

Diverse Reactions to Hooking Up Among U.S. University Students

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Abstract Hooking up is defined as a physical encounter between two people who are not romantically committed. This study explored whether there were subgroups of young adults with unique reactions to hooking up ($N = 879$). Psychosocial predictor variables (gender, depression, loneliness, intoxication level, college adjustment, and hope for a committed relationship) were investigated along with emotional reactions as the outcome variables. Through the use of cluster analysis, four distinct clusters were identified: *Happy Hopeful*, *Content Realist*, *Used and Confused*, and *Disappointed and Disengaged*. The majority (62 %) of the sample reported mostly positive reactions to hooking up and fell within the *Happy Hopeful* or *Content Realist* clusters. Protective factors in these two clusters included hope for a committed relationship, having realistic expectations, and healthy psychological adjustment. The *Used and Confused* and *Disappointed and Disengaged* clusters reported the most negative hooking up reactions and consisted of 38 % of the overall sample. These two groups reported increased depression and loneliness symptoms and lower levels of social adjustment as compared to those clusters with more positive reactions.

Keywords Hooking up · Casual sex · Cluster analysis

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Introduction

Hooking up is defined as a physical encounter (ranging from kissing to intercourse) between two people who are not romantically committed to one another (Fielder & Carey, 2010; Owen, Rhoades, Stanley, & Fincham, 2010; Paul, McManus, & Hayes, 2000). Multiple studies have investigated predictors of hooking up, such as alcohol use, gender, and psychological well-being (e.g. Grello, Welsh, & Harper, 2006; Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012; Owen, Fincham, & Moore, 2011; Owen et al., 2010; Townsend & Wasserman, 2011). However, there is limited research investigating reactions to hookups and current research has shown that young adults have a variety of positive and negative reactions. Consequently, it is unclear whether hooking up is emotionally damaging, developmentally appropriate, or both. Perhaps there are distinct subgroups of young adults who have predictable patterns of hooking up reactions, with particular psychosocial factors that differ among these groups.

A variety of emotional reactions to hooking up have been reported. In a study of 1,000 college women, 64 % reported that they felt “awkward” a day or two after the hook up, followed by “desirable” (62 %) and “confused” (57 %) (Glenn & Marquardt, 2001). In a qualitative study of 187 college students, the most common reactions to a hookup were feeling “good, aroused, or excited” (65 %), followed by “regretful or embarrassed” (17 %) (Paul & Hayes, 2002). While a recent study reported that hooking up was commonly followed with negative emotional, social, and health related outcomes (Bachtel, 2013), Owen and Fincham (2010) found that both men and women’s emotional reactions post hookup were more positive than negative overall.

Differences in methodology may partially explain these diverse findings. First, some researchers investigated only negative emotional outcomes to hooking up, such as feelings of regret or vulnerability (e.g. Eshbaugh & Gute, 2008; Grello et al., 2006;

Townsend & Wasserman, 2011), potentially missing positive aspects of hooking up. There are also discrepancies across studies in the assessment of emotions. Categorical methods involve participants answering yes or no to an emotional response (Owen et al., 2010). However, this methodology provides no distinctions regarding variability in each emotion (e.g. intensity); individuals reporting high levels of positive reactions and low levels of negative reactions will be grouped as experiencing both types of reactions equally. Furthermore, studies using a Likert scale seem to report higher positive emotional reactions (Fielder & Carey, 2010; Lewis et al., 2012; Owen & Fincham, 2010) compared to those with categorical methods that reported more negative outcomes (Glenn & Marquardt, 2001; Owen et al., 2010). Providing a continuous scale for each emotion helps capture the intensity of reactions and can be utilized to form unique groups based on individuals with similar reactions, thereby providing a more accurate depiction of hooking up experiences.

Psychosocial Factors and Post-Hookup Reactions

It is also important to examine whether these groups of young adults differ in their psychosocial makeup; in particular, participants' gender, depression, loneliness, and college adjustment, and hooking up event-based factors such as alcohol consumption, level of intimacy, and hope for a committed relationship may influence hooking up reactions. These predictor variables were selected based on empirical precedent and have been linked to previous theories used in the hooking up literature (e.g. Theory of Reasoned Action) (Fishbein & Ajzen, 1975) which states that behavior can be predicted through the combination of attitudes toward the behavior and perceptions of others' attitudes (i.e. normative beliefs) that form an intention to act. Thus, the predictors may interplay with attitudes toward hooking up ("It will help with my loneliness") or a perceived attitude of others ("This person will like me if we hookup") to influence a young adults' decision to hook up.

Gender may be related to varied emotional reactions to hooking up. Evolutionary theory posits that women and men react to sexual encounters differently based on asymmetrical levels of investment within the relationship (Townsend & Wasserman, 2011). For example, women are more likely than men to hope that a casual sexual relationship will develop into a romantic relationship (Grell et al., 2006; Owen & Fincham, 2010; Townsend & Wasserman, 2011). In contrast to evolutionary theory, social constructionist theory proposes that gender differences in sexuality are socially created and culturally defined (Baumeister, 2000). Differences in sexual attitudes between men and women may be due to cultural constraints on women's sexual expression or permissiveness for men (Baumeister & Twenge, 2002). Supporting these theories, several studies have shown higher positive reactions from men than women (Lewis et al., 2012; Owen et al., 2010; Paul & Hayes, 2002). However, recent research has shown more positive than negative reactions to

hookups for both men and women (e.g. Fielder & Carey, 2010; Lewis et al., 2012; Owen & Fincham, 2010), indicating that hooking up experiences may be considered less damaging for both genders than previously thought. Therefore, we expected that both men's and women's responses would illustrate more positive than negative reactions; however, men were predicted to be more likely to endorse positive reactions than women.

Young adults' psychological well-being may also impact reactions to casual sexual experiences. Depression is an index of well-being commonly researched in relation to hooking up behavior. Depressed individuals are more likely to view every day events through a negative lens compared to non-depressed individuals (Beck, 1987), thereby increasing the likelihood of having a negative hookup experience. Grello et al. (2006) found that women who reported high rates of depressive symptoms were most likely to engage in casual sex; the opposite was found for men. Additionally, women who were depressed were likely to feel regretful after a hookup. While some individuals may experience increased depressive symptoms after hooking up, some evidence suggests that among young adults with higher amounts of distress, reports of depressive symptoms may decrease post hookup (Owen et al., 2011). Thus, depressive symptoms may influence the motivations towards hooking up or the outcomes of such encounters.

Limited research has connected casual hookups with academic or social adjustment. Yet, it is possible that students who are well adjusted to college life participate in more social interactions, thereby providing more opportunities for hooking up. Fielder and Carey (2010) suggested that high achieving females may prefer casual romantic encounters over committed relationships because of time constraints. Further, the college experience commonly influenced by the hooking up culture may also include sexual exploration, which could allow young individuals the opportunity to develop their sexual identity (Manning, Giordano, & Longmore, 2006). Consequently, some young adults may hookup to connect with others and abate feelings of isolation; however, others may feel lonely if a hookup fails to progress as intended. Owen et al. (2011) found students who hooked up and reported more feelings of loneliness at the beginning of the semester reported feeling less lonely 8 weeks later (compared to college students who did not hookup).

Alcohol use is commonly connected with the likelihood and reaction to hooking up (Bachtel, 2013; Fielder & Carey, 2010; Lewis et al., 2012; Owen et al., 2010). According to alcohol myopia theory ("Beer Goggles"), alcohol alters social behavior by making one's reactions to social experiences more exaggerated, enhancing positive self evaluations, impairing thought processes, and relieving anxiety and depression (Steele & Josephs, 1990). Further, alcohol myopia suggests individuals' tend to emphasize immediate stimuli, such as sexual arousal, and deemphasize inhibiting cues, such as the risks associated with unprotected sex (MacDonald, MacDonald, Zanna, & Fong, 2000). Research on the link between alcohol use and reactions to hooking

up has partially supported this theory, as alcohol has been related to more positive and fewer negative emotion reactions after a hookup (Lewis et al., 2012; Owen & Fincham, 2010).

The level of intimacy during hookups has also been related to young adults' emotional reactions to hooking up. For instance, men who had a coital hookup reported fewer negative reactions, while the type of hookup interaction did not impact women's emotional reactions (Owen & Fincham, 2010). Lewis et al. (2012) found that engaging in oral sex was related to more positive emotional reactions, compared to those who had vaginal sex, who reported more negative reactions. Similarly, Eshbaugh and Gute (2008) found that women were more likely to report feelings of regret if hookups were coital. Perhaps some individuals who have a coital hookup find the experience to be more emotionally and physically gratifying whereas others regret allowing the hookup to be as sexually intimate.

Finally, holding hope for a committed relationship following a hookup may influence one's reaction to a hookup. While hookups are defined as non-committal, some research suggests that a third to a half of individuals hooking up hope that the experience would progress into a relationship (Manning et al., 2006). Garcia and Reiber (2008) reported that individuals who intended to begin a committed relationship post-hookup were likely to acknowledge the unlikelihood of this progression. Hope for an exclusive relationship may also be related to increased positive reactions to hooking up (Owen & Fincham, 2010), potentially due to young adults romanticizing the encounter as a pathway to commitment.

The purpose of this study was to determine whether there were distinct groups of young adults based on their reactions to hooking up and whether those groups differed in psychosocial variables. We examined common risk and protective factors for engaging in emotionally positive hooking up experiences found in previous research. It was hypothesized that groupings of young adults would have unique associations with predictor variables, providing information on what predictor variables may influence positive versus negative responses to hooking up.

Method

Participants

A sample of 1,580 students from a large Southeastern university was recruited. Students who did not experience a hookup within the last 12 months ($n = 701$) were excluded, leaving the final sample at 879 participants. Gender was equally represented with 432 men (49.7 %) and 442 women (50.3 %). The ages of participants ranged from 17 to 28 years old, with an average age of 19 ($SD = 1.24$). The majority of students were freshmen (43 %), followed by sophomores (37 %), juniors (14 %), and seniors (5.3 %). The racial/ethnic representation of the participants was 72 % Caucasian, 12 % Hispanic, 9 % African American, 2.7 % Asian American, and 3.6 % multiracial and other.

Procedure

Students were recruited from an introductory course on families across the lifespan during the fall and spring semester of 2010–2011. Participants were provided multiple options for obtaining extra credit, including completing a survey used for this study. The majority (over 95 %) of students participated in the study and completed the survey within a 5 day time frame. Students completed informed consent before being instructed on how to access the on-line survey. The university IRB approved all of the procedures.

Measures

Emotional Reactions after Hooking Up (Glenn & Marquardt, 2001)

We utilized the adapted version of the Emotional Reactions scale. In Glenn and Marquardt, the items were endorsed (or not) creating a dichotomous rating system. In contrast, the current study used a Likert scale, which allows a more nuanced understanding of each participant's reaction, as opposed to using a dichotomous system that limits responses (Owen & Fincham, 2010). Participants were asked to identify how they felt all things considered after their most recent hookup encounter (i.e. within the last 12 months). They were provided with five positive emotions (happy, desirable, adventuresome, pleased, and excited) and five negative emotions (empty, confused, used, awkward, and disappointed). For each emotion, a 5-point Likert scale was used with scores ranging from 1 (*Not at all*) to 5 (*Very Much*). Higher scores indicated stronger levels of positive and negative emotions, respectively. Previous studies utilizing these, or comparable, adjectives have illustrated strong face validity and have been commonly used for emotional checklists and to distinguish emotional experiences after hookups (Glenn & Marquardt, 2001; Lewis et al., 2012; Owen et al., 2010). Cronbach's alphas for the current study were .87 for positive emotions and .74 for negative emotions.

Depressive Symptoms

The Center for Epidemiologic Studies-Depression scale (CES-D) (Radloff, 1977) was used to assess depressive symptomatology in the past week. This ten-item scale has questions such as "I was bothered by things that usually don't bother me" and "I felt hopeful about the future." Response options ranged from 1 (*Rarely or none of the time*) to 4 (*Most or all of the Time 5–7 days*). In previous studies, support for the reliability (e.g. alphas >0.70) and validity (e.g. correlations with other distress depression measures) has been demonstrated (Cole, Rabin, Smith, & Kaufman, 2004). Cronbach's alpha for this study was 0.78.

Loneliness

The UCLA Loneliness scale is frequently used in loneliness research (Russell, 1996). This version of the scale consisted of eight items using a four-point scale with responses ranging from 1 (*Never*) to 4 (*Often*). Sample questions include “I lack companionship” and “I feel isolated from others.” In a previous study, the reliability and validity of the scale was supported over a 1 year period (Russell, 1996). Cronbach’s alpha in this study was 0.84.

College Adjustment

The Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1984) is a 20-item self-report measure comprised of two scales: the Academic Adjustment scale (ten items) assesses responses to curriculum demands experienced during college and the Social Adjustment scale (ten items) evaluates interpersonal relationships while at a university. Response options ranged from 1 (*Very Poorly*) to 5 (*Very Closely*). Previous studies have demonstrated internal consistency between the subscales (e.g. Cronbach’s alpha >0.80) and validity (e.g. statistically significant correlations between the SACQ and other college psychosocial measures; Beyers & Goossens, 2002). In this study, Cronbach’s alpha was 0.86 for the Academic Adjustment Scale and 0.89 for the Social Adjustment Scale.

Intoxication Level

To assess the influence of intoxication, particularly alcohol consumption, during a hookup, participants were asked “During your most recent hooking up experience, were you under the influence of a substance (e.g. alcohol)?” Participants selected the following options: Not intoxicated, Somewhat intoxicated, Intoxicated, Very Intoxicated.

Types of Intimacy

Participants were asked what type of physical encounter they experienced during their hookup, with options being “kissing,” “petting,” “oral sex,” and “intercourse (vaginal, anal).” Participants were able to choose more than one type of physical encounter. Responses were then grouped into HU-genital (“oral sex” and “intercourse” responses) and HU-non-genital (“kissing” and “petting” types of intimacy). Sixty percent of the participants reported experiencing oral sex or intercourse during their hookup. For analyses, participants who engaged in genital hookups (oral/intercourse) were coded 1 and those who did not were coded 0.

Hope for a Committed Relationship

To assess hope, participants were asked, “Prior to hooking up, did you hope that you and your hookup partner would progress

into a committed relationship?” The response options included: No; Yes, and it seemed very unlikely to happen; Yes, and it seemed somewhat unlikely to happen; Yes, and it seemed somewhat likely to happen; Yes, and it seemed very likely to happen. Hope was measured prior to hooking up to capture the possibility that hoping for a committed relationship may influence young adults to hookup and as a means to begin the desired relationship.

Results

A cluster analysis was conducted to determine whether groups of participants with similar emotional reactions to hooking up could be identified. Cluster analysis combined and sorted cases into groups based on their responses to emotional reactions. Ultimately, the goal with cluster analysis was to find groups of individuals that were most similar to one another, while maximizing the differences with the other created groups (Henry, Tolan, & Gorman-Smith, 2005). Participants’ scores on the ten emotional reaction items were used in a latent class cluster analysis. Latent class analysis is advantageous, because it provides model fit and statistical tests for differences between cluster models, as well as bootstrapping estimate procedures to help approximate representative distribution of the data to the population (Magidson & Vermunt, 2001). Specifically, we tested the relative fit of four cluster models (i.e., 1–2–3–4 cluster solutions) based on model fit statistics (i.e., AIC, BIC, lower values indicated better model fit) and bootstrap estimates (similar to Chi square difference test). Latent class cluster analysis was conducted using Latent Gold 4.5 software (Vermunt & Magidson, 2008).

The results of the latent class cluster analysis are shown in Table 1. Based on the model fit indices and bootstrapping differential test, Model 4 was shown to be the best fitting model. Table 2 shows the cluster loadings for the emotional reaction items by cluster. Cluster 1 ($n = 274$, 32 %) was labeled as the *Happy Hopeful* cluster, for individuals were associated with the strongest positive reactions (e.g. happy, desirable, adventuresome, and pleased) and low negative reactions (e.g. awkwardness, disappointed, and empty) to hooking up, compared to other clusters. Furthermore, this group reported significantly higher amounts of hope for a future committed relationship (46 % of cluster) as compared to Cluster 2 (18.5 % of cluster) and Cluster 4 (20 % of cluster). Cluster 2 ($n = 261$, 30 %) was labeled the *Content Realist* cluster, because participants reported high amounts of happiness, desirability, and adventuresome feelings (although not as high as Cluster 1), and exhibited the least amount of confusion post-hookup of the four clusters. Cluster 3 ($n = 213$, 24 %) was labeled the *Used and Confused* cluster, as members of this group were associated with the strongest feelings of emptiness, confusion, and being used within the clusters, and reported low amounts of happiness (although not as low as Cluster 4) post-hookup. Similar to Cluster 1, the participants in this cluster were likely to report hoping for a committed relationship (37.3 % of

cluster). Finally, Cluster 4 ($n = 115$, 18 %) was labeled the *Disappointed and Disengaged* cluster, for individuals displayed the least amount of positive emotions (happy, desirable, and pleased), and high amounts of negative emotions (awkwardness and disappointment) among the clusters. Cluster 4 exhibited less confusion, emptiness, and used feelings as compared to Cluster 3.

Clusters and Psychosocial Factors

Chi square analyses determined relationships between the type of hookup (genital vs. non) and gender with cluster types (see Table 3). With hookup type, $\chi^2(3, N = 863) = 28.20, p < .01$, Cluster 1 had the highest percentage of participants experiencing a genital hookup (72.3 %), with Cluster 2 (57.9 %) and Cluster 4 (57.4 %) in the middle with rates of genital contact, and Cluster 3 (49.3 %) having the lowest amounts of a genital hookup. Cluster type was associated with gender, $\chi^2(3, N = 863) = 13.49, p < .01$, with Clusters 1 and 2 more likely to consist of men, as compared to clusters 3 and 4 (34 % of the male sample and 29 % of the female sample were in Cluster 1; 34 % of the male sample and 27 % of the female sample were in Cluster 2; 21 % of the male sample and 28 % of the female sample were in cluster 3; 11 % of the male sample and 17 % of female sample were in Cluster 4).

Table 1 Summary of latent class cluster analysis

Cluster	AIC	BIC	Dif L ² -bootstrap
1	23,774	23,965	–
2	22,061	22,304	1,736**
3	21,470	21,765	1,735**
4	21,186	21,533	3,05**

AIC Akaike Information Criterion, BIC Bayesian Information Criterion

** $p < .01$

Table 2 Cluster coefficients, means, and comparisons for emotional reactions

Reactions	Cl 1 <i>M</i>	Coefficient (SE)	Cl 2 <i>M</i>	Coefficient (SE)	Cl 3 <i>M</i>	Coefficient (SE)	Cl 4 <i>M</i>	Coefficient (SE)	Compare clusters
Happy	4.81	3.34 (.27)	3.66	-.29 (.12)	3.27	-.86 (.13)	2.03	-2.19 (.16)	1 > 2 > 3 > 4
Desirable	4.77	2.33 (.20)	3.59	-.30 (.10)	3.50	-.41 (.11)	1.96	-1.96 (.16)	1 > 2 = 3 > 4
Pleased	4.69	2.46 (.20)	3.79	.30 (.13)	3.33	-.32 (.13)	1.67	-2.44 (.28)	1 > 2 > 3 > 4
Adventure-Some	4.07	.67 (.07)	3.44	.03 (.06)	3.50	.07 (.06)	2.28	-.78 (.08)	1 > 2 = 3 > 4
Excited	4.77	2.95 (.21)	3.57	.11 (.13)	3.33	-.32 (.13)	1.51	-2.76 (.35)	1 > 2 > 3 > 4
Disappointed	1.55	-.58 (.07)	1.54	-.57 (.08)	2.80	.46 (.06)	3.11	.69 (.09)	3 = 4 > 1 = 2
Empty	1.46	-.41 (.08)	1.28	-.70 (.12)	2.89	.68 (.08)	2.36	.44 (.08)	3 > 4 > 1 = 2
Confused	1.95	.11 (.07)	1.22	-.92 (.15)	2.85	.64 (.08)	2.00	.17 (.09)	3 > 1 = 4 > 2
Used	1.52	-.03 (.08)	1.10	-.94 (.17)	2.62	.68 (.08)	1.85	.29 (.09)	3 > 4 > 1 > 2
Awkward	1.92	-.29 (.06)	1.70	-.47 (.07)	2.78	.34 (.06)	2.94	.41 (.07)	3 = 4 > 1 = 2

Cl Cluster

A between subjects multivariate analysis of variance was conducted to examine the differences between participants in the four clusters, gender, and hookup type on depressive symptoms, loneliness, academic and social adjustment, intoxication, and hope for a committed relationship. The results demonstrated a statistically significant main effect for Cluster type, $\lambda = 0.87, F(18, 2348) = 6.61, p < .01$, partial $\eta^2 = 0.05$, gender, $\lambda = 0.94, F(6, 830) = 8.45, p < 0.01$, partial $\eta^2 = 0.06$, and hookup type, $\lambda = 0.98, F(6, 830) = 2.84, p = .01$, partial $\eta^2 = 0.02$.

Across cluster type, there were significant differences among the clusters on depressive symptoms, $F(3, 835) = 11.68, p < .01$, partial $\eta^2 = 0.04$, loneliness, $F(3, 835) = 15.17, p < .01$, partial $\eta^2 = 0.05$, social adjustment, $F(3, 835) = 10.98, p < .01$, partial $\eta^2 = 0.04$, intoxication, $F(3, 835) = 3.57, p < .05$, partial $\eta^2 = 0.01$, and hope, $F(3, 835) = 14.97, p < .01$, partial $\eta^2 = 0.05$. There was no significant difference among the clusters on academic adjustment, $F(3, 835) = 1.73$.

There were specific differences among the clusters on the dependent variables (Table 4). With depressive symptoms, Clusters 1 and 2 both reported lower symptoms than Cluster 3 (Clusters 1 vs. 3 $d = -0.33$; Clusters 2 vs. 3 $d = -0.51$), and Cluster 4 (Cluster 1 vs. 4 $d = -0.37$; Cluster 2 vs. 4 $d = -0.55$). Similarly, loneliness levels with Clusters 1 and 2 were both lower than Clusters 3 and 4 (Clusters 1 vs. 3 $d = -0.33$; Clusters 1 and 4 $d = -0.53$; Clusters 2 and 3 $d = -0.51$; Clusters 2 and 4 $d = -0.69$). For social adjustment, Clusters 1 and 2 reported higher adjustment levels than 3 and 4 (Clusters 1 and 3 $d = 0.23$; Clusters 1 and 4 $d = 0.42$; Clusters 2 and 3 $d = 0.38$; Clusters 2 and 4 $d = 0.56$). With intoxication, Cluster 1 reported higher consumption rates than clusters 2, 3, and 4 (Cluster 1 and 2 $d = 0.28$; Cluster 1 and 3 $d = 0.26$, and Cluster 1 and 4 $d = 0.32$). Hope for a committed relationship was statistically different among Clusters 1 and 2 ($d = 0.48$), 1 and 4 ($d = 0.38$), 2 and 3 ($d = 0.47$), and

Table 3 Chi square associations with hookup type, gender, and cluster

Cluster	Men		Women	
	HU-Genital <i>N</i> (%)	HU-Non Genital <i>N</i> (%)	HU-Genital <i>N</i> (%)	HU-Non Genital <i>N</i> (%)
Happy hopefuls	116 (27 %)	32 (8 %)	82 (19 %)	44 (10 %)
Content realists	101 (24 %)	43 (10 %)	50 (12 %)	67 (15 %)
Used and confused	54 (13 %)	36 (8 %)	51 (12 %)	72 (17 %)
Disappointed and disengaged	30 (7 %)	17 (4 %)	36 (8 %)	32 (7 %)

The table represents the entire sample divided into men and women participants. The percentages reflect the gender distribution per cluster, separated by hookup type

HU Hookup

Table 4 Cluster relationships with predictor variables

	Cluster 1 <i>Happy hopefuls</i> <i>M</i> (<i>SD</i>)	Cluster 2 <i>Content realists</i> <i>M</i> (<i>SD</i>)	Cluster 3 <i>Used and confused</i> <i>M</i> (<i>SD</i>)	Cluster 4 <i>Disappointed and disengaged</i> <i>M</i> (<i>SD</i>)	Cluster comparison
Depression	1.74 (0.44)	1.66 (0.42)	1.89 (0.48)	1.91 (0.52)	1 < 3, 4 2 < 3, 4
Loneliness	1.86 (0.55)	1.76 (0.56)	2.04 (0.55)	2.17 (0.68)	1 < 3; 1 < 4; 2 < 3; 2 < 4
Academic adjustment	3.60 (0.72)	3.56 (0.72)	3.48 (0.65)	3.45 (0.73)	–
Social adjustment	4.01 (0.66)	4.10 (0.62)	3.85 (0.72)	3.71 (0.86)	1 > 3; 1 > 4; 2 > 3; 2 > 4
Intoxication during HU	3.14 (0.94)	2.87 (0.98)	2.89 (0.99)	2.81 (1.20)	1 > 2; 1 > 3, 1 > 4
Hope	1.91 (1.16)	1.41 (0.90)	1.93 (1.30)	1.48 (1.08)	1 > 2; 1 > 4; 3 > 2; 3 > 4

3 and 4 ($d = 0.37$), indicating that Clusters 1 and 3 displayed the highest amounts of hope for a committed relationship.

With regards to gender, univariate F tests revealed an association with depressive symptoms, $F(1, 835) = 11.15, p < .001$, partial $\eta^2 = 0.01$, academic adjustment, $F(1, 835) = 11.92, p < .001$, partial $\eta^2 = 0.01$, and hope for a committed relationship, $F(1, 835) = 17.98, p < .001$, partial $\eta^2 = 0.02$. These results indicated that men who hooked up were more likely to have lower rates of depressive symptomology (men $M = 1.71, SD = 0.44$; women $M = 1.84, SD = 0.48, d = 0.28$), academic adjustment (men $M = 3.57, SD = 0.62$; women $M = 3.75, SD = 0.70, d = 0.27$), and hope (men $M = 1.52, SD = 1.01$; women $M = 1.90, SD = 1.23, d = 0.34$) than women. However, there was no significant relationship between gender and loneliness, $F(1, 835) < 1$, social adjustment, $F(1, 835) < 1$, and intoxication, $F(1, 835) < 1$.

Hookup type was associated with depression symptoms, $F(1, 835) = 14.81, p < .001$, partial $\eta^2 = 0.02$, loneliness, $F(1, 835) = 4.62, p < .05$, partial $\eta^2 = 0.01$, and academic adjustment, $F(1, 835) = 7.86, p = .01$, partial $\eta^2 = 0.01$. These results indicated that participants who experienced a genital hookup were more likely to have higher levels of depressive symptoms (G-HU $M = 1.86, SD = 0.48$; NonG-HU $M = 1.72, SD = 0.44, d = 0.30$) and loneliness (G-HU $M = 2.00, SD = 0.59$; NonG-HU $M =$

1.90, $SD = 0.58, d = 0.17$), and reported lower rates of academic adjustment (G-HU $M = 3.57, SD = 0.67$; NonG-HU $M = 3.71, SD = 0.67, d = 0.21$), compared to participants who experienced a non-genital hookup. There was no significant relationship between hookup type and social adjustment, $F(1, 835) = 3.09, p = .07$, intoxication, $F(1, 835) = < 1$, and hope for a committed relationship, $F(1, 835) = < 1$.

Discussion

This study identified four clusters of young adults who had different emotional reactions to hooking up and differed on key psychosocial factors. The first two clusters generally reported more positive and less negative emotional reactions although the types of emotional reactions varied between these two clusters. The other two clusters generally reported more negative and less positive emotional reactions. Nearly 70 % of men and 56 % of women were in Clusters 1 or 2, indicating that both men and women reported having more positive than negative experiences. However, coinciding with previous research, men were more likely to have positive reactions than women (e.g. Lewis et al., 2012; Owen et al., 2010) and may reflect different motives and investments in the encounter (Townsend & Wasserman, 2011).

The *Happy Hopeful* cluster ($n = 274$, 32 %) was the most common grouping and contained participants who reported the highest amounts of positive reactions and low amounts of negative reactions, as compared to other clusters. Further, 46 % of the participants in this cluster reported some degree of hope for a future relationship, which was significantly higher than Clusters 2 (18.5 %) and 4 (20 %) and was relatively high given that less than 20 % of hook ups transition into committed relationships (Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009). Perhaps, individuals had a romanticized interpretation of the encounter, leading to hope for a committed relationship and feelings of happiness. Similarly, hoping for a future relationship has been related to positive hooking up reactions in previous research (Owen & Fincham, 2010) although it is unknown if this hope led to disappointment if a relationship did not ensue.

This cluster was also associated with the highest levels of intoxication, which may have been consumed to lessen inhibitions and increase positive interpretations of the encounter (e.g. Ven & Beck, 2009). Additionally, participants in this cluster were most likely to engage in a genital hookup (72 % of the cluster). It is possible that individuals felt a closer connection to their hookup partner after having sex or had a more enjoyable sexual experience compared to other participants, thereby enhancing positive feelings about the experience. Finally, this cluster reported lower levels of depressive symptoms and loneliness, and higher levels of social adjustment than Clusters 3 and 4, which may have influenced individuals to view the hookup in a hopeful, optimistic light.

The *Content Realist* cluster ($n = 261$, 30 %) was the second most common cluster wherein young adults reported high amounts of feeling happy, pleased, and excited (only second to the *Happy Hopeful* cluster) and moderate amounts of feeling desirable and adventuresome. Although the experience was not as positive as the *Happy Hopefuls*, individuals in this cluster reported the fewest negative reactions, including feelings of confusion or being used. Participants in this cluster appeared to enjoy their hooking up experience without expectations about the future as compared to the *Happy Hopefuls* and the *Used and Confused* clusters.

Due to the lack of hope for a committed relationship, as compared to the *Happy Hopeful* cluster, it is probable that members of this cluster were more motivated to hookup for sexual gratification as opposed to emotional fulfillment (Hill & Preston, 1996). Participants appeared to be pleased with the brief nature of their encounter, which may partially explain why this cluster exhibited the fewest negative reactions out of the clusters. As with the *Happy Hopeful* cluster, participants may have been protected by their reported psychological well-being (i.e. lower reported amounts of depression and loneliness), thereby being less emotionally influenced by the hookup. However, it is not known whether individuals exhibited high psychological

functioning before the hookup or whether it emerged after the hookup, indicating benefits of hooking up (Owen et al., 2011).

The *Used and Confused* cluster ($n = 213$, 24 %) seemed to experience a wide range of emotions post-hookup, including a mix of positive and negative reactions. This cluster reported the highest amounts of feeling used, empty, and confused, moderate amounts of feeling desirable and adventuresome (consistent with the *Content Realist* cluster), and lower amounts of feeling happy, pleased, and excited, compared to other clusters. Participants also reported higher amounts of feeling awkward and disappointed than the *Happy Hopefuls* and *Content Realists*. This cluster was consistent with the *Happy Hopefuls* in their hope for a committed relationship.

What differentiated the *Used and Confused* cluster from the *Happy Hopeful* cluster was psychological well-being (i.e. higher levels of depressive symptoms and loneliness and lower levels of social adjustment). Individuals in this cluster may have relied on hookups to initiate relationships and felt betrayed when romantic feelings were not reciprocated. In general, individuals who express more loneliness tend to exhibit increased negative affect and relational mistrust and dissatisfaction, as compared to others not experiencing loneliness (Ernst & Cacioppo, 1998). Accordingly, if individuals in this cluster were lonelier pre-hookup, they may have been predisposed to negative reactions or felt lonelier after the hookup encounter, especially if it did not result in a committed partnership.

Individuals in the *Disengaged and Disappointed* cluster ($n = 155$, 18 %) seemed to be displeased with their experience, as they reported the least positive reactions to hooking up compared to the other three clusters although negative reactions were not as severe as the *Used and Confused* individuals. Furthermore, this cluster matched the *Used and Confused* cluster with higher reported levels of depressive symptoms and loneliness and lower levels of social adjustment, compared to the *Happy Hopeful* and *Content Realist* clusters. Depressive symptoms may have interacted with how these individuals internalized their experience, possibly due to negative outlooks about social interactions in general (Beck, 1987). However, without knowing about the direction of these findings, it is also possible that depressive symptoms were exacerbated following the hookup.

Those in this cluster also reported lower social adjustment, suggesting that these individuals were more socially isolated than members in the *Happy Hopeful* and *Content Realist* clusters. It is plausible that these young adults wanted to be more socially connected, but lacked the social awareness or opportunity to improve upon their interpersonal relationships.

In addition, individuals in this cluster reported low levels of hope for a committed relationship. In general, individuals with low amounts of hope tend to have more negative, lethargic feelings about pursuing their goals and are at higher risk for psychological distress than more hopeful individuals (Snyder, 2002).

However, compared with *Content Realist* participants, who also reported less hope for a committed relationship, the *Used and Confused* cluster illustrated less psychosocial functioning.

Overall, themes emerged with predictor variables and positive versus negative hooking up experiences. Protective factors seen in predominately positive clusters included healthy psychological adjustment and being socially connected to peers. Potential secondary predictor variables included being hopeful, higher amounts of intoxication, and having realistic expectations. Consequently, participants who exhibited these characteristics appeared to enjoy their hooking up experience without overt psychological or emotional consequences. Further, risk factors apparent with more negative clusters were mainly related to psychosocial adjustment. Both *Used and Confused* and *Disappointed and Disengaged* clusters were similar with their higher levels of depression and loneliness and lower levels of social adjustment than the *Happy Hopeful* and *Content Realist* clusters. Similarly, Owen et al. (2010) found individuals experiencing emotional distress to be at most risk for negative reactions to hooking up. It seems that individuals with low psychological and social functioning may not be the best candidates for casual sexual experiences, as they appear to experience the most emotional distress post-hookup.

It is important to consider the merits of the study within its limitations. The correlational design of the study precludes inferences about direction of effects. Furthermore, these findings may not be generalizable to different universities, students with different areas of study, or non-college students. Next, self-report measures asked students to reflect upon a recent hookup experience, which may have been difficult for some students to recall. Students were also asked to report their intoxication level during their hookup (vs. specific substance use), therefore the particular substance (e.g. alcohol vs. marijuana) consumed is unknown. Additionally, this study was one of the few studies to investigate academic adjustment and hooking up. Although no relationships were found, future research is needed to further explore this association with other measures (e.g. GPAs).

Ultimately, we hope that this study will contribute to a better representation of emotional reactions to hooking up for sex educators and clinicians. There is growing consensus that hook ups are more positive than negative; however, there is a sizable minority of young adults who do have negative reactions. Moreover, some psychosocial factors were associated with clusters illustrating more negative reactions to hooking up, particularly a weak psychological foundation and social relatedness. As young adulthood is commonly associated with exploring romantic and sexual relationships, it may be wise for young adults who are experiencing psychological distress and social disconnect to consider the consequences of hooking up on their mental health. Consistently, sex educators and clinicians may want to promote relational awareness and decision making based multiple factors from their sexual motivations to their psychological well-being prior to hooking up. In doing so, young adults may be better able

to explore their sexual self while avoiding negative psychological consequences.

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