



HHS Public Access

Author manuscript

Soc Curr. Author manuscript; available in PMC 2016 April 08.

Published in final edited form as:

Soc Curr. 2015 June ; 2(2): 163–181. doi:10.1177/2329496515579761.

The Four U's: Latent Classes of Hookup Motivations Among College Students

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Abstract

College students' "hookups" have been the subject of a great deal of research in recent years. Motivations for hooking up have been linked to differences in well-being after the hookup, but studies detailing college students' motivations for engaging in hookups focus on single motivations. Using data from the 2010 Duke Hookup Survey, we consider how motivations for hooking up cluster to produce different classes, or profiles, of students who hook up, and how these classes are related to hookup regret. Four distinct classes of motivations emerged from our latent class analysis: Utilitarians (50%), Uninhibiteds (27%), Uninspireds (19%), and Unreflectives (4%). We find a number of differences in hookup motivation classes across social characteristics, including gender, year in school, race-ethnicity, self-esteem, and attitudes about sexual behavior outside committed relationships. Additionally, Uninspireds regret hookups more frequently than members of the other classes, and Uninhibiteds report regret less frequently than Utilitarians and Uninspireds. These findings reveal the complexity of motivations for hooking up and the link between motivations and regret.

Keywords

hooking up; motivations; sexual regret; college students; sexual behavior

Like many aspects of American family life, the courtship practices of young adults have undergone significant changes over the past 50 years. Dating is not dead, as some have argued, but dating relationships often form as the result of a couple "hooking up" (England and Thomas 2010). A hookup is usually defined and understood as a casual physical encounter—ranging from kissing to sexual intercourse—between two people for whom there is no expectation of a committed relationship. Hooking up is thought to be commonplace on college campuses, though estimates of the percentage of college students who have hooked up range widely from about 40% of all women (Glenn and Marquardt 2001) to 72% of seniors (England, Fitzgibbons Shafer, and Fogarty 2008). About 40% of seniors who have

hooked up did so three or fewer times, another 40% hooked up four to nine times, and just 20% hooked up 10 or more times (Armstrong, Hamilton, and England 2010).

What motivates college students' hookups is not particularly well understood. Given that negative and ambivalent reactions to hooking up are commonplace—nearly half of women and about one quarter of men report having a negative emotional reaction to hooking up, and around one quarter of both women and men report ambivalent reactions (Owen et al. 2010)—it is important to understand why students engage in the behavior. Although there is a growing body of literature on motivations for hooking up (e.g., Regan and Dreyer 1999; Weaver and Herold 2000; Li and Kenrick 2006; Garcia and Reiber 2008; Lyons et al. 2012), these studies examine individual motivations as discrete outcomes. The prevalence of negative and ambivalent reactions, however, suggests that there may be complex *sets of motivations* for the behavior that are not captured by the typical analytic approach employed in the study of hookup motivations.

Indeed, we lack an understanding of how different motivations for hooking up operate concurrently within individuals as they make sexual decisions. Single-item measures of motivations are descriptively interesting and have important theoretical implications, but this variable-centered approach ignores the ways in which different motivations operate together for some individuals. A person-centered approach allows for the analysis of how people mix and match certain motivations to explain their behavior. Comparing the packages of motivations that young adults who hook up acknowledge, and then looking for differences in how motivations are packaged across subgroups, helps us better understand what underlies hooking up behavior across the college student population.

These sets of motivations for hooking up may also be tied to student well-being. Hooking up is tied to negative well-being, particularly heightened depression (Grello, Welsh, and Harper 2006), negative affect (Lewis et al. 2012), and sexual regret (Eshbaugh and Gute 2008; Oswalt, Cameron, and Koob 2005). But recent evidence suggests that this link to negative well-being is contingent on the type of motivation for hooking up—whether it was internally derived or externally applied (Vrangalova 2014). What this evidence does not examine, however, is how complex motivations—such as a combination of both internal and external motivation—may lead to some of these outcomes. This inattention to concurrent motivations is in keeping with Muelenhard and Peterson's (2005:15; emphasis in original) observation that sex researchers have tended to conceptualize sexual behavior as wanted or unwanted, and that there is “a *missing discourse of ambivalence*” that would reflect how people actually feel about engaging in sexual activity.

Thus, this study accomplishes three goals. First, we use latent class analysis (LCA) to identify classes of motivations for hooking up among a probability sample of college students from Duke University. Smith (2010:298) argues that latent class analysis (among other statistical procedures) does “a better job of keeping coherent persons together as units of analysis rather than fragmenting them up into variables.” This follows the approach of another recent study of the psychosocial predictors of hooking up that identifies two distinct classes of people who hook up (Manthos, Owen, and Fincham 2013). Unlike that study, we are interested in the classes of *motivations for hooking up* rather than the psychosocial

predictors of engaging in hookups. Second, we predict membership in these latent classes by social characteristics. And third, we link these latent classes to one negative outcome of hooking up: sexual regret. These findings yield a more nuanced and accurate portrait of what motivates college students to hookup and how these motivations are linked to poorer well-being. Before turning to the present study, however, we first describe in further detail what we know about motivations for hooking up, discuss the social characteristics by which hookup motivations may be patterned, and explain the link between motivations and regret in the context of hooking up.

MOTIVATIONS FOR HOOKING UP

A large literature, primarily in psychology, examines human motivations for having sex [see Hatfield, Luckhurst, and Rapson (2010) for a review]. A portion of this literature has focused on motivations for casual sex. People report a variety of motivations (both within and across individuals). Regan and Dreyer (1999) gave an open-ended question about motivations for casual sex to 105 undergraduate students who had engaged in casual sex. These researchers report on 32 distinct motivations for casual sex which they group into five general motive categories [based on Kelley and colleagues' (1983) prior work]: personal/intra-individual motivations, other motivations, social environmental motivations, physical environmental motivations, and interpersonal motivations. In their study, 89% of students gave personal motivations (e.g., sexual desire), 39% gave sex-partner motivations (e.g., attractiveness of partner), 39% gave interpersonal motivations (e.g., increase probability of long-term relationship), 27% gave social environmental motivations (e.g., increase social status), and 17% identified physical environmental reasons (e.g., being in a dark, private setting) (Regan and Dreyer 1999).

Other studies of hooking up and/or casual sex among young adults also tend to find that personal motivations, especially a desire for fun and excitement or sexual gratification, rank high on the list of motivations. Among 230 Canadian university women, the most common reason cited for engaging in casual sex was physical pleasure, followed by “living it up” or having fun, and then other utilitarian motivations such as improving sexual technique and heightening self-esteem (Weaver and Herold 2000). Li and Kenrick's (2006) study of 78 undergraduate students (only 32 of whom had engaged in casual sex) reports that the primary consideration students give for wanting to have casual sex is that they were “physically attracted to the person and thought it would feel good.” Garcia and Reiber's (2008) study of SUNY-Binghamton students also finds “physical gratification” to be the primary motivation for hooking up (with 89% of students endorsing this motivation), followed by “emotional gratification” (with 54% of students agreeing). In a study of Toledo young adults, the most popular motivations for casual sex were feeling horny (64%) and having fun (52%) (Lyons et al. 2012).^{1, 2} In addition to fun, excitement, and sexual gratification, another personal motive for hooking up is to avoid the time it takes to invest in a long-term, committed relationship (Hamilton & Armstrong 2009). From this perspective,

¹This study has been published (Lyons, Manning, Longmore, and Giordano 2014), but only the 2012 working paper includes these statistics.

²Interestingly, these types of thrill-seeking motivations were also common among college students in dating relationships at the beginning of the 20th century (Waller 1937).

relationships are “greedy,” taking up considerable amounts of time and effort, while hookups require far less investment.

A variety of other motivations for hooking up might be described as interpersonal or socioenvironmental. For example, a common motivation cited by young adults for hooking up is the desire for the behavior to lead to a relationship. In Li and Kenrick's (2006) research, the second most common motivation for casual sex was, “I actually wanted a long-term relationship with this person and thought the casual sex might lead to something more long-lasting.” In Garcia and Reiber's (2008) study, 51% of SUNY-Binghamton students wanted hooking up to lead to a committed relationship, and 32% of the young adults in Lyons et al.'s research wanted to find a boyfriend/girlfriend through casual sex. Socioenvironmental factors may also motivate behavior. Because dating as a means to beginning a relationship is now rare, there is less of a dating scene for those not already in a relationship. Students who seek to be involved in the “traditional” dating scene of the mid-20th century have a difficult time finding it on campus (England and Thomas 2010). As a result, students may resort to hooking up because it is the “only game in town” (Bogle 2008:49) even though they prefer another type of interaction. Some students may also hook up as means of fitting in or conforming to what they believe is normative behavior for college students (Garcia & Reiber 2008). Men especially cite increase in social status as a reason for hooking up (Regan & Dreyer 1999).

Despite there being a great deal of research on different motivations for hooking up, existing research does not examine how these motivations tend to cluster together (or not) for young people. That is, we have little idea whether motivations like those discussed above are operating concurrently as individuals make their decisions about hooking up. Indeed, it is highly unlikely that students are motivated to hook up by just one single factor. Rather, many of these factors (and probably others as well) likely jointly influence students' decisions to hookup—both for the same hookup and across an individual's different hookups. As argued in the theory of conjunctural action, individuals draw from multiple, often conflicting, “schema” or mental maps which encourage or discourage behaviors such as hooking up (Johnson-Hanks et al. 2011). Thus, we examine how these motivations cluster together within individuals to form common motivation “profiles” exhibited by students who hook up.

VARIATION IN MOTIVATIONS BY SOCIAL CHARACTERISTICS

We also examine sociodemographic characteristics related to these different motivation profiles to understand which parts of the college student population are more likely than others to hold certain combinations of motives. If different motivations for hooking up are linked to different outcomes (Vrangalova 2014), it is important to identify the antecedents of particular (sets of) motivations. Research to date on variation in motivations for casual sex has focused exclusively on gender differences. This stems from a longstanding debate about gendered approaches to sexual behavior, which has found fairly consistent gender differences in sexual motives. For example, Hatfield and colleagues' (2010) review of the literature finds that women are more likely to endorse love and commitment, intimacy, sexual compliance, pleasing her partner, solidifying a relationship, and being coerced as

sexual motives. Men, on the other hand, are more likely to endorse physical appeal of his partner, pleasure, self-affirmation, status, power, conquest, peer conformity, sexual variety, stress reduction, rebellion, utilitarian motivations, and goal attainment. These findings, taken together, suggest that the nature of hooking up is more in line with men's motivations than women's; hookups provide many of the benefits men seek and few of the benefits women seek.

On the other hand, research on casual sex suggests gender differences are small or nonexistent (Hatfield et al., 2010; Regan and Dreyer 1999; Lyons et al. 2012). These conclusions are curious given substantial gender differences that emerge in the results of these studies. For instance, Regan and Dryer (1999) find that 47% of men versus 29% of women cite sexual desire as a motivation for casual sex, 44% of women versus 9% of men cite an increased probability of a long-term relationship as a motivation, and 27% of men versus 5% of women cite increase in social status. Similarly, 58% of men compared to 44% of women cite fun as a motivating factor, and 23% of men compared to 4% of women claim “friends were doing it” as a factor in their decision to engage in premarital sex (Lyons et al. 2012). Some of these differences are not statistically different, but that may owe mostly to small sample sizes inflating standard errors rather than the absence of a substantively significant difference. For example, in their sample of more than 4,000 college students, England and colleagues (2008) find a significant difference in interest in a relationship prior to hooking up across genders, with 47% of women expressing interest compared to 35% of men. Thus, there do appear to be modest gender differences in motivations for hooking up, though the findings are not always concordant.

Qualitative evidence also points to a gendered approach to hooking up. In his study of Philadelphia nightlife, Grazian (2011) argues that the hunt for hookup partners is often more about the camaraderie men experience as they “psych themselves up” for the experience, encourage one another at parties or bars, and debrief following the experience. Particularly for men, participating in hookup culture is often an affirmation of one's masculinity (Ray and Rosow 2010).

Beyond gender, little is known about how social location and characteristics may shape hookup motivations. We explore a number of additional factors that may shape college students' motivations for hooking up. One possibility is that motivations for hooking up change over the course of students' college careers. Seniors in college find themselves with different normative expectations for their relationships—at age 22, settling into more committed relationships is likely more desirable than it is at age 18; some students report feeling increasing pressure in their senior year to find a romantic partner (Owen et al., 2010). But at the same time, seniors know they will be transitioning to a new environment shortly and may not want to commit to a serious relationship that could quickly become a long distance one (Glenn and Marquardt 2001; Lyons et al. 2012). The thrill of hooking up may also diminish over time, reducing thrill-seeking motivations and perhaps elevating other more utilitarian motives (like hoping a relationship would evolve, etc.). First year college students, who are still looking to establish their identities and standing in a new social environment, may be especially prone to be motivated by the approval of their peers.

Students with different race and ethnic identities may also have different motivations for hooking up based on both structural and cultural differences. In terms of structural differences, sex ratios are especially skewed for race-ethnic minorities on (particularly elite) college campuses (Massey et al. 2011), affecting the availability of preferred dating partners. Race-ethnic minorities may then be more likely to hook up—a partnership that is less racially homophilous than committed relationships (McClintock 2010). On the other hand, there may be cultural differences as well. African-American boys report perceiving more benefits from sex and less shame and guilt from sex than white boys, though white girls perceived more benefits from sex than black girls and had similar levels of perceived shame and guilt from having sex (Cuffee, Hallfors, and Waller 2007). These differences in the perceived consequences of sex suggest that African-Americans may feel freer to hookup for the short-term benefits (i.e., sex and fun). We know little about other race-ethnic minorities' motivations for sex.

Parental marital status could also influence the reasons college students hook up. Some research shows that they are more likely to hook up than those from intact families (Glenn and Marquardt 2001), but parental divorce may also affect students' motivations for hooking up. Those with divorced or never-married parents may be exposed to their parents' dating behavior which likely includes sexual activity, and as a result they may have more liberal attitudes toward sex (Axinn and Thornton 1996). For example, it may lead students whose parents are not married to each other to hook up for its immediate benefits—fun and sexual gratification. Students whose parents have divorced may also have negative attitudes toward marriage (Axinn and Thornton 1996) and may put off marriage until later in their life course (Wolfinger 2003). Thus, they may be less inclined to hook up hoping that a serious relationship would evolve, because they perceive a lack of a dating scene, or because they are too busy for a relationship.

Social class differences in motivations may also be evident among students who hook up. Hamilton and Armstrong's (2009) ethnography describes two very different class experiences among college women. They describe a double-bind for privileged college women, wherein gender expectations push them toward finding serious and committed relationships, but class expectations encourage them to postpone serious relationships until later in life and opt in favor of the hookup scene. Less privileged women, however, find that the college culture is defined by the beliefs of the upper class, and they are more likely to opt for committed relationships. If this is the case, upper class students who hook up may be more likely to cite fun and sexual gratification as motivations, since hooking up is partially a function of postponed relationships during college. They may also cite being too busy for a relationship. On the other hand, students from lower class backgrounds who hook up may be more likely to simply be seeking to fit in, to secure a more serious relationship, or may be hooking up because the dating scene is lacking.

Religion is an important factor in the decision whether or not to hook up (Burdette et al. 2009), especially for evangelical Protestants (Freitas 2008),³ but it is less clear whether it affects the motivations of those who do hook up. More religious adolescents anticipate more

³And, we suspect, Mormons, though they were not detailed in the cited study.

guilt from sex and believe their partner would lose respect for them if they had sex (Regnerus 2007). In general, religious individuals have more negative attitudes toward premarital sex (Pearce and Thornton 2007). This being the case, religious students who have hooked up may be less likely to do so because it is fun or because they are seeking sexual gratification, and more likely to do so because they do not perceive other options, are hoping a relationship evolves, or because they want to fit in with their peers.

Some evidence suggests that college students think *other students* hook up because they have low self-esteem (Glenn and Marquardt 2001). Of course self-esteem is not in itself a motivation, but students with low self-esteem may perceive a lack of a realistic dating scene, may view it as a way to secure a relationship, or may think of it as a way to fit in with peers. Alternatively, those with high self-esteem may be especially driven by hooking up's thrill-seeking benefits. Students' attitudes about sex may also be a proximate determinant of hookup motivations. Students who believe sex outside a committed relationship is wrong may not be seeking fun or sexual gratification, but may instead have other utilitarian motivations. Drunkenness—a common prelude to hooking up (England et al. 2008) may also diminish inhibitions students have about pursuing sexual gratification and fun or excitement.

MOTIVATIONS AND REGRET

Motivations for hooking up have been tied to the outcomes of hooking up. Prior research suggests that what may be significant about motivations is whether they are *autonomously motivated*—that is, whether they arise from within one's self as opposed to some external source (Ryan and Connell 1989; Ryan and Deci 2000; Vrangalova 2014). Self-determination theory suggests that better mental health outcomes result from behaviors that are autonomously motivated (Deci and Ryan 2000), and this holds for casual sex as well: Those with autonomous motivations for hooking up did not differ in well-being from those who did not hook up, but those who had non-autonomous motivations had lower well-being (Vrangalova 2014).

With respect to the motivations for hooking up discussed above, some are clearly more autonomous than others. For example, the personal motivations that so commonly motivate student hookups are autonomous. That is, students who hook up for fun, for sexual gratification, or because they are too busy are motivated by an intrinsic motivation: They are not being pressured into hooking up; they are making autonomous decisions about how to act.⁴ On the other hand, those operating from interpersonal or socioenvironmental motivation are making decisions in light of the relationship and markets they are situated in. These motivations may be less autonomous in the sense that they may be acting in ways that they view as suboptimal but yet still the best way forward.

Indeed, what this suggests is that hooking up often may be an ambivalent experience for college students. Although there is research on ambivalence as an *outcome* of hooking up (e.g., Glenn and Marquardt 2001; Owen et al. 2010), we know little about ambivalence *prior*

⁴Here we may note that the classification of autonomous and nonautonomous motivations may be more like a continuum than a categorical variable. Hooking up for sexual gratification is more clearly autonomous than hooking up because one is too busy for a relationship.

to hooking up. Given that the vast majority of college students report having been ambivalent about engaging in sexual activity in a dating relationship (O'sullivan and Gaines 1998), ambivalence likely characterizes the decision to hook up in the first place. This ambivalence should not be surprising given the competing sexual scripts purveyed by different institutions in contemporary culture (Simon and Gagnon 1984; Ellingson, Laumann, Paik and Mahay 2004). Indeed, as recent theorizing in demography [building on sociological theories explicated by Giddens (1984), Sewell (1992), and Bourdieu (1977)] would suggest, individuals draw on resources produced by different institutions in order to enact different schemas about what is an appropriate course of action (Johnson-Hanks et al. 2011).

CURRENT INVESTIGATION

By acknowledging this ambivalence in sexual behavior and implementing a method that can retain these mixed motivations, we offer a more accurate description of the combinations of motivations that precede hooking up, as well as a way to examine the link between complex sets of motivations and experiences of sexual regret after hooking up. Our method provides a more complete description of why college students hook up, how social location shapes those motivations, and how motivations are linked to hookup outcomes. We turn now to the description of the data, measures, and methods used in the study.

DATA

The data for this study are from the 2010 Duke University Hookup Survey.⁵ After gaining IRB approval, Duke University researchers obtained full lists of Duke University first-year students and seniors and randomly sampled 1,000 of each. Students were asked to participate in a 30-40 minute web survey. Students who participated were entered into a drawing for the chance to win one of several iPads. In all, 1,219 students filled out the survey for a 61% response rate. The survey focused on aspects of students' hookups and romantic and sexual relationships.⁶ We restrict the sample to students who indicated they had hooked up at least once during the semester.⁷ Our working sample has an N of 512. Latent class analysis does not default to listwise deletion of missing values but rather makes use of all available data. Thus, we use the original data without imputations to determine the latent classes. To deal with missing values for the independent variables in the analysis predicting membership in each latent class and hookup regret, we imputed ten data sets via multiple imputation. For the analysis of regret, the N is 508 because of missing values on the dependent variable, which we do not impute.

⁵We acknowledge that it has become customary to conceal the name of the university from which samples are drawn. We view this convention as unfortunate given the potential for social contextual effects on campuses to affect attitudes and behaviors, and barring any legitimate concerns about confidentiality we see no reason to conceal the university's identity. Because our data are a random sample and not convenience samples of students in particular courses, there is not a heightened risk of deductive disclosure. Neither Duke University nor the principal investigators of this study have expressed concern about using Duke's name. Indeed, the lead researchers identify Duke in their own work with these data (Morgan, Shanahan, and Brynildsen 2010).

⁶There are only a small number of students (N=28) who identify as a sexual minority in our sample, thus making our ability to draw unique conclusions about their hookup motivations difficult. We do, however, retain these respondents in our sample.

⁷The survey was collected during the month of November.

MEASURES

Indicators for Latent Class Analysis

In our latent class analysis, which is described in more detail below, we use six indicators of different motivations for hooking up. Each respondent was asked for their level of agreement that each of the following influenced their decision(s) to hookup during the current semester: lack of a dating scene, hoping it would evolve into a serious relationship, sexual gratification, wanting to fit in, fun/excitement, and schedule too busy to pursue a serious relationship. Although there are innumerable motivations for hooking up, these six motivations are commonly cited in the literature and also represent both autonomous and non-autonomous motivations for hooking up, a distinction that is important for well-being following the hookup (Vrangalova 2014). For each measure, students could strongly disagree, disagree, be neutral, agree, or totally agree that the motivation influenced their decision to participate in a hookup. We assign values of 1-5 for each category, with higher numbers indicating that the student more strongly agreed that the motivation was influential in their decision-making.

Indicator for Hookup Regret

We measure hookup regret using the survey item that asked, in the context of a series of questions about all the hookups the respondent had that semester, “Afterward, how often did you regret the encounter?” Because of small cell sizes, we collapse the original four-category variable into two categories where respondents who indicated they regretted their hookups “never” or “less than half the time” are coded 0, and respondents who indicated they regretted their hookups “more than half the time” and “always” are coded 1.

Correlates of Membership in Latent Classes of Motivations and Hookup Regret

We include a number of variables to predict who is most likely to belong to the different latent classes of motivations for hooking up that emerge. These variables include dummy variables for gender (female=1) and class standing (first year=1), as well as sets of dummy variables for race-ethnicity (White, Black, Asian, Hispanic/Other⁸), parental marital status (parents married, parents divorced/separated/never married, one or more parent deceased⁹), and mother's education (less than bachelor's degree, bachelor's degree, advanced degree). We also include a measure of how important religion is to the respondent based on the question, “How important is religion in your life?” This has three response categories, coded 1-3: not important, somewhat important, and very important. We construct a self-esteem scale using 10 items, nine of which are from the Rosenberg Self-Esteem Scale (Rosenberg 1965). The 10th item, “I like myself as I am” is used in place of the 10th item in the Rosenberg Self-Esteem Scale, “I take a positive attitude toward myself.” The standardized Cronbach's alpha for this scale is .89.

We also include an attitudinal measure. Students were asked about their views on premarital sexual intercourse. They could indicate that “unmarried individuals having sex is always

⁸Hispanics and students of “other” races were grouped together in the public access data due to the risk of deductive disclosure.

⁹Because only 18 students had a deceased parent, we do not display results for this group in our tables.

wrong,” “unmarried individuals having sex within a committed relationship is acceptable,” and “sex between two consenting individuals, even when they are not in a committed relationship, is acceptable.” We code this variable as a set of three dummy variables but do not display results for the first response because it is so rare ($n = 23$).

Finally, we include a measure of how often the respondent was drunk during their hookups that semester. Students were asked, “How often were you drunk during these encounters?” Responses are coded 1-4, with 1 indicating they were “never” drunk and 4 indicating they were “always” drunk.

Descriptive statistics for all study variables are included in Table 1.

ANALYTIC STRATEGY

We begin by conducting latent class analysis (LCA) to examine how different motivations may cluster together within individuals to produce a distinct number of classes. We conduct this analysis using the PROC LCA command in SAS available through Pennsylvania State University (Lanza et al. 2007). In Table 2, we present the fit statistics for models with one, two, three, four, five, and six latent classes. In Table 3, we report the conditional probability of each response category for each motivation by the latent classes and discuss how these define the various classes. We then examine correlates of membership in each class after placing individuals in the class for which they have the highest probability of membership. This maximum-probability assignment approach is warranted given the high average posterior probability of membership for each class (Nagin 2009) and the fact that our model's entropy exceeds .80; simulations show that in such models the method of maximum probability assignment performs better than posterior probability weighting for estimating how covariates are related to class membership (Clark and Muthén 2009). Then, in Table 4, we report relative risk ratios from multinomial logistic regression models predicting membership in each of the three large classes. This multivariate approach allows us to assess the independent associations between each variable and membership in each latent class.¹⁰

In Table 5, we report on three logistic regression models predicting regretting that semester's hookups most or all of the time. The first model includes only the latent classes as independent variables. Model 2 includes only the covariates. Model 3 includes both the latent classes and the covariates. This strategy allows us to assess how much of the association between the latent classes and regret is explained by the covariates and, conversely, how much of the association between the covariates and regret is explained by the latent classes. Because logistic coefficients and odds ratios are sensitive to the independent variables in the model, in order to examine mediation across models we also present y-standardized coefficients (Williams n.d.; Winship and Mare 1984).

¹⁰Premarital sex attitudes could also mediate the relationship between the other independent variables and motivations for hooking up. For example, religious students might be less likely to be motivated by sexual gratification because they believe premarital sex is wrong (Pearce and Thornton 2007). In ancillary analyses, we employed a nested modeling approach with sex attitudes entered in a second model. This variable did not substantively alter any of the effects of the other independent variables in any of the analyses, so we have only reported one model for each outcome with all independent variables included.

RESULTS

Because motivations co-exist within individuals, we performed latent class analysis (LCA) to identify classes of individuals based on their hookup motivations. Based on the adjusted BIC, we found that the four-class model provided the best model fit. Monte Carlo simulations show that the adjusted BIC selects the best model most consistently for categorical LCA analysis (Nylund, Asparouhov, and Muthén 2007). Moreover, when fit statistics do not agree on the best model, LCA experts recommend choosing the number of classes based on the most conceptually defensible model (Collins and Lanza 2010).

Table 3 reports the conditional probabilities of responses to each of the six motivations for each of the four classes. We call the first of the four classes the “Uninhibiteds.” This class makes up 27% of the sample. These students are motivated almost entirely by thrill-seeking—both in terms of sexual gratification and fun and excitement, two of the personal and autonomous motivations respondents were asked about. They have a .85 probability of strongly agreeing to be being motivated by sexual gratification and a .93 probability of strongly agreeing that they are motivated to hook up by fun and excitement. Other motivations pale in comparison to these for this class, though they are also the most likely of all classes to strongly agree that they are motivated by a lack of dating scene (.12 probability), hoping a relationship evolves (.07 probability), wanting to fit in (.06 probability), and being too busy for a relationship (.10). Uninhibiteds, are the most likely to be certain about their motivations and, most of the time, the key motivation is thrill-seeking. Although this class is perhaps what is most commonly portrayed in the media, it only accounts for a little over one quarter of students.

The second class, labeled “Utilitarians,” represents half of the population of Duke students who have hooked up. Utilitarians are certainly inspired by fun and excitement—they have a .56 probability of agreeing and a .31 probability of strongly agreeing that they are motivated by this factor—but they are also the most likely to be motivated by other factors, particularly the lack of a dating scene (.33 probability of agreeing and .07 probability of strongly agreeing), and hoping a relationship evolves from the hookup (.21 probability of agreeing and .06 probability of strongly agreeing). Sexual gratification also plays a role—with probabilities of .44 for agreeing and .10 for strongly agreeing—but it is not as prominent as it is for the Uninhibiteds. Utilitarians are motivated by their anticipated enjoyment of hooking up (more in terms of fun than sexual gratification), but they also are the most likely to view hooking up as a means to an end—that is, making up for a weak dating market and using hookups as catalysts for more serious relationships. Put another way, they are the most likely to mix autonomous and non-autonomous motivations for sex.

We have labeled the third class, which comprises 19% of Duke students who have hooked up during the semester, “Uninspireds.” These students are not strongly motivated by any of the listed factors. They are most strongly motivated by fun or excitement, but even for this factor they have only a .27 probability of strongly agreeing and a .39 probability of agreeing. Compared to the Uninhibiteds and the Utilitarians, they have the lowest probability of strongly agreeing with any of the motivations for hooking up (with the exception of being too busy for a relationship, where they are more likely than Utilitarians but less likely than

Uninhibiteds to strongly agree). What distinguishes this class seems to be their adamant stance on what their hookups are *not* about. They have a .91 probability of strongly disagreeing that their hookups are about the lack of a dating scene, a .73 probability that they strongly disagree that they were hoping a serious relationship would develop out of hooking up, a .96 probability that they disagree they were wanting to fit in, and a .84 probability that they strongly disagree they are too busy for a relationship. Although they are less likely to strongly disagree that they are motivated by sexual gratification (.24 probability) and that they want fun or excitement (.08 probability) than they are to strongly disagree with the other motivations, they are more likely than members of the other classes to strongly disagree with these items. Uninspireds are the most adamant about what their hookups are not about, but also less certain about what they *are* about.¹¹

The fourth and final class we term “Unreflectives.” Unlike the Uninspireds who have at least thought about what their hookups are *not* motivated by, Unreflectives—who are a mere 4% of the sample—are basically neutral on all motivations. This could suggest one of two types of people: individuals who have not really given much thought to their motivations, or individuals who were simply speeding through the survey instrument without much thought.

What are the individual characteristics that are associated with membership in each of these four classes? Table 4 presents relative risk ratios from multinomial logistic regression models predicting membership in the three main classes vis-à-vis each of the other classes.¹² Bivariate statistics for these relationships are available as Online Supplemental Table 1. The first column of relative risk ratios in Table 4 suggests that women are more likely to be Utilitarians than Uninhibiteds (at $p < .10$), as are those who believe sex outside a committed relationship is wrong. Black students are less likely than White students to be a Utilitarian than an Uninhibited, as are those whose mother has a graduate degree (at $p < .10$). Women are also far more likely to be an Uninspired than an Uninhibited—nearly three times as likely—while first-year students are 86% more likely to be an Uninspired than an Uninhibited. Students whose mother has an advanced degree are 61% less likely to be an Uninspired than an Uninhibited. Women are also nearly twice as likely to be an Uninspired than a Utilitarian, and those with higher self-esteem are more likely to be an Uninspired than a Utilitarian.¹³

We turn now to the issue of how latent class membership is associated with regretting hookups, which itself is linked to negative mental health outcomes. Cross-tabulations (not shown) reveal that those who are Unreflective are the least likely to regret most or all of their hookups, with only 6% reporting this level of regret. More than one quarter (26%) of Uninspireds express this level of regret, while 13% of Utilitarians report they regret most or

¹¹In ancillary analyses we examined whether Uninspireds were more likely to report ever being pressured into sexual activity or sexually assaulted since being at Duke. They were not, and were actually less likely than Uninhibiteds and Utilitarians to report being pressured into sexual activity. They are also less likely than Uninhibiteds, and not significantly different from Utilitarians, in their likelihood of having been assaulted.

¹²We do not discuss findings for the fourth and smallest class, Unreflectives, because they are such a small group and likely reflect a type of survey responder rather than a type class of hookup motivations.

¹³In ancillary analyses, we examined interaction terms between gender and race. None were significant, though this may be due to a small N problem. For example, there are only 17 black men and 19 black women in the sample.

all of their hookups during the semester. Only 7% of Uninhibiteds regret most or all of their hookups.

Table 5 reports odds ratios from logistic regression models predicting most or all hookups during the semester by latent class membership and control variables. Uninspireds are selected as the reference group because they were the group that reported the highest level of regret. Model 1 reports the bivariate association between latent class membership and regret and shows that all classes have lower odds of reporting hookup regret than do Uninspireds. Model 2 includes only the control variables. Here we see marginally significant positive associations between being female, being a first-year student, and the frequency of being drunk and having higher odds of reporting regretting most or all hookups during the semester. Asian students and students with divorced parents also report higher odds of regret, and those with higher self-esteem have lower odds of regret.

Model 3 includes both the latent class variables and the control variables. This model allows us to see both how the controls mediate the effect of latent class membership and how the latent classes of hookup motivation explain differences in the effect of these control variables on hookup regret. Clearly, the effect of motivation classes is not fully explained by the controls. Although the negative effect is diminished for Uninhibiteds (*vis-à-vis* Uninspireds), it is still strong and statistically significant. The odds ratios (and *y*-standardized coefficients) for the other classes—Utilitarians and Unreflectives—are actually larger than in Model 1, suggesting if anything the effect of the latent classes is suppressed by the control variables.

Some of the effect of the control variables is mediated by the inclusion of the motivation classes. Significantly, about 25% of the effect of being female on hookup regret is explained by motivation class and the female effect is no longer statistically significant. Similarly, the first-year effect is reduced by 15% and is no longer significant. The parental divorce effect is also diminished by about 15%. The other significant variables—Asian, self-esteem, and frequency of drunkenness—are virtually unchanged by the inclusion of the motivation classes.

DISCUSSION

We examined classes of college students' motivations for hooking up using data from probability samples of Duke University first year students and seniors. We identified—through latent class analysis (LCA)—four different classes or “motivation profiles” of those who hook up: Uninhibiteds, Utilitarians, Uninspireds, and Unreflectives. About one fourth of students are Uninhibiteds, who pursue hooking up almost entirely for the thrills and the sexual benefits. About half of students can be described as Utilitarians—those who hook up for the fun of it, but also for other reasons as well. Uninspireds make up about one fifth of the hookup population; these students mostly agree that hooking up is fun, but they are not as driven by sexual gratification as the Uninhibiteds and they strongly reject other motivations for hooking up. Unreflectives are a small group—less than 5% of the hookup population—and claim to be neutral on all the motivations. These students either have not

reflected much on their motivations for hooking up, or they did not take their time filling out the survey.

The results from the LCA illustrate the complexity and nuance involved in decisions to hook up. Some students are indeed driven primarily by fun and sex (Uninhibiteds). They are disproportionately men, race-ethnic minorities, from high-SES families, and have more liberal attitudes toward sex. They are driven by personal, autonomous motivations and thus their behavior rarely results in regret. Nevertheless, despite perhaps being the face of the hookup culture, they are only a minority of college students. Our analysis suggests, then, that the public perception of the hookup culture is misguided. Interestingly, Uninhibiteds tend to occupy positions of structural power (i.e., they are more likely men and from upper class backgrounds), and so our understanding of the hookup culture may skew toward the behavior of the most privileged college students.

Half of Duke students are more mixed in their motivations, which may suggest some ambivalence on the part of members of this class. Although Utilitarians are also motivated by sex and fun, they are less enthusiastic about these motivations than Uninhibiteds, and they are also frequently motivated by non-autonomous factors like hoping a relationship evolves and a perceived lack of a dating scene. It is likely that the presence of these multiple and disparate motivations not only reflects ambivalence prior to hooking up, but also results in a great deal of ambivalence about the hookup once it has occurred. Nevertheless, they are not the most regretful students.

That distinction goes to the Uninspireds. These students strongly reject non-autonomous motivations and are the least motivated by fun and sexual gratification of any of the three main classes. It is difficult to say for certain what members of this group are actually motivated by. It could be that many of them were not in control of their hookups as a result of pressure, force, or inebriation. Our ancillary analyses (not shown; see also note 11), however, do not bear this out. Those who report ever feeling pressured to have sex or who report being sexually assaulted are *less* likely to be an Uninspired. And frequency of drunkenness on hookups does not predict being an Uninspired (or any other class). What is more likely is that the Uninspireds simply lack an enthusiasm for hooking up and participate in these encounters somewhat halfheartedly. They are not driven by non-autonomous, environmental factors that are robbing them of their agency; rather, they are going with the flow. As with the Uninhibiteds, the Uninspireds may also have a great deal of ambivalence about their behavior, so much so that they are unable to articulate why they did it. These Uninspireds may lack intentionality in their behavior that correlates to positive emotional well-being.

We identified a number of differences among the classes across social characteristics that shed light on the types of individuals likely to be found in each of the motivation classes. Perhaps most striking among these are the gender differences. Although women are less likely to be Uninhibiteds, the story here is not one of women disliking hooking up; even Uninspireds, to the extent that they are motivated by anything, are motivated by fun and excitement. Nevertheless, many women seem to have accepted hooking up as a fun interaction even though they are not overly enthused about it. These women may be like

those in Bogle's (2008) study who hook up because that is simply what college students are supposed to do. Accounting for these gender differences in motivation also explains some of the gender difference in hookup regret.

The findings also suggest that in some respects, motivations for hooking up change over the course of students' college career.¹⁴ First-year students are more likely than seniors to be Uninspireds once we control for other social characteristics. This suggests that first year college students are either less clear or less enthusiastic about their motivations for hooking up, but that students mature and become more aware of their motivations as they age. First-year students are also more likely to regret their hookups, and this is explained in part by these differences in motivation. This change in motivation across the college career suggests that a potentially fruitful line of research could examine how the hookup culture changes as students progress through their college career.

White students are also distinct from race-ethnic minorities in their reasons for hooking up. Whites are more likely than Blacks to be Utilitarians vis-à-vis Uninhibiteds. It is likely that for Whites, hooking up has become part of the college script—part of the experimentation and adventure-seeking that comes with the college years. It is less about sex *per se*. It is also a tool that is used in order to secure relationships. For race-ethnic minorities (particularly Blacks and Hispanics/Others), however, hooking up is more simple and straightforward: It is more likely to be about sex. The findings for Black students are not surprising given the association between identifying as Black and holding more positive views of sex (Cuffee et al. 2007; Regnerus 2007).

A social class difference emerges from our findings as well. Students whose mothers had an advanced degree (46% of the sample) are much more likely to be Uninhibiteds than those whose mothers had less than a college degree. This finding mirrors the qualitative findings of Hamilton and Armstrong (2009), in which women from lower class backgrounds are less comfortable with the hookup script than those from privileged backgrounds, and in which women from middle or upper class backgrounds do not desire to be tied down by a relationship while they pursue the education needed to launch a successful career.

Students with low self-esteem hook up for different reasons than those with high self-esteem, but in a somewhat surprising way. Higher self-esteem is associated with being an Uninspired—being confident in what their hookups are *not* about, but not clear about what they *are* about—compared to being Utilitarians. One way to interpret this finding is that those with high self-esteem are confident that they are not being influenced by external, non-autonomous motivations, even though they are also not as driven by the personal motivations examined here. Hookup motivations are also distinct for those who believe sex outside of committed relationships is wrong. These students are more likely to be Utilitarians and less likely to be Uninhibiteds. While most (77%; results not shown) of these students did not have sexual intercourse on any of their hookups that semester, the remaining 23% are acting

¹⁴Here we are assuming differences between first year students and seniors are “age” effects rather than “cohort” effects. We can think of no reason why those who started college in 2007 would be noticeably different in their hookup motivations than those who began in 2010. Differences are much more likely to have emerged during the course of college and as the end of college nears, rather than represent pre-existing differences in the two cohorts.

out of step with their beliefs; these students may be hoping that the potential relationship benefits of hooking up will compensate for the cognitive dissonance that might result from the disconnect between their attitudes and behaviors.

This study has its limitations. Our data are drawn from one university population. College campuses may function as markets which may uniquely shape motivation for hooking up through distinct sexual cultures, population dynamics, and more. They may also select students with particular attitudes toward hooking up. Students at Duke may differ in meaningful ways from the average American college student. They attend an elite university and are likely high-achieving students who are more likely to be career-focused and ambitious. If this is true across the population of Duke students, we may see less diversity in hookup motivation and fewer differences across social characteristics than we would if we were examining a nationally representative sample of college students. Moreover, our data set is larger than many data sets used to study college student sexual behavior, but it is still relatively small. Some of the independent variables predicting the latent classes, for example, may actually prove significant in a larger sample. Nevertheless, our data set is a probability sample and thus preferable to the convenience samples that are typically used for studies of college student sexual behavior. Nationally-representative studies of college students exist, but they do not include detailed information about hookup behavior—and certainly nothing specific about motivations for hooking up. While a large-scale study of college student hookup motivations would be welcome, it is not yet a reality. Though differences across campuses are likely, we believe these data are useful for detailing the different classes of motivations for hooking up and how they may vary by students' social characteristics.

Our data are also cross-sectional, which makes assertions about causal relationships tenuous. This is less problematic for exogenous variables like gender, class standing, race, and social class. Other variables in our model—such as self-esteem, religiosity, and attitudes toward sex—may be influenced by students' hookup experiences. But it is clearer how the experience of hooking up influences these factors and less clear how *motivations* for hooking up would do so. By using a sample of those who have hooked up, we posit that endogeneity is less of a problem for our analysis. We are also unable to rule out other issues that plague survey data such as social desirability bias.

Finally, the survey instrument in our study does not include a comprehensive list of motivations for hooking up. Based on themes emerging from Glenn and Marquardt's (2001) study, future research may ask about additional motivations such as stress release, feeling in control, or avoiding the pain of breakups by avoiding commitment altogether. Of course, the list of potential motivations for hooking up is likely very long, and at some point a cutoff is necessary. The six motivations in our study are commonly perceived motivations, likely capture a lot of the diversity in the reasons students hook up, and measure both autonomous and non-autonomous motivations.

Indeed, our study provides a detailed, descriptive account of how motivations for hooking up cluster together for some students. Understanding the prevalence and correlates of the classes in which motivations overlap to varying degrees is important for understanding the

so-called hookup culture on college campuses and why students decide to engage in hookups. Our findings show that motivations for hooking up are complex and are often operating concurrently. Future research should consider the reasons students hookup and unique combinations of different motivations when assessing the consequences of hooking up.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

The authors would like to thank Phil Morgan, Wendy Brynildsen-Young, and Suzanne Shanahan for data access. This research was supported by grant, 5 R24 HD050924, Carolina Population Center, awarded to the Carolina Population Center at The University of North Carolina at Chapel Hill by the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

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Table 1

Descriptive Statistics for Study Variables (N = 512)

	Mean	SD	Range
Fun or excitement	4.25	.88	1-5
Sexual gratification	3.70	1.17	1-5
Too busy for relationship	1.97	1.16	1-5
Hoping relationship evolves	2.27	1.24	1-5
Lack of a dating scene	2.54	1.32	1-5
Wanting to fit in	1.74	1.00	1-5
Regrets most or all hookups this semester ^a	.14		0, 1
Female	.55		0, 1
First year student	.59		0, 1
White	.67		0, 1
Black	.07		0, 1
Asian	.16		0, 1
Hispanic/Other	.10		0, 1
Parents married	.80		0, 1
Parents divorced/separated/never married	.16		0, 1
Parent deceased	.04		0, 1
Mother less than bachelor's degree	.13		0, 1
Mother has bachelor's degree	.41		0, 1
Mother has advanced degree	.46		0, 1
Importance of religion	1.69	.73	1-3
Self-esteem	31.89	5.02	15-40
Sex between consenting adults OK	.70		0, 1
Sex outside committed relationship wrong	.26		0, 1
Sex outside of marriage wrong	.05		0, 1
Frequency of drunkenness during hookup	2.57	1.00	1-4

^aN = 508

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Table 2

Fit Statistics for Latent Class Models

	G^2	AIC	BIC	Adjusted BIC
Independence	2279.58	2327.58	2429.30	2353.12
Two latent classes	2031.05	2129.05	2336.72	2181.19
Three latent classes	1885.80	2033.80	2347.44	2112.55
Four latent classes	1787.80	1985.80	2405.40	2091.16
Five latent classes	1730.04	1978.04	2503.59	2110.00
Six latent classes	1690.19	1988.19	26.19.70	2146.75

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Table 3

Conditional Probabilities of Responses to Six Survey Items Measuring Motivations for Hooking Up

	Class 1 (27%) Uninhibiteds	Class 2 (50%) Utilitarians	Class 3(19%) Uninspireds	Class 4 (4%) Unreflectives
Fun/Excitement				
Strongly disagree	.00	.00	.08	.06
Disagree	.01	.02	.03	.00
Neutral	.02	.11	.24	.71
Agree	.04	.56	.39	.00
Strongly agree	.93	.31	.27	.23
Sexual gratification				
Strongly disagree	.00	.04	.24	.06
Disagree	.01	.11	.08	.05
Neutral	.00	.30	.33	.81
Agree	.15	.44	.30	.00
Strongly agree	.85	.10	.04	.07
Too busy for relationship				
Strongly disagree	.50	.36	.84	.16
Disagree	.15	.35	.06	.00
Neutral	.14	.15	.04	.69
Agree	.11	.13	.03	.15
Strongly agree	.10	.00	.03	.00
Hoping relationship evolves				
Strongly disagree	.48	.20	.73	.06
Disagree	.22	.32	.06	.00
Neutral	.13	.21	.15	.84
Agree	.10	.21	.03	.10
Strongly agree	.07	.06	.02	.00
Lack of dating scene				
Strongly disagree	.36	.09	.91	.00
Disagree	.22	.25	.02	.07
Neutral	.17	.27	.04	.88
Agree	.14	.33	.00	.00
Strongly agree	.12	.07	.03	.05
Wanting to fit in				
Strongly disagree	.51	.45	.96	.10
Disagree	.21	.36	.00	.00
Neutral	.18	.10	.04	.90
Agree	.04	.07	.00	.00
Strongly agree	.06	.01	.00	.00

N=512.

Table 4

Relative Risk Ratios from Multinomial Logistic Regression Models Predicting Latent Classes of Those Who Hook Up

	Utilitarian vs. Uninhibited	Uninspired vs. Uninhibited	Uninspired vs. Utilitarian
Female	1.52 [†]	2.93 ^{***}	1.93 [*]
First year student	1.23	1.86 [*]	1.52
Black	.34 [*]	.48	1.40
Asian	.64	.88	1.37
Hispanic/Other	.61	.44	.72
Parents divorced/separated/never married	1.07	1.73	1.61
Mother has college degree	.83	.83	1.00
Mother has advanced degree	.52 [†]	.39 [*]	.75
Importance of religion	1.14	1.14	1.01
Self-esteem	.97	1.04	1.07 ^{**}
Sex outside committed relationship wrong	4.36 ^{***}	3.60	.83
Frequency of drunkenness during hookup	1.12	1.13	1.01

Note: Not enough cases in Class 4 (Unreflectives) for meaningful analysis. N =512.

p < .001

**
p < .01

*
p < .05

†
p < .10

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Table 5

Odds Ratios from Logistic Regression Models Predicting Regret Most or All of Hookups This Semester (y-standardized coefficients in parentheses)

	Model 1	Model 2	Model 3
Uninspireds (reference group)			
Uninhibiteds	.21 *** (-.42)		.37 ** (-.45)
Utilitarians	.45 ** (-.83)		.21 ** (-.70)
Unreflectives	.17 † (-.93)		.11 * (-1.00)
Female		1.81 † (.28)	1.58 (.21)
First year student		1.73 † (.26)	1.63 (.22)
Black		.29 (-.57)	.32 (-.50)
Asian		3.24 ** (.56)	3.31 ** (.54)
Hispanic/Other		1.83 (.29)	1.96 (.31)
Parents divorced/separated/never married		2.38 * (.41)	2.16 † (.35)
Mother has college degree		.92 (-.04)	.91 (-.04)
Mother has advanced degree		.54 (-.28)	.61 (-.22)
Importance of religion		1.39 (.15)	1.29 (.11)
Self-esteem		.90 ** (-.05)	.89 *** (-.05)
Sex outside committed relationship wrong		1.69 (.24)	1.63 (.21)
Frequency of drunkenness during hookup		1.30 † (.12)	1.30 † (.12)

Note: N =508.

p < .001

**
p < .01

*
p < .05

†
p < .10