

Hooking Up and Penetrative Hookups: Correlates that Differentiate College Men

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Abstract One prominent pathway to sexual intimacy among college student populations is hooking up. Past research has largely compared men and women, with limited attention given to how men differ regarding involvement in hookups and their hookup behaviors. This study used a sample of 412 college men to examine the individual, social, relational, and family background correlates of (1) hooking up during a semester and (2) penetrative hookup encounters (e.g., oral sex, intercourse). Overall, 69% reported a hookup during the semester, with 73% of those who hooked up reporting penetrative hookups. Using logistic regression, men were more likely to hookup if they had an extraverted personality, were consuming more alcohol, and had previous hookup experience. They were less likely to hookup if they were more thoughtful about their relationship decisions and if they were in a stable, committed romantic relationship. Men also were more likely to engage in penetrative hookups only if they held more permissive attitudes towards sex and if they had previous penetrative hookup experience. Implications for intervention and research are discussed.

Keywords Emerging adults · Hooking up · Men · Sexual health · Casual sex

Introduction

College campuses offer multiple opportunities for the exploration of sexual relationships. Sexual decision making among college men and women is integral to their experiences during emerging adulthood (Allen, Husser, Stone, & Jordal, 2008). Among these decisions is whether to engage in sexual behaviors that may increase exposure to health risks [e.g., sexually transmitted infections (STIs)]. One prominent sexual behavior among this population is hooking up (Fielder & Carey, 2010a; Owen, Fincham, & Moore, 2011).

Although hooking up has been the focus of several studies comparing men and women (e.g., Lambert, Kahn, & Apple, 2003; Paul & Hayes, 2002), much less attention has addressed sexual behaviors specifically among college men (for exceptions, see Bancroft et al., 2004; Epstein, Calzo, Smiler, & Ward, 2009). Examining within-group variation among men might yield valuable insight into their sexual behaviors and provide specific points of intervention and prevention. The purpose of this study was to (1) examine within-group variation in the correlates of hooking up among a sample of college men and then (2) focus on those who hooked up to identify correlates of penetrative (e.g., oral sex and/or intercourse) hookups.

Hooking Up: Definition, Prevalence, and Exposure to Health Risks

Hooking up has a few important features. One feature is its ambiguous nature. An individual can report having “hooked up” without others knowing what types of behaviors occurred. Hookups include intimate activity, ranging from deep kissing to intercourse (vaginal or anal). Most researchers include this ambiguity in their definition of hooking up (e.g., Glenn & Marquardt, 2001; Owen, Rhoades, Stanley, & Fincham, 2010). A second feature is there is no (explicit) expectation for a future committed relationship

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(Bogle, 2008). Scholars report that hookup partners may be an individual one has recently met, a friend, a previous partner or an acquaintance (Fielder & Carey, 2010b; Gute & Eshbaugh, 2008).

The prevalence of college student hookups varies based on the length of time studied, but all reports suggest it is a common experience. Some report that 70–78% of college students have hooked up in college (e.g., Paul & Hayes, 2002; Paul, McManus, & Hayes, 2000) whereas others report that 52–57% have hooked up in the past 12 months (e.g., Owen et al., 2010, 2011). Individuals tend to hook up more than once, with some reporting averages of about 10 hookup partners (Paul & Hayes, 2002; Paul et al., 2000) and many report multiple concurrent hookup partners, potentially increasing their exposure to health risks (Kelley, Borawski, Flocke, & Keen, 2003). Specifically, penetrative hookups (i.e., oral sex and/or intercourse) may result in greatest exposure to STIs and unplanned pregnancy, and studies of condom use during penetrative hookups report limited and inconsistent use (see Downing-Matibag & Geisinger, 2009; Fielder & Carey, 2010b).

Correlates of Hooking Up

Generally, four types of correlates are addressed in the literature: individual, social, relational, and family background (e.g., Fielder & Carey, 2010a; Owen et al., 2010; Paul et al., 2000). When appropriate, we emphasize findings specific to men.

Individual Correlates

We attend to several individual factors: attitudes towards sex, religiosity, relationship awareness, year in school, race/ethnicity, personality, and previous hookup experience.

Attitudes towards sex. Compared to women, men generally report more permissive attitudes towards casual and non-marital sex (Petersen & Hyde, 2010). Two studies explicitly measured the relationship between attitudes towards non-committed sex and hooking up. Herold, Maticka-Tyndale, and Mewhinney (1998) found that men who reported previous hookup experience held more permissive attitudes towards sex and that such attitudes mediated the relationship between previous hookup experience and intentions to engage in future hookups. Owen et al. (2010) found that more permissive attitudes about sex were related to hooking up among both men and women.

Religiosity. Research on the relationship between religiosity and hooking up shows mixed results; some studies reported no relationship (e.g., Fielder & Carey, 2010a; Owen et al., 2010, 2011) and others reported a relationship (e.g., Burdette, Ellison, Hill, & Glenn, 2009; Penhollow, Young, & Bailey, 2007). Among men, those who reported lower levels of religiosity were more likely to report greater motivation to hookup (Levinson, Jaccard, & Beamer, 1995).

Relationship awareness. Hookups are not typically planned in advance (Bogle, 2008) and usually “just happen.” The concept of “sliding versus deciding” suggests that some individuals move through important relationship decisions (e.g., sex, childbearing, marriage) without being deliberate in their choice to do so (Pearson, Stanley, & Kline, 2005; Stanley, Rhoades, & Markman, 2006). Owen and Fincham (2011) developed the Relationship Awareness Scale (RAS) to examine individuals’ thoughtfulness and planning with regards to important relationship decisions. Owen et al. (2011) found that college students who reported greater relationship thoughtfulness (a subscale of the RAS) were less likely to hookup (penetrative and otherwise). However, this relationship was no longer significant after including additional variables (e.g., depression, alcohol use, loneliness).

Year in school. Bogle (2008) suggested a trend towards hooking up based on year in college wherein newer students (i.e., underclassmen) may be more susceptible to the campus hookup culture and use hookups as a pathway to relationships formation. Although a variety of motivations for hooking up are identified (e.g., sexual desire, spontaneous urges, partner attractiveness and/or willingness) (Fielder & Carey, 2010b), Bogle implied that, over time, newer students learn that hooking up is not a viable pathway to romantic relationships.

Race/ethnicity. Race or ethnic background has received limited attention in the hookup literature. This may be due to the use of predominantly Caucasian samples. An exception is Owen et al. (2010), who found that students identifying as White were more likely to hookup than those identifying as African American, Asian American, and Hispanic.

Personality. Personality has the potential to influence a variety of behaviors, including sexual behaviors. Few studies have attended to the role of personality in hooking up. One exception is Paul et al. (2000), who found that those who hooked up reported higher levels of exhibition, impulsivity, and autonomy and lower levels of harm-avoidance and succorance. Gute and Eshbaugh (2008) found that greater extraversion and neuroticism increased the likelihood of engaging in non-committed sexual behavior (e.g., sex only once, having penetrative sex in less than 24 h of knowing partner), but openness, conscientiousness, and agreeableness buffered individuals from these behaviors. Both included measures of alcohol use and found that personality continued to be related to hooking up.

Previous hookup experience. Those who have hooked up in the past are more likely to do so in the future (Fielder & Carey, 2010a; Herold et al., 1998; Maticka-Tyndale, Herold, & Mewhinney 1998; Owen et al., 2011). Herold et al. (1998) found that men who had hooked up in the past were also more accepting of noncommitted sex.

Social Correlates

Alcohol use is the social correlate most frequently examined in studies of hooking up among college students. We included it as

a social correlate, because college students were found to drink more in off campus social environments (Demers et al., 2002). Social gatherings (e.g., parties) that include alcohol are a prominent predictor of uncommitted sexual encounters (Bersamin, Paschall, Saltz, & Zamboanga, 2011). Studies consistently show a relationship between greater alcohol use and hookups whereas alcohol use is not typically associated with sexual encounters in committed romantic relationships (Fielder & Carey, 2010b). Importantly, research has repeatedly found that, after controlling for other key variables, alcohol use continues to predict hooking up (e.g., Fielder & Carey, 2010a; Flack et al., 2007; Gute & Eshbaugh, 2008; Owen et al., 2010).

Relational Correlates

Relationship experience, particularly formation and length, is in constant flux among emerging adults (Arnett, 2004). Few studies have examined relationship status and hooking up (for an exception, see Herold et al., 1998), largely because those in romantic relationships are often excluded. Doing so may eliminate those with previous hookups who are now in a romantic relationship. We included individuals who may have hooked up outside their romantic relationship and those who were not in romantic relationships, because both may experience increased exposure to STIs and unplanned pregnancy. It may also be that being in a self-identified committed romantic relationship deters future hookups.

Family Background Correlates

Among adolescents, scholars have linked family background factors (e.g., divorce) and sexual behaviors, such as hooking up (Manning, Longmore, & Giordano, 2005). Among emerging adult populations, studies of this link are limited. Those that have included such correlates report mixed results. For example, Levinson et al. (1995) examined the influence of parental attitudes about sex, casual sex, and number of sexual partners on hooking up; they found no relationship. Fielder and Carey (2010a) included parent's marital status, attitudes towards hooking up, and discouragement of relationships. In this case, no parental correlates influenced hooking up. Owen et al. (2010) examined the potential influence of perceived marital conflict, parental income, and parent's marital status (ever-divorced biological parents) on hooking up. Only parental income was correlated with hooking up; however, this effect was not significant after including other variables (e.g., religiosity, psychological well-being, alcohol use, attitudes about hooking up, gender, and ethnicity) in the analysis. Glenn and Marquardt (2001) found a link between divorce and reports of hooking up among college women.

Given the limited attention to family background influences on hooking up, we examined two variables. We include parent's current marital status and perceived parental conflict to examine the link to hooking up beyond family structure. That is, some high conflict couples remain married and some low conflict couples separate or divorce.

Hookup Behaviors

Hookups can include a variety of behaviors, such as kissing, fondling, oral sex, and intercourse (vaginal and/or anal). A few studies examined predictors of penetrative (i.e., oral sex and/or intercourse) hookups. For example, Paul et al. (2000) found that those who had penetrative hookups reported greater impulsivity, less harm avoidance and succorance, were more likely to have an erotic, rather than a companionate, love style, and had more fears of intimacy due to the potential loss of individuality. Fielder and Carey (2010a) found that college students who had penetrative hookups reported previous hookup encounters, higher levels of alcohol intoxication, and higher levels of situational triggers (e.g., willingness to hook up with someone met at a bar or party) compared to those who had non-penetrative hookups. Owen et al. (2011) differentiated among no hookup, non-penetrative (e.g., kissing or fondling), and penetrative (e.g., oral sex or intercourse) groups. Those who engaged in penetrative hookups reported higher levels of alcohol use whereas those reporting non-penetrative hookups were more likely to engage in similar hookups in the future.

The Current Study

In the present study, we attempted to contribute to the literature in several ways. Our focus was on college men's sexual health. A majority of studies on hooking up among college students included samples of both men and women. Although they often compare men and women, many have small samples of men. Thus, findings that make gender comparisons may largely be driven by female responses. Further, those comparing men and women fail to address potentially important within-group variations. Such within-group variation is critical to prevention and intervention programs and this study answered the call of researchers to report specifically on the experiences of men who are hooking up (Stinson, 2010). This study also adds to the literature differentiating among hookup behaviors. Given the limited attention to correlates of different types of hookups, we attempted to identify the relative importance of each type of correlate (e.g., individual, social, etc.) in differentiating those who do and do not hookup and, among those who do hookup, whether they engaged in non-penetrative (i.e., kissing, fondling) or penetrative (i.e., oral sex, intercourse) behaviors.

Study Hypotheses

Correlates of Hooking Up (Hypothesis 1)

Based on the extant literature, we expected men to hookup if they had more permissive attitudes about sex, were less religious, had lower levels of relationship awareness, were underclassmen, Caucasian, more extroverted and open to experience, and were less conscientious, agreeable, and emotionally stable. We also expected that men would be more likely to hookup if they hooked up in the past, reported more frequent alcohol consumption, were not in a committed romantic relationship throughout the semester, came from a non-intact family structure, and reported more perceived parental conflict in the home.

Correlates of Penetrative Hookups (Hypothesis 2)

We expected men would be more likely to report a penetrative hookup if they had more permissive attitudes about sex, were less religious, had lower relationship awareness, were underclassmen, Caucasian, were more extroverted and open to experience, and were less conscientious, agreeable, and emotionally stable. We also expected men to report a penetrative hookup if they had done so in the past, consumed greater amounts of alcohol, were not in a stable committed romantic relationship during the semester, came from a non-intact family, and reported greater perceived parental conflict.

Method

Participants

Participants consisted of undergraduate students enrolled in a course on family relationships at a large southeastern university, who ranged in age from 18 to 25 years. Data from two semesters were combined. The first semester consisted of 235 men and the second consisted of 296 men. Data were collected at three different times during each semester (T1 = Week 1, T2 = Week 8, and T3 = Week 15).

Participant attrition is an issue facing all studies that consist of multiple data points. Of the 531 men, 44 dropped out of the study (21 between T1 and T2, 23 between T2 and T3) from the Fall semester and 75 dropped out of the study (42 between T1 and T2, 33 between T2 and T3) from the Spring semester. These men were not included in the final sample, because the dependent variables were derived from responses on hooking up from T2 and T3.

From a demographic standpoint, men who dropped out of the study were similar to those who completed all three waves. Additional comparisons were made between completers and

non-completers on all T1 variables. Missing data for T1 variables were imputed using multiple imputation to compare men who completed all three surveys ($n = 412$) and those who dropped out of the study after completing T1 ($n = 119$). For these analyses, several data sets were imputed and a pooled parameter estimate was generated from them (Acock, 2005). Only one difference was found: Men who dropped out had significantly more hook up partners in the past 4 months ($M = 2.63, SE = .11$) compared to men who completed the study ($M = 1.82, SE = .09$), $t(529) = -3.43, p = .001$. Given this difference, our results may be more conservative findings of hooking up and hookup behaviors among men.

The final sample of men ($N = 412$) were, on average, 19.4 year of age ($SD = 1.33$). Most (73%) were White, followed by Latino (12%), African American (10%), Asian (3%), and Other (2%). By year in college, the percentages were: freshmen = 36%, sophomores = 36%, juniors = 18%, and seniors = 9%. About 95% self-reported as heterosexual, 2% as homosexual, 1% as bisexual, and 1% did not respond to this item. The majority (70%) reported their parents as married and living together, 22% had parents who were separated or divorced, 3% had one parent who was deceased, 3% reported their parents as having never married, and 2% reported their family structure as Other.

Procedure

As part of an undergraduate course, participants completed an online survey through a secure site three times during the semester in Fall 2009 ($n = 191$) or Spring 2010 ($n = 221$). Participants gave informed consent at the beginning of the semester and chose to complete the surveys for course credit or participate in an alternative written exercise each time the survey was administered. The online surveys were completed outside of class at a time that was convenient to participants.

Measures

Independent Variables: Individual Correlates

Participants reported their current *year in school* at T1, which was recoded into two groups: 1 = *freshmen/sophomores* (underclassmen) and 0 = *juniors/seniors* (upperclassmen).

Like year in school, participant reported their *race/ethnicity* at T1. For our purpose, race/ethnicity was coded as 1 (*Caucasian*) and 0 (*all other races/ethnicities*).

Attitudes toward sex was measured at T3 using three items from Simpson and Gangestad's (1991) attitudinal measure of sociosexuality. The items were: "Sex without love is okay," "I can imagine myself being comfortable and enjoying 'casual' sex with different partners," and "I would have to be closely attached to someone (both emotionally and psychologically) before I can feel comfortable and fully enjoy having sex with him or her"

(reverse coded). Responses ranged from 1 (*strongly disagree*) to 9 (*strongly agree*). Cronbach's alpha was .81. Due to the high correlation between the items ($r = .48-.77$), the items were averaged, so higher scores indicated more permissive attitudes towards sex.

Religiosity was measured at T1 using one item asking "How often do you attend religious services?" Responses ranged from 0 (*never or almost never*) to 3 (*one or more times per week*), with higher score reflecting greater religiosity.

Relationship awareness was measured using Owen and Fincham's (2011) RAS at T2. This measure consists of four subscales: *confidence about relationship skills* measured one's perceived ability to successfully navigate relationship difficulties and increase relationship longevity; *awareness of relationship risk factors* measured one's perceived ability to recognize relationship problems and danger signs; *thoughtful relationship decisions* measured intentional decision-making regarding important aspects of the relationship (e.g., intimacy); *long-term vision* measured clear expectations of a desired future partner and relationship. Each subscale has four items with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Alpha levels were: confidence about relationship skills (.88), awareness of relationship risk factors (.84), thoughtful relationship decisions (.67), and long-term vision (.85). A composite score was created for each subscale, with a possible range from 4 to 20 on each.

Personality was measured at T1 using a brief measure of the Big 5 (Gosling, Rentfrow, & Swann, 2003). The scale includes 10 items, with two items devoted to each Big 5 personality trait (extraversion, agreeableness, conscientiousness, emotional stability, openness to experience). Responses ranged from 1 (*disagree strongly*) to 7 (*agree strongly*). The possible range for each personality type was 2-14; higher scores indicate more fit with a personality trait.

Previous hookup experience was measured at T1. For the first hypothesis, 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)." This prompt was used in previous studies with similar populations (see Owen et al., 2010). Participants then answered the question, "Based on this definition, how many different people did you 'hookup' with over the last 4 months?" Responses ranged from 0 to 6 or more. For our study, this was coded as (1) *Yes, I hooked up with one or more individuals in the past 4 months*, and (0) *No, I did not hookup in the past 4 months*.

For the second hypothesis, participants reported their hookup behaviors in the past 4 months, including kissing, petting, oral sex, and intercourse (vaginal/anal). A dichotomous variable was created to identify (1) *penetrative hookup experience* (oral sex and/or intercourse) and (0) *non-penetrative hookup experience* (no previous hookups, kissing, and/or petting).

Independent Variables: Social Correlates

Alcohol use was measured using two items at T1. Participants were asked "Within the last 30 days, on how many days did you have a drink containing alcohol?" Responses ranged from 0 (*never drank all 30 days*) to 5 (*20-29 days*). Participants were also asked "How often in the last 30 days did you have five or more drinks on one occasion?" Responses ranged from 0 (*never happened*) to 8 (*more than 10 times*); this second item was recoded to range from 0 to 5 (consistent with item 1). Items were averaged due to the high correlation ($r = .78$), with higher scores indicating more alcohol use. These items have been used elsewhere to measure alcohol use (see Saunders, Aasland, Babor, de la Fuente, & Grant, 1993).

Independent Variables: Relationship Correlates

At all three time points, participants indicated whether they were in a romantic relationship and the type of relationship (nonexclusive dating, dating exclusively, engaged, married). At time T2 and T3, participants indicated (1) if they had ended a romantic relationship since completing the last survey and (2) if they had begun a romantic relationship since completing the last survey. In examining these items, we were able to determine if, at any point, participants had entered and exited a romantic relationship and the type of relationship. A dichotomous variable was created to capture the stability of committed romantic relationships over the semester (i.e., never exited or began a new exclusive romantic relationship), with 1 (*in a stable committed relationship over the semester*) and 0 (*not in a stable committed relationship over the semester*).

Independent Variables: Family Background Correlates

Two family background correlates were used: family structure and perceived parental conflict. At T1, participants reported their parent's current relationship status, resulting in a dichotomous variable coded as 1 (*parents are married and living together*) and 0 (*all other family structures*). *Perceived parental conflict* was measured at T1 using the Children's Perception of Interparental Conflict Scale (CPIC) (Grych, Seid, & Fincham, 1992). The scale consists of 3 subscales (frequency, intensity, resolution) with four items each. Item responses were 1 (*true*), 2 (*sort of true*), and 3 (*false*) and items were summed within subscales for a possible range of 4-12. Items were coded so that higher scores indicate more perceived parental conflict. Alphas were .80 (frequency), .84 (intensity), and .83 (resolution).

Dependent Variable

For the first hypothesis, the outcome variable was whether a participant had hooked up during the course of the academic

semester. At T2 and T3, participants were given a definition of hooking up (described earlier) and asked to provide the number of individuals with which they had hooked up since the last survey. Responses to this item ranged from 0 to 6 or more. Because the item was not a ratio level variable (i.e., the greatest response option included “or more”), we were unable to sum the items from both time points. Thus, we created a dichotomous variable; participants reported (1) *one or more hookup partners* at T2 and/or T3 and (0) *no hookup partners* at T2 and T3. Combining T2 and T3 data reflect behavior over one academic semester and indicates whether at any point during the semester the participant hooked up.

The second hypothesis focused on only those men who reported hooking up during the semester. For this subgroup of men, the outcome variable was the type of hookup behavior in which they had engaged. At T2 and T3, participants reported kissing, petting, oral sex, and intercourse (vaginal/anal) in any combination. Those men who reported hookups that included oral sex and/or intercourse (vaginal/anal) during the semester were coded 1 (*penetrative hookups*), and those who reported only kissing and/or petting hookups were coded 0 (*non-penetrative hookups*).

Control Variables

Given the sensitive nature of the topic and the potential for some participants to answer in a socially desirable manner, we included a measure of *social desirability*: the short version of the Marlow-Crowne Social Desirability Scale (Strahan & Gerbasi, 1972). The measure consists of 10 items and participants indicated whether each statement was *true* or *false* about them. The items were summed for a score ranging from 0 to 10; higher scores indicated more social desirability. Cronbach’s alpha for this measure was .65.

We also included the *semester* of data collection as a control variable because participants from Spring semester would have potentially been on campus longer than those from Fall semester, particularly the freshmen. Participants from *Spring semester* were coded 1 and those from *Fall semester* were coded as 0.

Results

Descriptive Statistics

Table 1 reports the frequency and percentages of participants who reported one or more hookups at each time point, their associated hookup behaviors, and the mean number of hookup partners. A general pattern of hookup behavior can be seen across times and semesters: as intimacy increased, fewer participants reported engaging in these behaviors. That is, most hookups included kissing and fewer included intercourse. However, the majority of participants who hooked up reported engaging in penetrative hookup behaviors (oral sex and/or intercourse).

Regarding number of hookup partners, another general pattern emerged: participants consistently reported more than one hookup partner at each time point.

Overall, through the course of the semester 69% of participants reported having at least one hookup encounter. Among those that hooked up during the semester, 73% reported having engaged in penetrative hookup behaviors. Only 23% reported a stable committed romantic relationship throughout the semester. Among these men, 44% hooked up with someone outside of their relationship; 67% of these hookups consisted of penetrative behaviors.

Hypothesis 1: No Hookup Versus Hookup

We first examined the bivariate correlations among variables for the full sample ($N = 412$) (for descriptive characteristics, see Table 2), with specific attention to those that were correlated with the dependent variable (ever hooked up during the semester). We report only relationships with the dependent variables (see Table 3).

Next, we conducted a hierarchical logistic regression with hooking up during the semester as the dependent variable to determine which group of correlates explained the greatest amount of variance in hooking up. We included only those variables that were significant in the bivariate correlations. Multiple imputation procedures were used to address missing data for these and subsequent analyses. Several imputed data sets were generated, the analyses were then run, and a pooled parameter estimate was generated from these imputed data sets. In instances where a pooled statistic was not provided (model Chi-square, Nagelkerke R^2 , percent correctly classified), we report the most conservative values from the imputed data sets.

In Block 1, the control variable *semester* was entered to account for participants coming from two different points in the academic year. This model was significant, $\chi^2(1, N = 412) = 10.48, p = .001$. Approximately 3% of the variance in men hooking up over a semester (Nagelkerke R^2) was explained.

The following individual variables were added in Block 2: attitudes towards sex, religiosity, confidence about relationship skills (RAS subscale), thoughtful relationship decisions (RAS subscale), being an underclassman, having an extraverted personality, and previous hookup experience. This model was significant, $\chi^2(8, N = 412) = 110.06, p \leq .001$. Taken together, 33% of the variance in men hooking up over the semester (Nagelkerke R^2) was explained by these variables. Of the seven correlates, attitudes towards sex, thoughtful relationship decisions, having an extraverted personality, and previous hookup experience were significant. The control variable (*semester*) also remained significant.

In Block 3, alcohol use was added and the model remained significant, $\chi^2(9, N = 412) = 114.91, p \leq .001$. Alcohol use contributed little to the overall explained variance in men hooking up

Table 1 Hookup behaviors

	Fall (<i>N</i> = 191) <i>N</i> (%)	Spring (<i>N</i> = 221) <i>N</i> (%)	Full sample (<i>N</i> = 412) <i>N</i> (%)
4 Months prior to survey T1			
Hook up in past 4 months—yes	117 (61)	147 (66)	264 (64)
Kissing	110 (94)	142 (97)	252 (95)
Petting	68 (58)	75 (51)	143 (54)
Oral sex	72 (61)	91 (62)	163 (62)
Intercourse (vaginal/anal)	65 (56)	88 (60)	153 (58)
Penetrative behaviors	85 (73)	112 (76)	197 (75)
Mean number of hookup partners (<i>SD</i>)	3.30 (1.72)	2.70 (1.60)	2.84 (1.66)
Survey T1 to T2 ^a			
Hook up—yes	91 (48)	90 (41)	181 (44)
Kissing	84 (92)	85 (94)	169 (93)
Petting	61 (67)	66 (73)	127 (70)
Oral sex	49 (54)	40 (44)	89 (49)
Intercourse (vaginal/anal)	52 (57)	40 (44)	92 (51)
Penetrative behaviors	64 (70)	49 (54)	113 (62)
Mean number of hookup partners (<i>SD</i>)	2.18 (1.44)	2.11 (1.37)	2.14 (1.40)
Survey T2 to T3 ^a			
Hook up—yes	94 (49)	125 (57)	219 (53)
Kissing	90 (96)	117 (94)	207 (94)
Petting	65 (69)	99 (79)	164 (75)
Oral sex	58 (62)	78 (62)	136 (62)
Intercourse (vaginal/anal)	51 (54)	86 (69)	151 (69)
Mean number of hookup partners (<i>SD</i>)	2.21 (1.30)	2.18 (1.44)	2.19 (1.38)

Behaviors among men who reported one or more hookup partners

^a Time between surveys = 7 weeks

during the semester (1.2%). In this model, thoughtful relationship decisions, previous hookup experience, alcohol use, and semester were significant correlates of hooking up.

In the final Block, committed relationship status was added. This final model was also significant, $\chi^2(10, N = 412) = 126.06$, $p \leq .001$. In addition, the Hosmer and Lemeshow test was non-significant, suggesting good model-data fit, $\chi^2(8, N = 412) = 9.31$. With all variables in the model, 37% of the variance (Nagelkerke R^2) of men's hookups during the semester was explained. In the final model, significant correlates included thoughtful relationship decisions, having an extraverted personality, previous hookup experience, alcohol use, and being in a stable committed romantic relationship.

Overall, after controlling for semester and all other variables, men were 10% more likely to hookup for every one unit increase in extraverted personality type, 258% more likely to hookup if they reported previous hookup experience, and 30% more likely to hookup for every one unit increase in alcohol use. However,

Table 2 Descriptive information for hookup variables

Variables	Mean (<i>SD</i>)	Actual range
Individual correlates		
Attitudes towards sex	5.61 (2.39)	1–9
Religiosity	1.14 (1.01)	0–3
Relationship Awareness Scale		
Confidence about relationship skills	16.18 (3.24)	4–20
Awareness of relationship risk factors	14.36 (3.24)	4–20
Thoughtful relationship decisions	14.93 (2.81)	5–20
Long-term vision	15.03 (3.30)	4–20
Lower classman (% yes)	72.3%	
Race—White	72.8%	
Personality scale		
Extraversion	9.54 (2.78)	2–14
Agreeableness	9.78 (2.29)	3–14
Conscientiousness	10.94 (2.22)	3–14
Emotional stability	10.56 (2.32)	3–14
Openness to experience	10.68 (2.25)	3–14
Previous hookup experience (% yes)	64.1%	
Previous penetrative hookup experience (% yes) ^a	74.6%	
Social correlate		
Alcohol use	2.09 (1.52)	0–5
Relationship correlate		
Stable committed relationship (% yes)	23.5%	
Family background correlate		
Parents married and living together (% yes)	69.9%	
Perceived parental conflict scale		
Frequency	6.62 (2.33)	4–12
Intensity	7.20 (2.47)	4–12
Resolution ^b	6.41 (2.20)	4–12
Control variables		
Social desirability	5.11 (2.24)	0–10
Semester (% Spring)	53.6%	
Dependent variables		
Hookup during semester (% yes)	69.2%	
Penetrative hookup during semester (% yes) ^a	73.3%	

Missing data across all variables was $\leq 2.2\%$

^a Sample limited to those who hooked up during the semester

^b Coded in same direction as other subscales; higher scores means lower levels of resolution

men were 13% less likely to hookup for every one unit increase in thoughtful relationship decisions and 63% less likely to hookup if they were in a stable committed romantic relationship throughout the semester. We also note that, although not significant at $p \leq .05$, attitudes towards sex showed a trend towards significance, OR = 1.13, $p = .06$ (see Table 4, upper panel, for adjusted odds ratios in the final model). When including the

Table 3 Bivariate correlations with dependent variables

Variables	Hookup—yes (<i>N</i> = 412)	Penetrative hookup—yes (<i>N</i> = 283)
Individual correlates		
Attitudes towards sex	.26***	.22***
Religiosity	-.11*	-.11
Relationship Awareness Scale		
Confidence about relationship skills	-.12*	-.05
Awareness of relationship risk factors	-.07	-.02
Thoughtful relationship decisions	-.16***	-.05
Long-term vision	-.08	-.04
Lower classman (yes)	.13**	-.09
Race—White	.04	-.04
Personality scale		
Extraversion	.15**	.05
Agreeableness	.01	-.12*
Conscientiousness	-.05	-.11
Emotional stability	-.01	-.03
Openness to experience	.06	-.06
Previous hookup experience (yes)	.42***	
Previous penetrative hookup (yes)		.27***
Social correlate		
Alcohol use	.24***	.13*
Relationship correlate		
Stable committed relationship (yes)	-.30***	-.05
Family background correlates		
Parents married and living together (yes)	.02	-.05
Perceive parental conflict scale		
Frequency	-.04	-.01
Intensity	-.06	.01
Resolution	-.02	-.02
Control variables		
Social desirability	.03	.01
Semester—Spring	.16***	-.07

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

individual, social, and relational correlates, 89% of those who hooked up were correctly classified but only 57% of those who did not hookup were correctly classified. Thus, the model did a better job of identifying those who hooked up over the semester.

Hypothesis 2: Non-penetrative Versus Penetrative Hookups

We limited this analysis to those who hooked up during the semester ($n = 285$) to compare those who reported a non-penetrative hookup to those who reported a penetrative hookup. Two participants were lost because they did not report their hookup behaviors during the semester, decreasing our analysis to 283 men.

Table 4 Logistic regressions of hooking up and hookup behaviors

Variables	<i>B</i> (<i>SE</i>)	Exp(<i>B</i>) ^{a,b}	95% CI
No hookup vs. hookup (<i>N</i> = 412)			
Control variable			
Semester—Spring	.95 (.27)	2.58***	1.53–4.36
Individual correlates			
Attitudes towards sex	.12 (.07)	1.13 [†]	.99–1.29
Religiosity	.14 (.15)	1.15	.86–1.53
Confidence about relationship skills ^c	.01 (.05)	1.00	.91–1.10
Thoughtful relationship decisions ^c	-.14 (.06)	.87*	.77–.97
Lower classman (yes)	.45 (.29)	1.56	.88–2.77
Extraversion ^d	.10 (.05)	1.10*	1.01–1.21
Previous hookup experience (yes)	1.27 (.29)	3.58***	2.03–6.29
Social correlate			
Alcohol use	.26 (.09)	1.30**	1.07–1.57
Relational correlate			
Stable committed romantic relationship (yes)	-.99 (.31)	.37***	.20–.67
Non-penetrative vs. penetrative (<i>N</i> = 283)			
Individual correlates			
Attitudes towards sex	.17 (.07)	1.18*	1.04–1.35
Agreeableness ^d	-.06 (.07)	.95	.83–1.08
Previous penetrative hookup (yes)	1.04 (.30)	2.84***	1.56–5.15
Social correlate			
Alcohol use	.02 (.11)	1.02	.83–1.25

[†] $p < .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ ^a Adjusted odds ratios for Hypothesis 1^b Unadjusted odds ratios for Hypothesis 2^c Relationship Awareness Scale subscale^d Personality subscale

We first examined the bivariate correlations. Only individual and social correlates that were related to having a penetrative hookup (see Table 3, second column) were included as correlates in a binary logistic regression (i.e., attitudes towards sex, having an agreeable personality, previous penetrative hookup experience, alcohol use). This model was significant, $\chi^2(5, N = 283) = 29.14, p \leq .001$. The Hosmer and Lemeshow test was not significant, $\chi^2(8, N = 283) = 7.91$, and the overall model explained 14% of the variance (Nagelkerke R^2) in penetrative hookup behavior. In this model, attitudes towards sex and previous penetrative hookup experience were significant. Overall, after controlling for other variables in the model, men were 18% more likely to have a penetrative hookup for every one unit increase in permissive attitudes towards sex, and 184% more likely to have a penetrative hookup if they had done so in the past. The model correctly classified 95% of those who engaged in penetrative hookup behaviors, but only 18% of those who did not.

Discussion

A hookup culture exists on many college campuses (Bogle, 2008), which departs from a traditional sequence of relationship development where sexual activity follows the forming of committed relationships. Although hooking up has been the focus of recent research, we attended to men's experiences to examine within-group variation and identify potential correlates of hooking up. We found that a majority of men in our sample (69%) reported hooking up during the semester and about 73% of these reported a penetrative hookup. Thus, our study contributes to the extant literature showing that hookups are a prevalent form of physical intimacy among college students (Fielder & Carey, 2010b; Owen et al., 2010).

When we compared men who did and did not hookup, we found that past hookup behavior was most influential, followed by alcohol use, being in a stable committed relationship, and thoughtful relationship decision making. The effect of past hookup behavior confirms findings of other studies (e.g., Fielder & Carey, 2010a; Owen et al., 2011). Similarly, alcohol use was another important correlate among these men. Scholars consistently link sex with a non-committed partner and alcohol consumption (e.g., Bersamin et al., 2011; Fielder & Carey, 2010b), primarily because alcohol decreases inhibitions and impairs decision making (Flack et al., 2007). We also found that men in stable, committed relationships were less likely to hookup, confirming findings of previous studies (e.g., Herold et al., 1998) and supporting the need to include relationship status in such investigations. Lastly, men who were more thoughtful about relationship transitions were also less likely to hookup. This fits with other findings that relationship thoughtfulness is important to decreasing sexual behaviors that potentially increase exposure to STIs (see Owen & Fincham, 2011). Moreover, men who are thoughtful are likely to be more intentional about important relationship transitions (e.g., engaging in sexual behaviors with a partner, making relationship commitments) and evidence shows that intentional relationship commitment is linked with higher relationship satisfaction (see Stanley et al., 2006).

Our findings were not consistent with Bogle (2008), who suggested that being a freshmen/sophomore was linked to hooking up. For men, it appears that year in school was not related to having a greater likelihood of hooking up. It may be that prior to coming to college they are already socialized into a hookup culture from their experiences in high school (see Fortunato, Young, Boyd, & Fons, 2010). This is consistent with findings from Fielder and Carey (2010b), who reported that over half of their sample of females who were freshmen in college had hooked up in high school. Perhaps college students are motivated to hookup for reasons other than romantic relationship formation early in their college experiences, also consistent with Fielder and Carey (2010b). However, future research should examine more closely the motivations to hookup, especially among first-year college men.

Our second aim was to determine which variables differentiated the types of hooking up behaviors and identify men who may have the greatest potential for exposure to STIs and unplanned pregnancy. Unlike past studies (Fielder & Carey, 2010a; Owen et al., 2011; Paul et al., 2000), we did not find a link between penetrative hookups and alcohol use. This was likely due to the fact that we used a more general measure of alcohol consumption rather than measuring alcohol use during or just prior to hookup encounters. However, we found two important correlates of penetrative hookups among men: permissive sex attitudes and previous penetrative hookup experience. First, men who were more accepting of non-committed sex were more likely to have penetrative hookups. Although past research linked such attitudes and hooking up (Herold et al., 1998; Owen et al., 2010), these attitudes may also increase men's willingness to engage in penetrative sexual behaviors. That is, although permissive sex attitudes play less of a role in deciding to hookup, once men are in a hookup situation these attitudes may provide an impetus for men to engage in oral sex and/or intercourse (vaginal/anal). Second, men who had a penetrative hookup in the past were more willing to do so in the future. They were 184% more likely to do so. Thus, these men may hookup more frequently, as well as expose themselves more frequently to potential health risks because of having multiple sequential and concurrent hookup partners (see Kelley et al., 2003).

Limitations

The findings should be considered in light of several limitations. The sample was not randomly selected, but consisted of men who self-selected into a class on family relationships to satisfy a campus wide liberal studies requirement. Also, we found an important difference between those who dropped out of the study and those who did not. Those who participated at T1, T2, and T3 had fewer previous hookup partners than those who dropped out. However, the experiences of the men who dropped out may differ in other ways not examined here.

Another important limitation was the limited number of social, relational, and family background correlates included. It may be that other indicators of these areas play a significant role in hooking up among college men, but were not measured. Future research should examine a variety of social, relational, and family background variables. The extant literature is limited in documenting the influence of family environment on spontaneous sexual encounters, because only parent's attitudes about relationships or sex and family structure are examined. Future research should attend more fully to understanding the influence of one's family of origin.

Of importance to our findings is that we did not assess actual use of prophylactics during hookups. It is possible that men engaging in penetrative sexual behaviors are consistently using condoms to protect against STIs and pregnancy. However, we have reason to suspect that condom use is limited when engaging

in spontaneous vaginal or anal intercourse and even less when engaging in oral sex (see Downing-Matibag & Geisinger, 2009; Fielder & Carey, 2010b). Future research should assess (1) the frequency with which condoms or other prophylactics are used during spontaneous sexual encounters, (2) whether contraception is discussed during these encounters, (3) who initiates these conversations and what is their nature, and (4) whether sexual history and knowledge of having an STI is discussed among men. We believe that there are opportunities to learn about hookups and contraception during this phase of the life course.

Implications for Research and Practice

Our findings have important research implications for understanding hooking up among males and gaining a broader understanding of within-group variations among men. Some men are hooking up prior to coming to college and research has addressed this among adolescents (e.g., Fortunato et al., 2010; Manning, Giordano, & Longmore, 2006); however, no study has focused specifically on young men. Future research should include longitudinal designs that examine factors that influence hookup trajectories over time, particularly as adolescent men make the transition from high school to college.

In concert with findings from other studies, our findings suggest important implications for intervention. Given the prevalence of hooking up on college campuses, college administrators should take steps to provide education for their students regarding healthy and safer sex practices. For example, Downing-Matibag and Geisinger (2009) found that most hookup partners did not discuss contraception or the risk of STI transmission. Thus, an effort to increase awareness of these potential health risks includes communication strategies for effectively broaching the discussion of contraception. Efforts can be aimed at integrating such education with first semester course content relevant to sexuality. Another option might include collaborative efforts with student health centers to increase overall awareness of STIs and promote contraceptive use given the prevalent hookup culture.

Relationship education targeting emerging adults should include discussions about the importance of making deliberate decisions (as opposed to “sliding”) (Pearson et al., 2005) regarding relationship transitions. Such efforts are currently underway (Fincham, Stanley, & Rhoades, 2011) and could benefit by tailoring curricula to directly address sexual behaviors prevalent among college students. As our study demonstrated, increasing relationship thoughtfulness among men may potentially help them critically consider decisions to hookup or engage in penetrative hookups.

Last, because of the co-occurrence of hooking up with alcohol use, we concur with the recommendations of others to address alcohol and substance abuse among college populations as a means to promote sexual health (Cooper, 2002). Intervention also should be targeted by gender. We agree with Cho and Span

(2010), who suggest that interventions aimed at men should focus on specific factors associated with non-committed sex and drinking (as opposed to a more global approach), while emphasizing the importance of condom use during all sexual encounters, whether intoxicated or not.

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