

The Role of Family Structure and Attachment in College Student Hookups

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Abstract We examined the relationship between family structure and hooking up among emerging adults ($N = 881$) and the extent to which attachment moderated this relationship. Neither family structure nor number of structure transitions were related to the number of hookup partners in the past 12 months. Having an avoidant attachment, being an underclassman, consuming more alcohol, and not being in an exclusive relationship were related to having a greater number of hookup partners, and avoidant attachment was a stronger indicator of hooking up for men than for women. Among those who had hooked up in the past 12 months (63.8 %), family structure did not significantly differentiate those having a penetrative sex hookup (i.e., oral sex and/or intercourse) versus a non-penetrative sex hookup (i.e., kissing and/or sexual touching only). Findings were discussed in terms of their methodological implications for studying hookups, such as the collection of event level data and examining how family structure influences other correlates of hooking up.

Keywords Attachment · Family structure · Hooking up · Emerging adulthood

Introduction

In the U.S., high rates of divorce, remarriage and non-marital childbearing result in an increased likelihood of children living in stepfamilies (Cherlin, 2010), and children who experience these families prior to adulthood are at greater risk for negative outcomes (Albrecht & Teachman, 2003). Specifically, persons from non-intact families show an increased likelihood of early sexual debut (Baumer & South, 2001) and decreased commitment within relationships (Miles & Servaty-Seib, 2010). An easy inference to make from these observations is that persons from non-traditional family backgrounds are more likely to engage in casual or non-committed sex; however, research has failed to establish a direct link between family structure and non-committed sex, possibly because the few studies exploring this relationship measured family structure broadly (Fielder & Carey, 2010a; Owen, Rhoades, Stanley, & Fincham, 2010).

The purpose of our study was to examine the relationship between family structure and the casual sexual relationship referred to as “hooking up.” We used an emerging adult sample, because this developmental period (ages 18–25) is characterized by relational and sexual exploration (Arnett, 2000). College provides a context where sexual exploration is common (Bogle, 2008) and a majority of adolescents today become college students prior to age 25 (U.S. Department of Education, National Center for Education Statistics, 2011); hence, we examined these links among college students. We move beyond broad comparisons of young adults from intact and divorced families to examine the influence of more specific measures of family structure in two sets of analyses. First, we compared those whose parents remained divorced and those whose parents went on to

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remarry with those from intact two-parent families. Second, we analyzed the role of number of overall family structure transitions. We also examined the moderating roles of attachment and gender on the relationship between family structure and number of different hookup partners.

Hooking Up

Although a variety of casual sex relationships among college students have been identified, one garnering a great deal of recent attention is hooking up (Owen et al., 2010). Hookups typically take place between individuals who recently met (e.g., Gute & Eshbaugh, 2008; Paul & Hayes, 2002), who are friends, former partners, or known acquaintances (Fielder & Carey, 2010b) and can involve a variety of sexual behaviors ranging from deep kissing to intercourse (vaginal/anal; Owen, Fincham, & Moore, 2011). Generally, hookups include a lack of expectations for future involvement in a committed relationship (Epstein, Calzo, Smiler, & Ward, 2009).

Reported prevalence rates among this population vary. About 70–78 % of college students hookup over their college experience (Paul & Hayes, 2002; Paul, McManus, & Hayes, 2000), and 52–57 % of college students report a hookup in the past 12 months (Owen et al., 2010, 2011). Many individuals hookup more than once within these time frames (Paul & Hayes, 2002; Paul et al., 2000). Also, they often report having several hookup partners concurrently or separately within a short time frame (Kelley, Borawski, Flocke, & Keen, 2003), giving rise to concerns about increased exposure to health risks, particularly if hookups are penetrative (e.g., oral sex, vaginal and/or anal intercourse) and no protective methods are used.

Family Background Factors

Family background has been shown to influence sexual engagement (Albrecht & Teachman, 2003) and it may influence hooking up, but this has received limited attention. Levinson, Jaccard, & Beamer (1995) examined the role of perceived parental opposition to premarital sex on participants' casual sex attitudes and number of sexual partners; they found no significant relationship among these variables. Fielder and Carey (2010a) studied the role of perceived parental attitudes about hooking up, parents' marital status, and parental discouragement of relationships on hooking up. They found that individuals reported a greater number of oral sex partners when their parents expressed greater discouragement of relationships, and this relationship was stronger for those who reported greater levels of situational triggers for hooking up (e.g., others are hooking up, met someone at a bar or party). Owen et al. (2010) included measures of perceived parental conflict, parental income, and parents' mari-

tal status as potential correlates of hooking up. Only parents' income was related to hooking up, but this relationship did not hold in multivariate analyses.

Studies using adolescent samples show that family structure influences sexual behaviors and attitudes. For example, compared to adolescents raised in stepfamilies and single-parent families, those raised in intact two-parent families had the lowest prevalence of early sexual initiation (Baumer & South, 2001; Browning, Leventhal, & Brooks-Gunn, 2005), and daughters in single-parent families were at greater risk for such activities (Miller et al., 1997). Research using emerging adult samples has focused on the romantic rather than the sexual aspects of relationships, such that parental divorce was negatively linked with intimacy and effective communication (Mullett & Stolberg, 2002).

A few studies addressed the influence of parents' marital status on hooking up and found no relationship. This may reflect the typical practice of assessing parents' marital status with dichotomous indicators. Fielder and Carey (2010a) measured parents' marital status by asking participants if their parents were currently married. Owen et al. (2010) assessed family structure by asking participants if their biological parents had ever divorced. Such dichotomous measures failed to address the complexity of family structure and the crucial role of family transitions in understanding a variety of adolescent and young adult outcomes. Specifically, some research shows that the negative effects of divorce and remarriage are less about current family structure and more about the number of family structure transitions (e.g., Cavanagh & Huston, 2006). It may be that those experiencing more transitions overall, and therefore greater family structure instability, are at greater risk for potential negative outcomes, including a greater number of casual sex partners (i.e., hookups) and increased exposure to health risks (i.e., sexually transmitted infections) during hookups that include penetrative sex behaviors. Additionally, young adults from divorced families may be more inclined to participate in relational behaviors which are less stable and less committed (e.g., hookups) because commitment and stability were lacking in the relationships modeled by their parents compared with those whose parents remained together; however, based on these assumptions, young adults whose parents went on to remarry may actually benefit from a better relationship modeled by one or both remarried parents. Yu and Adler-Baeder (2009) found that the *quality* of a parent's remarital relationship was more related to the current relationship quality for young adults than that of their divorced parents' relationship. Thus, in the current study we examined the role of family structure first by comparing those from intact and divorced two-parent families, distinguishing between those whose parents remained continuously divorced and those whose parent(s) remarried/repartnered. We then examined the role of overall family structure transitions as a measure of family structure stability.

The Role of Attachment

One useful theoretical perspective on hooking up among college students is offered by attachment theory. Attachment theory is based on Bowlby's (1969) work on parent–child relationships, which suggests that children who experience parents as available and responsive are likely to develop a secure attachment. When parents are not available or are unresponsive, children are more likely to become anxious or avoidant in their attachment. As children develop internal concepts or working models of others, they draw upon their relationship with parents or early caregivers. These working models lead them to view themselves and others either positively or negatively, and such views develop into a pattern of relating to others which persists beyond childhood (Fraley & Shaver, 2000).

Scholars have extended Bowlby's (1969) study of attachment to examine adult attachment, where the primary attachment figure of interest is a romantic partner or spouse. Individual attachment dimensions include avoidance (a measure of comfort with intimacy and closeness) or anxiety (a measure of concern regarding abandonment in relationships; Mikulincer & Shaver, 2007). A few recent studies examined the link between adult attachment and sexual behaviors in young adults and report mixed findings. Using the Adult Attachment Scale, Owen, Rhoades, Stanley, and Fincham (2010) found no significant relationship between attachment and hooking up, using a large sample of undergraduate students. However, findings from other studies confirmed an association between attachment and hooking up. For example, Paul, McManus, and Hayes (2000) found that participants who reported not having hooked up also reported having a more secure attachment, and those who reported having a sexual hookup also reported having a more anxious attachment style. Bogaert and Sadava (2002) found that anxious attachment was related to earlier sexual initiation, increased number of sexual partners, and more frequent infidelity in adult relationships. In their sample of 328 college students, Gentzler and Kerns (2004) found that those who reported having an anxious attachment style also reported a greater number of sexual partners, and those who reported an avoidant attachment style were more likely to engage in casual sex than were those with a secure attachment style. Having an avoidant attachment style in emerging adulthood is also related to alcohol and substance use (Tracy, Shaver, Albino, & Cooper, 2003) and such use was linked with an increased likelihood of hookups (Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012). In contrast, anxiously attached individuals tend to use sex to cope with feelings of insecurity and to gain their partner's love (Schachner & Shaver, 2004), initiating a sexual relationship with others more quickly than those who are securely attached (Feeney, Noller, & Patter, 1993) and increasing the likelihood of engaging in sexual involvement prior to establishing an emotional commitment.

Although previous studies have not found a significant relationship between family structure and emerging adult hookups,

the noted evidence is strong linking sexual behaviors and attachment styles. There also appears to be an association between family structure and sexual behaviors in adolescence (Browning et al., 2005). The presence of this relationship during adolescence and the strong relationship between attachment and sexual behaviors in emerging adults (Paul et al., 2000) suggests that the relationship between family structure and sexual behaviors may only be significant for those with an insecure attachment (anxious and/or avoidant), which may represent an additional risk factor for individuals from a family of divorce who attend college. Thus, the relationship between family structure and hooking up may only exist, or be stronger, for those who are insecurely attached, with secure attachment serving as a protective factor for individuals from families of divorce or stepfamilies. We examined the role of attachment security and its potential moderating effects on the association between family structure and emerging adult hookups and hookup behaviors. We suggest that perhaps previous studies may have failed to find a link between family structure and hooking up in emerging adults, because by the time adolescents reach emerging adulthood, the influence of family structure only remains for those who are insecurely attached.

The Role of Gender

Research suggests that gender is an important predictor of emerging adults' sexual behaviors. Overall, some studies report that men are more likely to hookup than women (e.g., Grello, Welsh, Harper, & Dickinson, 2003), whereas others failed to replicate this finding (e.g., Owen et al., 2010). However, most studies of sexual behaviors include gender, because men are shown to be more accepting of casual and non-marital sex compared to women (Petersen & Hyde, 2010).

Gender may influence how family structure and attachment are associated with sexual behaviors. Adolescent females who grow up in single-parent families have been shown to be at greater risk for early sexual initiation, yet no differences were found for males (Miller et al., 1997). For emerging adults, the influence of parental divorce on intimacy and communication was stronger for women than men (Mullet & Stolberg, 2002), suggesting that the influence of family structure during emerging adulthood may vary by gender. Finally, women with an anxious attachment were more likely to engage in sexual risk taking than anxiously attached men (Bogaert and Sadava, 2002). Thus, we examine the moderating role of gender on the associations of both family structure and attachment with hooking up.

Other Correlates of Hooking Up

Year in school is another correlate of interest. Bogle (2008) suggested that underclassmen (freshmen or sophomores) may be more likely to hookup than upperclassmen. Given the

prevalence of hooking up on college campuses, she suggested that some college students perceive hooking up as a pathway to relationship formation (Bogle, 2008) and that this is one potential reason why younger college students hookup. A recent study by Olmstead, Pasley, and Fincham (2013) found that being an underclassman was associated with a greater likelihood of hooking up during the semester among college men; however, this finding did not hold in multivariate analyses or when examining penetrative sex hookups.

Limited attention has been devoted to the role of race or ethnic background in studies on hooking up. This is likely due to the limited diversity in the samples used, with most participants reporting as White (e.g., Bradshaw, Kahn, & Saville, 2010; Gute & Eshbaugh, 2008). One notable exception is Owen et al. (2010) who examined differences in hookups based on race/ethnicity in a large sample of undergraduates. They found that White students were more likely to have hooked up in the past 12 months than African American, Hispanic, or Asian American students.

Romantic relationships of emerging adults frequently change and are highly variable in terms of formation and duration (Arnett, 2004). Research on hooking up among this population typically omits those who report involvement in romantic relationships (e.g., Owen & Fincham, 2011; Owen et al., 2011), although Herold, Maticka-Tyndale, and Mewhinney (1998) found no differences in intentions to engage in casual sex by relationship status. Recent evidence (Olmstead et al., 2013) showed that being in a committed romantic relationship throughout the semester was associated with a lower likelihood of hooking up among college men, and relationship status remained significant in multivariate analyses. Thus, including individuals in committed romantic relationships allows further examination of the role of relationship status in college student hookups.

The extant literature on hooking up has consistently identified a link between alcohol consumption and hookup frequency and behaviors, even after controlling for a variety of individual psychosocial and demographic variables (e.g., Fielder & Carey, 2010a; Gute & Eshbaugh, 2008). Bogle (2008) provided a rich description of the role of alcohol use in hookups, wherein students who consumed alcohol at parties reported decreased inhibitions and decision-making ability. Hooking up while intoxicated often has been reported to result in feelings of shame, regret, and victimization, particularly among women (Flack et al., 2007), and heavy episodic drinking, or “binge drinking,” is particularly associated with an increase in higher risk sexual behaviors, such as casual sexual encounters and having multiple sexual partners (Cooper, 2002). Alcohol consumption influences casual sex relationships by lowering individuals’ inhibitions while also providing justification for hooking up (Vander Ven & Beck, 2009).

Each of these known correlates of hooking up are included in our analysis both to control for their known effects on the outcomes in previous research and to determine the magnitude of their influence on hooking up outcomes in the current study.

Potential Outcomes

Although hookups may include a range of behaviors (e.g., deep kissing to intercourse), some of these behaviors increase one’s exposure to health risks, including sexually transmitted infections and unplanned pregnancy (Lewis et al., 2012). Only recently have scholars examined the correlates of specific hookup behaviors (Fielder & Carey, 2010a; Lewis et al., 2012; Olmstead et al., 2013; Owen et al., 2011), which allows for an identification of those who may be exposing themselves to greater risks. Individuals are more likely to use condoms during sexual hookups when their hookup partner is a casual acquaintance or an ex-partner and when they are more approving of hooking up (Lewis et al., 2012). Although some students may protect themselves during sexual hookups by using condoms, contraceptive use during penetrative sex hookup encounters is inconsistent, particularly when hookups include oral sex (Downing-Matibag & Geisinger, 2009; Fielder & Carey, 2010b). Given that many individuals have multiple ongoing sexual partners (Kelley et al., 2003), public health concerns are warranted.

Current Study

By examining the unique role of attachment and family structure on college students’ reports of the number of hookup partners and hookup behaviors, we attempted to advance the extant literature in several ways. First, we examined the role of family structure with a level of specificity that is identified as meaningful (Yu & Adler-Baeder, 2009). Because research on the relationship between family structure and adolescent romantic relationships suggests that the number of family structure transitions may be more influential than family structure per se, we examined transitions in a separate set of analyses to determine which measure is more meaningful. Next, research has linked attachment and sexual behaviors; yet, limited attention has been given to attachment and hooking up (Stinson, 2010), or to the moderating effects of attachment on the link between family structure and sexual behavior. We explored this moderating effect to determine whether a relationship does exist between family structure and hooking up in the context of insecure attachment as an additional risk factor for individuals from families of divorce or stepfamilies. Next, we examined the moderating role of gender on both the relationship between family structure and hooking up and attachment and hooking up. Last, we add to the growing body of literature that specifies types of hookup behaviors (non-penetrative vs. penetrative) to identify individuals who may be more exposed to health risks.

We tested the following hypotheses:

1. Family structure history will be associated with number of hookups beyond that explained by other well-known correlates (gender, year in school, race/ethnicity, relationship status, alcohol use). Specifically, participants

from divorced and remarried families will report more hookup partners in the past 12 months than those from intact families.

2. Participants whose parents remarried/repartnered will report fewer hookup partners than those with continuously divorced parents.
3. Experiencing more family structure transitions will be positively associated with more hookup partners and a greater likelihood of penetrative sex behaviors during their most recent hookup.
4. Attachment security will moderate the relationship between family structure or number of transitions and hookup behaviors; those from divorced and remarried/repartnered families will report more hookup partners in the past 12 months, and this association will be stronger for those with a less secure attachment (more anxious or avoidant).
5. Gender will moderate the relationship between family structure and number of hookup partners, wherein the relationship will be stronger for women than for men.
6. Gender will moderate the relationship between attachment security and number of hookup partners, wherein insecure attachment will be more strongly related to number of hookup partners for women than for men.
7. Among participants who hooked up, those from non-intact families will be more likely to have penetrative sex hookups (oral sex and/or intercourse) during their most recent hookup encounter than those from intact families. This relationship will be stronger for women than men, and for those with a less secure attachment.

Method

Participants

Participants were undergraduate students at a large southeastern university enrolled in an introductory family relations course. Because the course fulfilled a liberal arts credit, students were enrolled from variety of disciplines. The original sample included 1,014 students. We limited participants to those aged 18–25 (emerging adults) who reported their family structure as intact two-parent, divorced, or remarried/repartnered ($N = 881$, 70 % female). Most (72.3 %) reported as White, 13.1 % as Latino, 8.2 % as African American, 2.7 % as Asian American, and 3.5 % as Other. Participants were on average 19.4 years of age ($SD = 1.33$), and the majority were underclassmen (freshmen, 37.9 %; sophomores, 32.1 %; juniors, 21.5 %; seniors, 8.5 %). About 72 % indicated being from intact two-parent families, 28 % had divorced or separated parents, and 22.8 % had at least one parent who was remarried or repartnered (see Table 1).

Procedure

Data were collected as part of a larger study that was approved by the university institutional review board. Within this larger survey, students provided information on whether parents had divorced and/or remarried/repartnered, the number of hookup partners they had in the past 12 months, and the specific behaviors that had occurred in their most recent hookup. Students completed the survey online at a time of their choice during the one week period in which the survey was open.

Table 1 Descriptive information for study variables ($N = 881$)

Variables	<i>M</i> or <i>n</i> (%)	<i>SD</i>	Range
Age (in years)	19.41	1.33	18–25
Gender			
Male	269 (30.5)		
Female	612 (69.5)		
School year			
Lower classman	617 (70)		
Upper classman	264 (30)		
Race and ethnicity			
White (reference)	637 (72.3)		
Hispanic	115 (13.1)		
African American	72 (8.2)		
Asian	24 (2.7)		
Other races and ethnicities	31 (3.5)		
Romantic relationship (exclusive)	351 (39.8)		
Family structure			
Intact (reference)	634 (72)		
Continuously divorced	46 (5.2)		
Remarried/repartnered	201 (22.8)		
Bing Drinking	3.07	2.42	1–9
Family structure transitions			
None (intact family)	634 (72)		
One	46 (5.2)		
Two	64 (7.3)		
Three	68 (7.7)		
Four	30 (3.4)		
Five or more	39 (4.5)		
Number of hookup partners	2.67	3.14	0–10
None	319 (36.2)		
1	125 (14.1)		
2–3	183 (20.7)		
4–5	96 (10.8)		
6–7	55 (6.3)		
8–9	32 (3.7)		
10 or more	71 (8.1)		
Intimacy (high risk)	354 (62)		
Avoidant attachment	15.21	7.9	6–42
Anxious attachment	19.94	7.34	6–42

Measures

Family Structure

Participants were asked to indicate their family structure as: parents are married and living together, parents separated or divorced, one parent is deceased, parents never married, or other. For our purposes, we limited the sample to those reporting their parents as married and living together or separated or divorced. Participants who reported the latter then indicated whether their mother, father, or both parents had repartnered or remarried and the outcome of this subsequent repartnering or remarriage (still together, no longer together, no longer together but with someone else). Based on their responses, participants' family structure was coded as: intact, continuously divorced (divorced and never remarried or repartnered), or remarried/repartnered.

Transitions

Variables were created to account for the number of family structure transitions. Parental divorce was counted as one transition. Respondents then reported on the first remarriage or repartnering of each parent, whether that relationship remained intact, and whether a new partnership followed dissolution. Each change in a parents' relationship status was considered an additional transition. Total transitions was a sum created by adding the parental divorce transition to subsequent transitions of each parent with a possible range of 0–7.

Attachment

Attachment was measured using the Experiences in Close Relationships Scale-Short Form (ECR) (Wei, Russell, Mallinckrodt, & Vogel, 2007), for which construct validity was supported across multiple studies with additional measures of anxiety, depression, emotional reactivity, emotional cut-off, and fear of intimacy. The ECR consists of two 6-item subscales (anxious and avoidant). Responses range from 1 (definitely not like me) to 5 (definitely like me) based on how well each item matches their experience. Higher scores indicated more anxious and avoidant attachments, and inter-item reliability was acceptable for each subscale (anxious = .76; avoidant = .85).

Gender

A dummy variable was created to indicate participants' gender and was coded as (1) female or (0) male.

Year in School

Participants indicated their year in school, and a dichotomous variable was created to indicate (1) junior/senior and (0) freshman/sophomore.

Race/Ethnicity

A dummy variable was created to indicate participants' race/ethnicity as (1) White or (0) All other races/ethnicities (African American, Latino/a, Asian American, Other).

Romantic Relationship Status

Participants indicated whether they were currently in a romantic relationship and, if so, the exclusivity of the relationship (e.g., dating non-exclusively, dating exclusively, engaged, married). For our purposes, individuals were coded as (1) exclusive romantic relationship and (0) no relationship/non-exclusive romantic relationship.

Alcohol Use

Alcohol use was measured as frequency of heavy episodic drinking (Cooper, 2002), or "binge drinking." Participants were asked how often in the last 30 days they had five or more drinks on one occasion, and responses ranged from (1) never happened to (9) more than ten times (Saunders, Asland, Babor, de la Fuente, & Grant, 1993).

Hookups and Hookup Behaviors

Participants were provided with the following definition of hooking up: "Some people say that a 'hookup' is when two people get together for a physical encounter and don't necessarily expect anything further (e.g., no plan or intention to do it again)." Participants were then asked, "Based on this definition, how many different people did you 'hookup' with in the past 12 months?" Responses ranged from 0 to 10 or more.

Participants also indicated the behaviors in which they engaged during their most recent hookup encounter, including kissing, petting, oral sex, and intercourse (vaginal/anal). A dummy variable was constructed to indicate (1) penetrative sex hookups (oral sex and/or intercourse) and (0) non-penetrative hookups (kissing and/or sexual touching).

Results

Descriptive and Bivariate Analyses

Descriptive results are shown in Table 1. Overall, 63.8% of participants reported a hookup in the past 12 months, and those who hooked up had an average of 4.16 (SD = 3.02, median = 3) hookup partners. Among those who had hooked up, men had an average of 4.81 (SD = 3.15, median = 4) partners, whereas women had an average of 3.78 (SD = 2.88, median = 3) partners; men reported significantly more hookup partners in the past 12 months, $t(405) = 3.86, p \leq .01$. A variety of behaviors

were reported regarding participants' most recent hookup, including kissing (90%), sexual touching (48.8%), oral sex (45.9%), and intercourse (vaginal/anal; 48.4%). Overall, 62% of those who hooked reported that their most recent hookup was penetrative (oral sex and/or intercourse). Among men, 75% reported a penetrative sex behaviors during their most recent hookup, whereas 54% of women did so; significantly more men than women reported that their most recent hookup included penetrative sex behaviors, $\chi^2(1, N = 562) = 23.53, p \leq .01$.

Bivariate correlations are presented in Table 2. Coming from a continuously divorced family was associated with both anxious ($r = .09, p < .01$) and avoidant ($r = .13, p < .01$) attachments. Being female was associated with a more anxious attachment style ($r = .09, p < .01$), and being anxiously attached was negatively correlated with being in an exclusive relationship ($r = -.20, p < .01$). Also, having more avoidant attachment was related to more frequent binge drinking ($r = .11, p < .01$) and not being in an exclusive relationship ($r = -.42, p < .01$).

Regarding parental transitions, upperclassmen and those in an exclusive relationship experienced more transitions ($r = .09, p < .05$ and $r = .07, p < .05$, respectively). Having a greater number of hookup partners was related to being an underclassman ($r = .17, p < .01$), being a male ($r = .23, p < .01$), not being in an exclusive relationship ($r = .30, p < .01$), more frequent binge drinking ($r = .47, p < .01$), and reporting more anxious ($r = .09, p < .05$) and avoidant ($r = .24, p < .01$) attachment.

Regression Analyses

Number of Hookup Partners

To examine the associations between family structure, transitions, attachment, and number of hookup partners, a set of

hierarchical regression analyses were conducted. In the model, gender, year in school, race/ethnicity, relationship status, and binge drinking were entered in Step 1 as known correlates of hooking up. Family structure was entered in Step 2, comparing those from continuously divorced families and remarried/repartnered families to intact families. In Step 3, anxious and avoidant attachment were included, and step 4 added a series of two-way interactions. To reduce issues of structural multicollinearity in the data, independent variables were centered prior to the creation of interaction terms (Kraemer & Blasey, 2006). For the second regression, each step mirrored the first regression, except family structure was replaced with the total number of transitions.

Hookup Behaviors

To examine correlates of non-penetrative versus penetrative sex hookups during participants' most recent hookup, hierarchical binary logistic regression analyses were run. Similar to earlier analyses, Block 1 included gender, year in school, race/ethnicity, relationship status, and binge drinking. Family structure was entered in Block 2, comparing divorced and remarried/repartnered families with intact families. Block 3 included anxious and avoidant attachment, and Block 4 included interactions terms. A second hierarchical binary logistic regression was run replacing family structure with number of transitions.

Family Structure and Hooking Up

Results are shown in Table 3. As expected, gender, year in school, relationship status, and binge drinking (Model 1) were associated with having more hookup partners. When family structure was added (Model 2), it was not related to hooking up. These findings did not support hypotheses 1 and 2, as the number of hookup partners did not vary for those in intact, divorced, or

Table 2 Young adult hookup behaviors and family structure: Correlations ($N = 881$)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Age	–										
2. Female	–.10**										
3. Upperclassman	.71**	.04									
4. Non-White	–.01	.04	–.00								
5. Exclusive relationship	.12**	.13**	.18**	.02							
6. Heavy episodic drinking	.04	–.26**	–.02	–.20**	–.14**						
7. Divorced	.04	.02	.01	.13**	–.08*	–.12**					
8. Remarried	.05	.00	.06	.03	.07*	.02	–.13**				
9. Transitions	.07*	.02	.09*	.06	.07*	.02	.03	.91**			
10. Avoidant attachment	–.06	–.06	–.07*	.05	–.42**	.11**	.13**	–.02	–.02		
11. Anxious attachment	–.08*	.09**	–.02	–.03	–.20**	–.01	.09**	–.05	–.04	.24**	
12. Number of hookup partners	–.09*	–.23**	–.17**	–.05	–.30**	.45**	–.05	–.01	–.00	.24**	.09*

* $p < .05$; ** $p < .01$

remarried families. When attachment was added (Model 3), avoidant attachment was associated with more hookup partners ($\beta = .11, p < .01$). When interaction terms were added (Model 4) to test for moderation, more frequent binge drinking was associated with having more hookup partners ($\beta = .29, p < .01$). Females ($\beta = -.08, p < .01$), upperclassmen ($\beta = -.12, p < .01$), and those involved in an exclusive romantic relationship ($\beta = -.16, p < .01$) had fewer hookup partners. Regarding moderation, only the gender \times avoidant attachment term contributed to the variance explained ($\beta = -.11, p < .01$). An examination of simple slopes showed that avoidant attachment was more strongly related to number of hookup partners for males ($\beta = .35, p < .01$) than females ($\beta = .18, p < .01$). This finding is contrary to expectations (Hypothesis 6). Also, Hypothesis 5 was not supported as interactions involving family structure were not significant. Taken together variables in this model explained 32 % of the variance in number of hookup partners in the past 12 months.

Transitions and Hooking Up

Next, we tested the relationship between the number of family transitions participants experienced and the number of hookup partners. Results revealed a similar pattern to earlier analyses (see Table 4), and transitions were not related to number of hookup partners, contrary to Hypothesis 4. Overall, the variables in this model explained about the same amount of the variance in number of hookup partners (31 %) as did the measure of family structure.

Family Structure and Hookup Behaviors

For these analyses, we focused only on participants who reported at least one hookup in the past 12 months ($n = 562$). We compared the effects of family structure and engaging in non-penetrative (kissing and/or petting only) versus penetrative sex (oral sex and/or intercourse) hookups during participants' most recent hookup encounter (see Table 5). Overall the model that included gender, year in school, race/ethnicity, relationship status, and binge drinking was significant, $\chi^2(5, N = 562) = 43.565, p < .01$, explaining 10.4 % of the variance (Nagelkerke R^2) in penetrative sex hookups; however, only gender and year in school were associated (both were negative) with having a penetrative sex hookup during their most recent hookup.

When family structure was added, no support was found for Hypothesis 3 as neither of the family structure variables were related to having a recent penetrative hookup, and adding these variables only added .4 % to the variance explained, with gender and year in school remaining significant. When attachment was added in Model 3, $\chi^2(9, N = 562) = 51.03, p < .01$, the amount of variance explained increased by 1.3 % (Nagelkerke R^2). Gender, year in school, and having avoidant attachment were negatively associated with having a penetrative sex hookup.

Interaction terms were then added in final model. Contrary to Hypothesis 7, no interaction effects were found, yet the overall model fit the data well based on the non-significant Hosmer and Lemeshow test, $\chi^2(8, N = 562) = 6.76$. A total of 13.4 % of the variance was explained in penetrative sex hookup behavior. Specifically, women were less likely than men to have a penetrative sex hookup during their most recent hookup experience (OR = .37), and participants were less likely to have a penetrative sex hookup for each unit increase in avoidant attachment (OR = .97). However, upperclassmen were more likely to have a penetrative sex hookup during their most recent hookup (OR = 2.23). Overall, about 88 % of those who had a penetrative sex hookup were correctly classified, whereas only 32 % of those having non-penetrative hookups were correctly classified.

Transitions and Hookup Behaviors

We also conducted similar analyses with family structure transitions (see Table 6). Results were similar to our analyses of family structure. When gender, year in school, race/ethnicity, relationship status, and binge drinking were entered, a significant effect was found for only gender and year in school, $\chi^2(5, N = 562) = 41.3, p < .01$, explaining 10.3 % of the variance (Nagelkerke R -square) in penetrative sex hookups.

Including number of transitions in Model 2 did not increase the variance explained. The overall model remained significant, $\chi^2(6, N = 562) = 41.5, p < .01$, but no support for Hypothesis 4 was found; gender and year in school remained significant. When avoidant and anxious attachment were added in Model 3, the model was significant, $\chi^2(8, N = 562) = 47.4, p < .01$, and explained an additional 1.4 % of the variance (Nagelkerke R^2). In addition to gender and year in school, avoidant attachment was negatively associated with having a recent penetrative sex hookup.

The addition of interaction terms for gender and attachment added little to the overall variance explained (1 %), although Model 5 remained significant, $\chi^2(13, N = 562) = 51.7, p < .01$. The model-data fit was good based on the Hosmer and Lemeshow test, $\chi^2(8, N = 562) = 7.24, p = .51$. In this final model, 81.4 % of those who engaged in penetrative sex hookups were correctly classified, but only 34.7 % of those who did not engage in penetrative hookups were correctly classified with gender, year in school, and avoidant attachment as significant predictors. After controlling for other variables, females were less likely to have a penetrative sex hookup (OR = .39), and participants were less likely to have a penetrative sex hookup for each unit increase in avoidant attachment (OR = .97). However, upperclassmen were more likely to engage in penetrative sex behaviors during their most recent hookup encounter (OR = 2.17).

Table 3 Summary of hierarchical regression analysis for variables predicting number of hookup partners in past 12 months: Family structure ($N = 881$)

Variable	Model 1			Model 2			Model 3			Model 4		
	<i>B</i>	<i>SE B</i>	β									
Female	-.58	.20	-.08**	-.58	.20	-.08**	-.61	.20	-.09**	-.55	.20	-.08**
Upperclassman	-.81	.20	-.12**	-.81	.20	-.12**	-.82	.20	-.12**	-.84	.20	-.12**
Non-white	.28	.20	.04	.29	.20	.04	.25	.20	.04	.18	.20	.03
Exclusive relationship	-1.34	.19	-.21**	-1.35	.19	-.21**	-1.03	.21	-.16**	-1.02	.20	-.16**
Binge drinking freq.	.39	.05	.30**	.39	.05	.30**	.38	.05	.29**	.38	.05	.29**
Family structure												
Divorced				-.30	.41	-.02	-.48	.41	-.03	-.37	.47	-.03
Remarried/repartnered				.03	.21	.00	.02	.21	.00	.06	.21	.01
Attachment												
Avoidant							.04	.01	.11**	.05	.01	.13**
Anxious							.01	.01	.03	.01	.01	.02
Interactions												
Gender \times divorce										.06	.93	.00
Gender \times remarried										-.84	.46	-.05
Gender \times avoidant										-.10	.03	-.11**
Gender \times anxious										.05	.03	.06
Divorced \times avoidant										-.01	.05	-.01
Remarried \times avoidant										.00	.03	.00
Divorced \times anxious										-.04	.06	-.02
Remarried \times anxious										-.01	.03	-.01
R^2	.30			.30			.31			.32		
F for change in R^2	61.43**			.28			7.35**			2.37*		

* $p < .05$; ** $p < .01$

Discussion

Hooking up is a salient behavior in college and is influenced by a variety of demographic and psychosocial variables. The role of family structure and transitions has not been adequately addressed, although a link between sexual behavior and family structure is noted among adolescent samples (e.g., Baumer & South, 2001; Browning et al., 2005). We examined this relationship among emerging adults and found that neither family structure nor transitions were related to the number of hookup partners over the past 12 months. There are several possible explanations for this finding.

First, once students arrive on campus it is possible that previous family experiences, including divorce or multiple family transitions, have little bearing on their sexual decision making in this less supervised environment. To an extent, our findings support this explanation, as being an underclassman (freshman/sophomore) was related to having more hookup partners. However, because we measured hookup partners in the last 12 months, incoming freshmen are reporting on a period when some of their hookups took place prior to college. Fielder and Carey (2010b) showed that many of the freshmen women in their study began hooking up prior to college, suggesting that

socialization into a hookup culture is taking place beforehand. Recent evidence demonstrates that hookups, within a college context, may be better predicted by one's subculture. For example, Barriger and Vélez-Blasini (2013) found that individuals were more likely to hookup based on an individual's perceived norms and expectations of their peers. Hookups among college students frequently are unplanned (Owen et al., 2010) and include alcohol consumption (Holman & Sillars, 2012). Given the immediate context of hookups, family experiences may be less influential than peers, spontaneity, and lowered inhibitions.

Another goal of the study was to examine the role of attachment in college student hookups, as called for by Stinson (2010). In bivariate analyses, students with more anxious or more avoidant attachment also reported more hookup partners, but in multivariate analysis the relationship held only for those reporting an avoidant attachment. This finding supports past research that college students with an avoidant attachment style had more casual sexual encounters (Gentzler & Kerns, 2004). Our findings indicate that the relationship between family structure (intact vs. non-intact or more structural transitions) and more hookup partners was not influenced by being anxiously or avoidantly attached. Thus, our study adds to the literature which

Table 4 Summary of hierarchical regression analysis for variables predicting number of hookup partners in past 12 months: Transitions ($N = 881$)

Variable	Model 1			Model 2			Model 3			Model 4		
	<i>B</i>	SE <i>B</i>	β									
Female	-.58	.21	-.09**	-.58	.21	-.09**	-.61	.21	-.09**	-.56	.21	-.08**
Upperclassman	-.82	.20	-.12**	-.83	.20	-.12**	-.84	.20	-.12**	-.87	.20	-.13**
Non-white	.30	.21	.04	.29	.21	.04	.25	.21	.04	.18	.21	.03
Exclusive relationship	-1.28	.19	-.20**	-1.29	.19	-.20**	-.97	.21	-.15**	-.96	.21	-.15**
Binge drinking freq.	.40	.06	.30**	.40	.06	.30**	.39	.06	.30**	.39	.06	.30**
Transitions				.03	.06	.02	.04	.06	.02	.05	.06	.02
Attachment												
Avoidant							.04	.01	.11**	.05	.01	.12**
Anxious							.01	.01	.03	.01	.01	.02
Interactions												
Gender \times transitions										-.25	.14	-.05
Gender \times avoidant										-.10	.03	-.11**
Gender \times anxious										.05	.03	.05
Transitions \times avoidant										.00	.01	.00
Transitions \times anxious										.00	.01	-.01
R^2	.29			.29			.30			.31		
F for change in R^2	57.44**			.32			6.56**			3.37**		

* $p < .05$; ** $p < .01$

has found no relationship between family structure and hooking up in emerging adulthood. Further, we also found that those from non-intact families did not engage in more risky sex behaviors than those from intact families, even when attachment was examined as a moderator of this relationship. Future research is needed to replicate this finding and examine in depth the role of avoidant attachment in the hookup behaviors of college students, specifically exploring the influence of other indicators of family structure, including time since divorce or duration of current family structure. There is some evidence to support the possible influence of time since divorce on attachment in women (see Crowell, Treboux, & Brokmeyer, 2009).

Results from the regression analyses largely support the findings of past research about the role of alcohol use on number of hookup partners (see Fielder & Carey, 2010a; Owen et al., 2010). In fact, after controlling for other variables, alcohol use had the greatest overall influence on hooking up. Our findings also supported Bogle's (2008) assertion that students who have been at college for less time (freshman/sophomore) are more likely to hookup. She suggested that this may be due to earlier socialization into a hookup culture coupled with lower levels of parental monitoring and the perception of hookups as a viable path to romantic relationship formation. Although this may be the case, other scholars note that a variety of motivations exist for hooking up among younger college students (see Fielder & Carey, 2010b), and future research might explore the socialization experiences of new college students with no prior hookup history into the campus hookup culture.

Regarding penetrative hookups, again family structure and transitions did not influence the penetrative nature of participants' most recent hookups. Attachment also had a limited role. Yet, we note a few interesting results. As for the role of attachment, although having an avoidant attachment was positively related to number of hookup partners, it was negatively associated with having a penetrative sex hookup. Perhaps individuals with an avoidant attachment prefer having a greater number of hookup partners. They might also see involvement in more intimate behaviors (i.e., oral sex and/or intercourse) as increasing the potential for forming a committed relationship, or that their hookup partner may hold this expectation. We also found that women were less likely than men to report that their most recent hookup was penetrative. This may suggest that men are more willing to engage in hookup behaviors which can increase their exposure to potential health risks (e.g., STIs). This is not surprising given that men engage more often in casual sex and hold more permissive attitudes about casual and non-marital sex (Petersen & Hyde, 2010). Further, although underclassmen had more hookup partners in the past 12 months, upperclassmen (juniors/seniors) were more likely to report a recent hookup that included penetrative sex behaviors. Thus, perhaps over time one participates in fewer hookups but is more willing to engage in penetrative hookups. We can only speculate about the possible escalation in hookup behaviors over time, as our data are cross-sectional in nature.

Last, the role of heavy episodic drinking varied based on our analyses. Consistent with previous studies (e.g., Fielder &

Table 5 Summary of hierarchical logistic regression analysis for variables predicting penetration during recent hookup: Family structure ($N = 562$)

Variable	Model 1			Model 2			Model 3			Model 4		
	<i>B</i>	SE <i>B</i>	Exp(β)	<i>B</i>	SE <i>B</i>	Exp(β)	<i>B</i>	SE <i>B</i>	Exp(β)	<i>B</i>	SE <i>B</i>	Exp(β)
Female	-.98	.21	.38**	-.99	.21	.37**	-1.01	.21	.37**	-.97	.22	.38**
Upperclassman	.74	.23	2.09**	.76	.23	2.13**	.77	.23	2.16**	.80	.24	2.23**
Non-white	.09	.22	1.09	.12	.22	1.12	.14	.22	1.15	.16	.23	1.17
Exclusive relationship	.35	.21	1.42	.33	.21	1.39	.20	.22	1.23	.21	.23	1.23
Binge drinking freq.	.07	.05	1.08	.07	.05	1.07	.07	.05	1.08	.07	.05	1.07
Family structure												
Divorced				-.54	.41	.58	-.47	.41	.62	-.21	.55	.81
Remarried/repartnered				-.13	.23	.88	-.13	.23	.88	-.10	.23	.91
Attachment												
Avoidant							-.03	.01	.97*	-.03	.01	.97*
Anxious							.01	.01	1.01	.01	.01	1.01
Interactions												
Gender \times divorce										-.72	1.01	.49
Gender \times remarried										.33	.49	1.39
Gender \times avoidant										-.02	.03	.98
Gender \times anxious										.05	.03	1.05
Divorced \times avoidant										-.10	.07	.90
Remarried \times avoidant										-.01	.03	.99
Divorced \times anxious										.07	.08	1.08
Remarried \times anxious										.03	.03	1.03
Constant <i>B</i>	.99			1.08			1.41			1.38		
Model χ^2	43.57**			1.87			5.60			7.47		
Degrees of Freedom	6			8			10			18		

* $p < .05$; ** $p < .01$

Carey, 2010a; Owen et al., 2010), greater levels of drinking was related to having more hookup partners in the past 12 months. This relationship was not found when examining specific hookup behaviors, a finding counter to that of Lewis, Granato, Blayney, Lostutter, and Kilmer (2012), who reported that individuals were more likely to engage in oral sex and intercourse during hookups, if they consumed greater amounts of alcohol in a typical week. One possible reason for this contradiction is our measurement of alcohol consumption. We focused on number of drinks in a typical drinking session in the past 30 days, whereas Lewis et al. measured number of drinks typically consumed during a week in the past 3 months. Because heavy episodic drinking in general is related to engaging in riskier sex behaviors (Cooper, 2002), we recommend caution in interpreting this finding and suggest that future studies continue to examine the role of typical and situational alcohol consumption in hooking up.

Limitations

Our findings should be considered in light of several limitations. Although our study sample was large, findings are not gener-

alizable to all college students. Participation was open to all students across the campus, but those who elected to enroll in the course may differ from those who chose otherwise. For example, our sample was 70 % female, which is a more severely skewed proportion compared to the general college population. Also, our sample came from one university, further limiting the generalizability of our findings. Future research should include multiple study locations from various regions across the country and from various types of colleges to obtain a more representative sample.

The study was cross-sectional rather than longitudinal. Because we relied on one data point, we cannot be confident that those who participated are likely to engage in future hookups. In other words, we cannot be sure how stable and consistent these patterns of behavior are. Although we asked about hooking up over the past 12 months, the item was retrospective and, thus, susceptible to over- or under-estimation. Similarly, regarding hookup behavior and the construction of a dichotomous variable, we cannot be certain that those who reported a penetrative hookup had multiple sequential penetrative hookups, or if it was a one-time occurrence. Further, we only examined the penetrative nature of the most recent hookup. Thus, our data may not

Table 6 Summary of hierarchical logistic regression analysis for variables predicting penetration during recent hookup: Transitions ($N = 562$)

Variable	Model 1			Model 2			Model 3			Model 4		
	<i>B</i>	SE <i>B</i>	Exp(β)	<i>B</i>	SE <i>B</i>	Exp(β)	<i>B</i>	SE <i>B</i>	Exp(β)	<i>B</i>	SE <i>B</i>	Exp(β)
Female	−1.00	.21	.37**	−1.00	.21	.37**	−1.01	.21	.36**	−.95	.22	.39**
Upperclassman	.70	.24	2.02**	.72	.24	2.04**	.73	.24	2.09**	.77	.24	2.17**
Non-white	.03	.22	1.03	.03	.22	1.04	.06	.22	1.06	.06	.23	1.07
Exclusive relationship	.39	.21	1.48	.40	.21	1.49	.25	.23	1.28	.25	.23	1.29
Binge drinking freq.	.06	.06	1.06	.06	.06	1.06	.07	.06	1.07	.07	.06	1.07
Transitions				−.03	.06	.97	−.03	.06	.97	−.02	.07	.98
Attachment												
Avoidant							−.03	.01	.97*	−.03	.01	.97*
Anxious							.00	.01	1.00	.00	.01	1.00
Interactions												
Gender × transitions										.14	.14	1.15
Gender × avoidant										−.02	.03	.98
Gender × anxious										.05	.03	1.05
Transitions × avoidant										−.01	.01	.99
Transitions × anxious										.00	.01	1.00
Constant <i>B</i>	.91			.93			1.37			1.26		
Model χ^2	41.31**			.19			5.87**			4.28		
Degrees of freedom	6			7			9			14		

* $p < .05$; ** $p < .01$

have captured individuals who frequently engage in penetrative hookups, yet did not do so during their most recent hookup encounter.

In our comparison of those with continuously divorced and remarried parents, we were able to account for the timing of parental divorce; yet, participants did not consistently report the timing of subsequent structural transitions. Thus, we were unable to examine the influence of more specific aspects of family structure history on hookups. Future research may benefit by addressing more dynamic components of family structure history, such as duration of current family structure or time between transitions.

Another limitation is that we did not assess instances of risky penetrative hookups, so we do not know if and how often participants used contraception (condoms) during these encounters. Penetrative hookups are not inherently risky if protection is used; we can only conclude that those who have penetrative hookups are increasing their exposure to possible health risks, such as STIs and unplanned pregnancy. There is evidence that among college populations, contraceptive use during penetrative hookups is limited and inconsistent, especially during oral sex (Downing-Matibag & Geisinger, 2009; Fielder & Carey, 2010b).

Implications

Our findings hold important implications for future research on hooking up among college student populations. Our findings

suggest that, once at college, family structure (and the number of family transitions experienced) has a limited influence on students' casual sex relationships. However, as we suggest, perhaps there are other family or background influences that may prove important to identifying who hooks up in college and the types of hookup behaviors that occur. Thus, future research needs to move beyond examining structure per se and focus more on the experiences of young adults from a variety of family structures that may influence their sexual behavior while attending college. For example, differences in family structure may affect personality or identity development which, in turn, increases one's susceptibility to becoming involved in hookup relationships. Thus, family structure variables may manifest in social (e.g., alcohol use) or individual (e.g., personality, psychological distress) factors that are otherwise linked with hooking up.

We also recommend that future research use a variety of methodologies to study hooking up. Event level data are needed to identify specific behaviors that occur when individuals hookup (e.g., drinking alcohol), locations where hooking up is most likely to occur (e.g., Greek parties), and steps taken (or not taken) to decrease exposure to health risks during penetrative sex hookups. For example, Fielder and Carey (2010b) used event level data to provide a richer context for understanding college students' hookup experiences among first semester freshmen women. In addition, future studies should move beyond number of hookup partners and examine number of hookups, as individuals may be hooking up with the same partner multiple times. These hookups increase exposure to

health risks, particularly if such instances are penetrative and unprotected. Similarly, longitudinal data are necessary to understand the extent to which hooking up is a consistent pattern that begins in adolescence, increases during early college, and tapers off over time. Also, longitudinal research would provide insight into the extent to which individuals consistently engage in penetrative or non-penetrative hookups and if there is a time when students move from non-penetrative to penetrative hookup behaviors. Such methodological approaches would help identify potential points of intervention to promote intentional sexual decision making and safer sex practices on college campuses.

We are not alone in emphasizing the need for college administrators and student health centers to increase student awareness of the importance of contraceptive use during sexual encounters that potentially pose important health risks. Efforts should be aimed at social environments that include alcohol consumption, as this study and others have identified the strong link between alcohol use and hooking up.

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