheless, the examination of within-person effects, as well as between-person effects, provides additional information that helps clarify the specific nature of the association.

Friends and Acquaintances

Significant between-person effects for externalizing symptoms were found for women's sexual activity frequency with friends and acquaintances. Women who engaged in more frequent sexual activity with either of these two types of partners had higher externalizing symptoms. Also, significant within-person effects for externalizing symptoms were found for both men and women's sexual activity frequency with acquaintances. When sexual activity frequency with acquaintances was high, relative to one's average amount of such sexual activity, externalizing symptoms were greater. It is unclear whether the associations stemmed from the effect of sexual activity with acquaintances on externalizing symptoms, or vice versa (third variable explanations are less likely as both between-person and within-person effects were found).

With regard to self-esteem, a significant within-person effect of sexual activity frequency with an acquaintance was observed. When men or women engaged in more sexual activity with acquaintances than usual, self-esteem was lower.

Such findings are consistent with Paul et al. (2000) findings that those who hook up have lower self-esteem than those who do not. Notably, women who engaged in more frequent sexual activity with friends overall only tended to be lower in self-esteem and men did not show this association. An examination of the findings for friends with benefits provides some clues for the difference in the associations for sexual activity with friends and acquaintances.

Friends with Benefits

The associations with psychosocial adjustment appear to be more extensive for frequency of sexual activity with friends with benefits than friends. Aside from the substance use and risky sex findings that were found for all relationships, two gender-specific results were found for friends whereas four results for both genders were found for friends with benefits. When engaging in more sexual activity with friends with benefits than usual, self-esteem was lower and internalizing and externalizing symptoms were higher.

The questions about friends with benefits were follow-up questions, for which participants were instructed to use their own definition of friends with benefits even if their partners in this category overlapped with some of their partners in the categories they had answered about already. It seems likely that many friends with benefits had been previously categorized as friends or acquaintances as well (see Furman & Shaffer, 2011). The fact that the categories of friends and friends with benefits overlapped, however, makes the differences in results more noteworthy. Not only was the amount of sexual activity greater with friends with benefits than with friends, but young adults engaged in fewer nonsexual activities with friends with benefits than friends (Furman & Shaffer, 2011). In effect, relationships with friends with benefits were more focused on sexual activity and less intimate in nature. Less intimacy in relationships is tied to both relationship and sexual dissatisfaction, which may account for the seemingly stronger associations between sexual activity with friends with benefits and problems in psychosocial adjustment (Byers & Demmons, 1999; MacNeil & Byers, 2005). Future research should assess whether level of intimacy is, in fact, associated with adjustment. Alternatively, those who have a friend with benefits are less thoughtful about making relationship decisions (Owen & Fincham, 2011a); less thoughtful decisions are expected to lead to relationship difficulties, which may, in turn, lead to problems in adjustment (Stanley, Rhoades, & Markman, 2006).

Romantic Partners

The present study offered a unique contribution by addressing positive and negative outcomes for romantic partnerships as well as for nonromantic sexual activity. The findings regarding sexual activity frequency with romantic partners provide further

evidence of the importance of relationship context. Consistent with our hypotheses, more frequent sexual activity with romantic partners was associated with higher self-esteem and lower internalizing scores. The associations with externalizing symptoms found for the three types of nonromantic partners were not found for romantic partners. In effect, frequency of sexual activity with romantic partners was more often associated with positive aspects of psychosocial adjustment than sexual activity with nonromantic partners was. Such differences could occur because dating is preferred to hooking up (Bradshaw, Kahn, & Saville, 2010). Additionally, adolescents who engage in intercourse with a romantic partner are more likely to feel good and less likely to feel guilty than those who engage in intercourse with a nonromantic partner (Donald, Lucke, Dunne, & Raphael, 1995). The current findings suggest a similar pattern persists into young adulthood. At the same time, no long-term effects of sexual activity with a romantic partner on psychosocial adjustment occurred except for a trend for risky sex to be greater. Moreover, all of the significant effects for romantic partners were between-person effects and not within-person effects. Thus, third variable explanations are certainly possible. For example, being in a relationship characterized as caring may lead to sexual intercourse and better adjustment. On the other hand, sexual activity frequency could impact adjustment by affecting the quality of the romantic relationship bond. Further work is needed to determine the causal links among sexual activity, relationship quality, and adjustment during young adulthood.

Gender Effects

Women's sexual activity frequency with a nonromantic partner was more commonly associated with poorer psychosocial adjustment than such activity by men. More frequent sexual activity with a friend tended to be associated with lower esteem for women. Women who engaged in more frequent sexual activity with friends or acquaintances were higher in externalizing symptoms whereas no significant effects were observed for men. The gender differences in findings are consistent with prior research. Women are more likely to regret hooking up (Campbell, 2008; Owen & Fincham, 2011b; Owen et al., 2010; Townsend & Wasserman, 2011) and are more likely to prefer dating to hooking up (Bradshaw et al., 2010).

Sexual Activity with Romantic and Nonromantic Partners

Sexual activity with a nonromantic partner is common, generally accepted among young adults, and often portrayed positively in the media (Kunkel et al., 2005; Paul et al., 2000). However, some social scientists have raised concerns about the impact of sexual activity with nonromantic partners (e.g.,

Bogle, 2008; Glenn & Marquadt, 2001; Paul & Hayes, 2002). The present study addressed these conflicting perspectives regarding nonromantic sexual activity by identifying the specific ways in which such sexual activity may be associated with psychological outcomes. Little evidence was found for long-term effects of sexual activity with nonromantic partners except for sexual risk taking behavior. At the same time, significant concurrent associations were found with psychosocial outcomes, especially for sexual activity with friends with benefits. If these associations reflected the effect of sexual activity with a nonromantic partner on adjustment, it would be of concern. Indeed, if these associations reflected the effect of adjustment on sexual activity with nonromantic partner, it would also be of concern, as such sexual activity may be an indicator of greater problems in adjustment over time (i.e., between-person effects) or heightened problems at a particular time (i.e., within-person effects).

The picture with regard to sexual activity with romantic partners was particularly complex. Once again, little evidence was found in the present study of long-term effects of sexual activity with romantic partners. Like sexual activity with nonromantic partners, sexual activity with romantic partners was concurrently associated with substance use and risky sexual behavior. On the other hand, sexual activity with a romantic partner was also concurrently associated with greater self-esteem and a tendency for internalizing symptoms to be lower. Further work will be required to identify the causal paths among these variables, but it seems fair to say that sexual activity with romantic partners may be associated with risks and benefits, just as romantic relationships overall are (Furman et al., 2009). It also seems fair to say that if young adults choose to engage in sexual activity, doing so within the context of romantic partnerships is associated with the fewer risks than sexual activity with nonromantic partners.

Limitations and Future Directions

The present study contributed to the literature on sexual activity by examining the pattern of associations with psychosocial adjustment longitudinally and by being one of the first to examine both within-person and between-person associations. However, the current study was not an experimental one, and thus, conclusions about causal effects are limited. At best, we can provide evidence that is either consistent with or inconsistent with different theoretical ideas about the direction of effects.

The present study gathered information about the general frequency of sexual activity and the frequency of symptoms or substance use at the global level. We did not examine what immediately preceded or followed a specific episode of sexual activity. Event level or moment-to-moment analyses of the associations may not reveal the same pattern of associations as analyses of global associations (Weinhardt & Carey,

2000). At the same time, event-level studies usually only include those who have engaged in the sexual activity of interest and usually only examine immediate outcomes; studies such as the present one can complement these studies by including all participants and examining the pattern of associations over longer periods of time.

The present study only examined the frequency of sexual activity with different types of partners and did not examine the number of partners, which is also associated with substance use (Ramrakha et al., 2013). Conversely, to the best of our knowledge, studies of the number of partners have not examined the type of partners. Future research should examine both dimensions simultaneously.

The present study contributed to the literature by examining how sexual activity frequency in different relationship contexts was predictive of and associated with a number of different facets of psychosocial adjustment. Some of the concerns raised about young adults' sexual activity with nonromantic partners, however, are that it might impact subsequent romantic relationships (Bogle, 2008; Glenn & Marquadt, 2001). Accordingly, an important topic for subsequent research will be to examine the associations between sexual activity and the characteristics of relationships subsequently.

Additionally, we hypothesized that sexual activity with a romantic partner may have a positive effect on psychosocial adjustment by affecting the characteristics of the relationship but we did not assess such relationship variables. Future work should determine whether changes in relationship characteristics mediate associations between sexual activity and adjustment.

Similarly, the present study examined sexual activity frequency in early adulthood, and findings cannot be generalized to other developmental periods. Further research is needed on the associations between sexual activity with nonromantic partners and psychosocial adjustment in different developmental periods. Finally, although relatively representative numbers of different ethnic groups and individuals with different sexual orientations were included, the sample primarily consisted of white heterosexual young adults. Future research should focus on specific ethnic groups and sexual orientations to determine if the overall patterns reported here are also characteristic of particular subgroups.

In summary, this was one of the first studies to examine how young adults' sexual activity frequency with different types of partners was associated with adjustment longitudinally, and concurrently between- and within-persons. The results underscore the importance of these distinctions and the benefits of examining associations using multiple analytic strategies. Contrary to the competing theoretical positions presented, a simple answer on how sexual activity is linked to adjustment is not possible. Rather, a more nuanced approach is required. As we strive to understand the impact sexual activity has, we must consider who the partner is, what the index of adjustment is, and whether the associations are longitudinal or concurrent.

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