

# Adult Attachment and Heterosexual College Women's Hookup Behaviors: Mediating Effects of Sexual Motives

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**Abstract** We investigated sexual motives as mediators of the relationships between adult attachment orientations and women's casual sexual behavior. Female heterosexual undergraduates ( $N = 221$ ) provided self-report data on multiple attachment orientations underlying attachment styles, sexual motives, and hookup behavior. Proximity-seeking (i.e., turning toward others to share experiences and in times of need) and self-reliance (i.e., preferring not to ask for help or to depend on others) were both associated with number of hookup partners. Sexual motives mediated some of these relationships. Intimacy motives explained how proximity-seeking positively related to hookup behavior, whereas enhancement motives explained how self-reliance negatively related to hookup behavior. These results suggest that attachment orientations associated with both secure and insecure attachment styles predict women's casual sexual behavior through different sexual motives. These results also suggest that women's casual sexual encounters do not necessarily reflect insecurity, dysfunction, psychopathology, or maladaptation. To promote healthy hookup behaviors among women, both emotional as well as sexual needs associated with different attachment orientations should be considered.

**Keywords** Attachment · Sexual motives · Hookups · Casual sex · Women

A hookup is a casual sexual encounter in which “two people are physically intimate (e.g., kissing, touching, oral sex, vaginal sex, anal sex) with someone whom they are not dating or in a romantic relationship with at the time, and in which it is understood there is no mutual expectation of a romantic commitment” (Lewis et al. 2012, p. 1219). Hookups are common among emerging adults, with multiple studies finding that approximately 80% of undergraduates report participating in at least one hookup in college (England et al. 2008; Garcia et al. 2012; Paul et al. 2000). In these studies, college women and men hookup at similar rates, challenging traditional stereotypes about women's interest in commitment and men's interest in sexual pleasure.

Scholars have debated the degree to which hookups are emotionally healthy, especially for women. Some research has focused on the sexual risks and emotional costs of casual sexual behavior to women by comparing them to men (Fielder and Carey 2010; Flack et al. 2007; Gute and Eshbaugh 2008), although the majority of both women and men report positive reactions (Owen et al. 2014; Owen et al. 2010; Snapp et al. 2015). Other scholars challenge the idea that only men, and not women, are motivated to seek sexual pleasure and gratification with casual sexual partners (Armstrong and Reissing 2015) or enjoy greater well-being following hookups (Vrangalova 2015a, 2015b). Moreover, various researchers have linked motives with women's and men's reactions to hookup encounters (Owen et al. 2014; Vrangalova 2015a). More specifically, Snapp et al. (2015) found that both women and men reported satisfaction with hookups when they were motivated to hookup to obtain pleasure, feel affirmed, or feel close to others. Given that attachment researchers have linked secure and insecure styles with these different sexual motives, it is possible that hookups may meet different social and emotional needs for women, depending on their attachment tendencies (Mikulincer and Shaver 2007). Accordingly, the

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current study examined individual differences in both attachment and sexual motives as correlates of heterosexual college women's casual sex behavior.

### Attachment Frameworks

Individual attachment styles were initially conceptualized as reflecting different types of emotional bonds between children and their primary caregivers (Ainsworth et al. 1978; Bowlby 1982). Early attachment experiences are thought to impact the development of internal working models, or cognitive generalizations and expectations, about the self and others. Later researchers applied the concept of attachment styles to adolescents and adults, suggesting that the ways people navigate their sexual interactions and romantic relationships are at least partly based on their internal working models developed in early attachment experiences (Davis et al. 2004; Hazan and Shaver 1987; Mikulincer and Shaver 2007).

Researchers have used multiple frameworks to characterize adult attachment. One popular framework conceptualizes attachment in terms of two continuous dimensions (Brennan et al. 1998). First, *attachment avoidance* reflects the degree to which a person distrusts others' goodwill, strives for self-reliance and autonomy, and works to maintain emotional distance in coping with relational threats. Second, *attachment anxiety* reflects the degree to which a person worries that others will not be available in times of need and thereby he or she thinks and acts in ways intended to ensure others' interpersonal availability (Mikulincer and Shaver 2003). Secure individuals show low levels of both avoidance and anxiety.

An alternative multi-dimensional framework was developed to reflect the specific attachment orientations that underlie avoidant, anxious, and secure attachment styles (Brennan and Shaver 1995). There are seven orientations: (a) proximity-seeking: turning toward others to share experiences and in times of need, (b) self-reliance: preferring not to ask for help or to depend on others, (c) frustration with partners: feeling angry at others who seem to be unloving or unappreciative, (d) trust/confidence in others: believing that others are available and responsive to intimate disclosures, (e) ambivalence: experiencing unsure or conflicted feelings about others, (f) jealousy/fear of abandonment: feeling interpersonally possessive and fearing betrayal or being left, and (g) anxious clinging: feeling worried and insecure about their relationships with others.

Brennan and Shaver (1995) compared how these seven underlying attachment orientations differed for people who were classified as having an avoidant, anxious-ambivalent, or secure style. Some orientations were more strongly related to one style than to other styles. More specifically, people who were classified as avoidant reported less proximity-seeking

and more self-reliance than did those who were classified as either anxious-ambivalent or secure (with especially low levels of self-reliance among secures). In contrast, people who were classified as anxious-ambivalent reported more jealousy/fear of abandonment and anxious clinging to partners than did those who were classified as either avoidant or secure. According to Brennan and Shaver (1995), people who were classified as insecure (i.e., both avoidant and anxious-ambivalent) reported greater frustration with partners, more ambivalence, and less trust/confidence in others than did those who were secure, with especially high ambivalence and low trust/confidence among avoidants. These results suggest that each attachment style can be understood in more nuanced ways because different orientations underlie each style and some orientations overlap across different styles. For example, both anxious-ambivalent and secure styles are characterized by high proximity-seeking, whereas both avoidant and anxious-ambivalent styles are characterized by less trust/confidence in others.

### Attachment and Casual Sexual Encounters

Studies using both the two dimensional framework of attachment avoidance/anxiety and the multi-dimensional framework of attachment orientations have shown that adult attachment is related to various sexual attitudes and behaviors, including those related to casual sexual behavior. Overall, secure individuals are more comfortable with their sexuality and are more confident about navigating various types of sexual situations than are insecure individuals (Birnbaum 2015). The two different insecure styles also vary from one another. For example, those who are more avoidantly attached often view sex and love as distinct, whereas those who are more anxiously attached often equate sex with love (Birnbaum et al. 2006). Moreover, avoidantly attached adolescents report more negative emotions about engaging in sexual activity with others (erotophobia), a lower sex drive, and less frequent sexual interactions (Birnbaum 2007; Jones and Furman 2011; Tracy et al. 2003), but more frequent remote sexual interactions via text messages or photos (Drouin and Landgraff 2012). Attachment avoidance also has been positively associated with having any hookup partner (Paul et al. 2000) and number of hookup partners (Gameau et al. 2013) among college students, although one study reported no relationship between attachment avoidance and any hookup behavior (Owen et al. 2010). Overall, attachment avoidance can be characterized by opposing inclinations, which include a desire to avoid sexual activities involving emotional intimacy coupled with a propensity toward engaging in emotionally non-intimate sexual activities (Mikulincer and Shaver 2007).

According to Tracy et al. (2003), anxiously attached adolescents, like those who are avoidantly attached, report more

erotophobia and more negative emotions during sexual interactions than do securely attached adolescents. Yet, they also found that anxiously attached adolescents report a greater sex drive, engage in more sexual activity, and are more likely to have sex for fear of losing their partner compared to avoidants. Overall, anxious attachment is associated with both a movement toward sexual activity and a movement away from sexual activity due to these internal contradictions (Tracy et al. 2003). In a casual hookup context, young adults who are anxiously attached may be eager to pursue sexual activities to feel emotionally close to others yet reluctant to face possible feelings of abandonment because hookups are, by definition, sexual interactions with “no strings attached.” These contradictions may explain why an anxious attachment style is either unrelated (Paul et al. 2000) or positively but weakly related (Garneau et al. 2013) to hookups among college students. Moreover, when attachment anxiety was related to hookup behavior, this relationship disappeared when controlling for attachment avoidance (Garneau et al. 2013). These findings suggest that any significant relationships between attachment anxiety and hookups may be explained by attachment orientations that underlie both types of attachment insecurity.

Although most research on attachment and hookups has focused on avoidance/anxiety, Brennan and Shaver (1995) examined both avoidance/anxiety and the more elaborate multi-dimensional model of orientations in a study of sociosexuality. *Sociosexuality* reflects one’s orientation towards casual sex (Kinsey et al. 1948, as cited by Calzo 2014). Consistent with most other research on casual sex and adult attachment, Brennan and Shaver (1995) found that avoidance, but not anxiety, was positively associated with sociosexuality. In addition, they found that attachment orientations predominantly associated with avoidance (i.e., increased self-reliance, decreased proximity-seeking) were associated with sociosexuality. However, they also found that attachment orientations associated with both insecure styles (i.e., greater frustration with partner, lower trust/confidence in others, greater ambivalence), as well as one orientation predominantly associated with anxiety (i.e., higher anxious clinging), were significantly associated with sociosexuality. Combined, these results suggest that specific orientations underlying both avoidant and anxious attachment styles may be linked to sexual attitudes and behaviors associated with hookups. Therefore, research using the multi-dimensional framework of underlying attachment orientations is needed in order to more comprehensively understand how and why adult attachment is associated with hookup behavior.

### Attachment and Sexual Motives

Individual motives for sexual interactions, including casual hookups, may be shaped by individual attachment

orientations and may explain the association between adult attachment and sexual behavior. Generally, motives for sex have been classified as either self-focused or other-focused, and as either appetitive (pursuing positive outcomes) or aversive (avoiding negative outcomes) (Cooper et al. 1998). Specific motives include (a) enhancement: an appetitive self-focused motive for sexual pleasure, (b) intimacy: an appetitive motive to obtain emotional closeness to others, (c) self-affirmation: an appetitive self-focused motive to feel good about oneself, (d) coping: an aversive self-focused motive to manage negative emotions, and (e) peer approval: an aversive social motive to have sex to gain others’ approval/avoid others’ disapproval (Cooper et al. 1998; Cooper et al. 2006).

Given that attachment avoidance tends to be characterized by a distrust of others, a defensive need for self-reliance, and a desire to maintain emotional distance with others, avoidant individuals may use sex to obtain social prestige, enhance sexual pleasure, or decrease intimacy (Snapp et al. 2014). In fact, attachment avoidance has been found to be negatively related to sex motivated for intimacy/emotional closeness, whereas attachment anxiety has been positively related to sex for intimacy/emotional closeness (Davis et al. 2004). Attachment avoidance also has been linked to having sex to increase one’s social status (Schachner and Shaver 2004). In contrast, given their insecurities about themselves and others, those who are anxiously attached may use sex as a way of gaining approval, increasing intimacy, coping with stress, and affirming their self-esteem (Snapp et al. 2014). In fact, attachment anxiety has been positively related to sex motivated by efforts to affirm self-worth and cope with fears of abandonment (Cooper et al. 2006; Davis et al. 2004; Schachner and Shaver 2004).

Beyond these general associations between attachment avoidance/anxiety and sexual motives, research also suggests that both avoidant and anxious attachment are associated with motives for hookups. Snapp et al. (2014) studied college students’ attachment styles and sexual motives for hookups. They found that, for women, intimacy motives were negatively associated with avoidant attachment but positively associated with anxious attachment. In addition, coping motives were positively associated with both avoidance and anxiety. These results suggest that both attachment avoidance and anxiety are associated with women’s motives for hookups. Moreover, Snapp et al. suggest that sexual motives may mediate the relationship between attachment and hookup behavior. However, they did not test for potential mediating effects.

In sum, the current study investigated the potential mediating effects of motives for hooking up on the relationship between college women’s attachment orientations and hookup behaviors. Attachment orientations were defined using Brennan and Shaver’s (1995) multi-dimensional model. Given that avoidant, but not anxious, attachment has been found to uniquely predict casual sex behavior (Garneau et al.

2013; Paul et al. 2000), Hypothesis 1 was that attachment orientations predominantly associated with an avoidant style (i.e., low proximity-seeking, high self-reliance) would predict number of hookup partners, whereas orientations predominantly associated with an anxious style (i.e., anxious clinging, jealousy/fears of abandonment) would not. Consistent with Brennan and Shaver's (1995) study of sociosexuality, Hypothesis 2 was that attachment orientations associated with both avoidant and anxious attachment styles (i.e., high frustration with partner, low trust/confidence in others, high ambivalence) would also predict number of hookup partners. Finally, based on research linking attachment with motives for hookups (Snapp et al. 2014), Hypothesis 3 was that motives for hooking up would mediate the relationship between attachment orientations and number of hookup partners. However, given that researchers have not previously examined specific attachment orientations with either motives or hookup behavior, specific a priori hypotheses about the mediated relationships were not formulated.

## Method

### Participants and Procedure

Participants were 221 female, heterosexual, undergraduate students at a medium-sized, public liberal arts college who completed an anonymous online study of "College Students' Sexual Attitudes and Experiences." Participants ranged in age from 18 to 23 years-old ( $M = 19.02$ ,  $SD = 1.02$ ). Most self-identified as White/European-American (181, 81.9%); others identified as Black/African-American (14, 6.3%), Latino (11, 5.0%), Asian or Asian-American (10, 4.5%), or from other backgrounds (5, 2.3%). All participants received extra course credit for their participation. Participants provided informed consent and completed self-report measures via an online survey. A full written debriefing was provided after participants submitted their responses.

### Measures

Hookups were defined for participants as "a sexual encounter (that may or may not include sexual intercourse) between two people, usually lasting only one night without the expectation of developing a relationship" (adapted from Paul and Hayes 2002). Measures of the participants' own hookup experiences were drawn from Paul et al. (2000), who asked participants to estimate how many times they had hooked up and whether any hookups involved sexual intercourse. In the present research, participants reported the total number of different hookup partners they had over the past 4 years. A log transformation was conducted on the continuous variable to normalize the distribution; the transformed variable had

acceptable parameters (transformed  $M = .58$ , skewness:  $-.004$ , kurtosis:  $-.54$ ).

Attachment orientations were assessed using a modified version of Brennan and Shaver's (1995) measure. There were seven subscales, each with six items: proximity-seeking (e.g., "Even after a brief separation, I eagerly look forward to seeing a partner," Cronbach's  $\alpha = .70$ ); self-reliance (e.g., "I'm not the kind of person who readily turns to others in times of need," Cronbach's  $\alpha = .82$ ); frustration with partners (e.g., "I haven't received enough appreciation from romantic partners," Cronbach's  $\alpha = .86$ ); trust/confidence in others (e.g., "I find it easy to trust others," Cronbach's  $\alpha = .83$ ); ambivalence (e.g., "I'm often not sure how I feel about a partner," Cronbach's  $\alpha = .69$ ); jealousy/fear of abandonment (e.g., "I often worry that partners might leave me for someone else," Cronbach's  $\alpha = .80$ ); and anxious clinging ("I have to keep track of a partner if I want him or her to be around when needed," Cronbach's  $\alpha = .65$ ). Respondents rated their agreement with each item on a 6-point scale from 1 (*very strongly disagree*) to 6 (*very strongly agree*). Responses within each subscale were averaged such that higher scores reflect a greater degree of each orientation.

Sexual motives for hooking up were assessed using a modified version of The Sexual Motives Scale (Cooper et al. 1998), where students were asked indicate how often they hookup for various reasons. There were 29 items across six different subscales: enhancement (e.g., "for excitement," Cronbach's  $\alpha = .94$ , 5 items); intimacy (e.g., "make emotional connection," Cronbach's  $\alpha = .96$ , 5 items); self-affirmation (e.g., "feel more self-confident," Cronbach's  $\alpha = .91$ , 5 items); coping (e.g., "cheer myself up," Cronbach's  $\alpha = .94$ , 5 items); and peer approval (e.g., "because friends are having sex," Cronbach's  $\alpha = .90$ , 5 items). Because the current study focused on sexual behavior with casual partners, the 4-item partner approval subscale was not scored. Each item was rated on a 5-point scale from 1 (*almost never/never*) to 5 (*almost always/always*). Responses to items within each subscale were averaged such that higher numbers indicate more of each motive.

## Results

Overall, 182 (82.4%) women reported having at least one hookup partner, ranging from 0 to 32. Zero-order correlations were conducted in order to test Hypotheses 1 and 2 (see Table 1). Hypothesis 1 was that attachment orientations predominantly associated with an avoidant style (i.e., low proximity-seeking, high self-reliance) would predict number of hookup partners, whereas orientations predominantly associated with an anxious style (i.e., anxious clinging, jealousy/fear of abandonment) would not. Hypothesis 2 was that attachment orientations associated with both avoidant and anxious

**Table 1** Descriptive statistics and correlations among study variables

	<i>M</i>	<i>SD</i>	Correlations												
			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
1. # Hookup Partners	4.28 <sup>a</sup>	4.85													
Attachment Orientations															
2. Proximity Seeking	4.31	.77	-.14*												
3. Self-Reliance	3.22	.92	-.17*	-.22**											
4. Frustration w/ Partnr	3.39	.89	-.06	-.03	.14*										
5. Trust/Confid Others	3.39	.88	.12	.11	-.39***	-.29***									
6. Ambivalence	3.85	.63	-.03	-.05	.22**	.38***	-.53***								
7. Jealousy/Fr Abandon	3.55	.91	-.08	.19**	-.01	.45***	-.38***	.39***							
8. Anxious Clinging	3.17	.75	-.12	.10	.00	.51***	-.37***	.24***	.61***						
Sexual Motives															
9. Enhancement	2.67	1.12	.64***	-.07	-.20**	.00	.10	-.02	.04	-.03					
10. Intimacy	2.66	1.24	.29***	.24***	-.15*	-.21**	.16*	-.18**	-.02	-.01	.37***				
11. Self-Affirmation	2.29	1.04	.40***	-.05	-.12	.10	.00	.02	.17*	.12	.66***	.30***			
12. Coping	1.88	.95	.35***	.00	-.03	.12	-.11	.08	.20**	.23**	.52***	.18**	.67***		
13. Peer Approval	1.29	.58	.12	-.15*	.05	.12	-.15*	.10	.13	.15*	.24***	.05	.42***	.43***	

<sup>a</sup> the untransformed mean is presented

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

attachment styles (i.e., high frustration with partner, low trust/confidence in others, high ambivalence) would predict number of hookup partners. Consistent with Hypothesis 1, proximity-seeking and self-reliance were significantly associated with number of hookup partners, whereas anxious clinging and jealousy/fear of abandonment were not. In addition, proximity-seeking and self-reliance were significantly, negatively correlated with one another. Contrary to Hypothesis 2, frustration with partner, trust/confidence in others, and ambivalence were not significantly associated with number of hookup partners.

Table 1 also provides zero-order correlations between attachment orientations and sexual motives, as well as sexual motives and number of hookup partners. Results indicated that although women's sexual motives for enhancement, intimacy, self-affirmation, and coping were significantly associated with number of hookup partners, the sexual motive for peer approval was not. Moreover, proximity-seeking was positively associated with intimacy motives and negatively associated with peer approval motives, whereas self-reliance was negatively associated with motives for both intimacy and enhancement.

In order to test Hypothesis 3, which predicted that sexual motives for hooking up would mediate the relationship between attachment orientation and number of hookup partners, direct and indirect effects were computed using a series of ordinary least squares (OLS) regressions and bootstrapping procedures (Hayes 2013). The significance of the indirect (i.e., mediating) effect, based on the 95% confidence interval

(CI) derived from 1000 bootstrap resamples, is indicated when the bias-corrected bootstrap CI values do not cross zero. For these analyses, we report the unstandardized regression coefficients ( $B$ ) and confidence intervals (CI) for the direct effects of attachment orientations and the indirect effects of attachment orientations via sexual motives.

In order to reduce the likelihood of a Type I error due to an overinflated alpha, only attachment orientations that were significantly correlated with number of hookup partners, and only the sexual motives significantly correlated with those attachment orientations, were used to test Hypothesis 3. Based on these criteria, two mediation analyses were conducted. In the first analysis, intimacy and peer approval motives were entered as potential mediators of proximity-seeking on the transformed number of hookup partners. In the second analysis, intimacy and enhancement motives were entered as potential mediators of self-reliance on the transformed number of hookup partners.

Regarding the first regression analysis testing intimacy and peer approval motives as potential mediators of proximity-seeking and number of hookup partners, results indicated that there was a significant indirect effect of proximity-seeking on number of partners through intimacy motives ( $B = .0382$ , 95% bias-corrected bootstrap CI [.0157, .0698]), along with a significant direct effect of proximity-seeking on number of hookup partners ( $B = -.1026$ ,  $p = .0012$ , 95% CI [-.1644, -.0409]). Furthermore, proximity-seeking was significantly positively associated with intimacy motives ( $B = .3879$ ,  $p = .0004$ , 95% CI [.1771, .5986]), and intimacy motives was

significantly positively associated with number of hookup partners ( $B = .0985, p < .001, 95\% \text{ CI } [.0607, .1364]$ ). In contrast, the indirect effect of proximity-seeking on number of partners through peer approval motives was not significant ( $B = -.0040, 95\% \text{ bias-corrected bootstrap CI } [-.0152, .0004]$ ). A model containing the significant paths for this first analysis can be found in Fig. 1. Combined, these results suggest that proximity-seeking may simultaneously function in two opposing ways in relation to number of hookup partners. That is, it appears that those who are low in proximity-seeking have more partners, yet at the same time, those who are high in proximity-seeking are more likely to seek intimacy by hooking up with more partners.

Regarding the second regression analysis testing intimacy and enhancement motives as potential mediators of self-reliance and number of hookup partners, results indicated that there was a significant indirect effect of self-reliance on number of hookup partners through enhancement ( $B = -.0480, 95\% \text{ bias-corrected bootstrap CI } [-.0824, -.0149]$ ). Furthermore, self-reliance was significantly negatively associated with enhancement motives for hooking up ( $B = -.2427, p = .0029, 95\% \text{ CI } [-.4013, -.0841]$ ), and enhancement motives were significantly positively associated with number of hookup partners ( $B = .1979, p < .001, 95\% \text{ CI } [.1616, .2342]$ ). Neither the indirect effect of self-reliance on number of hookup partners through intimacy ( $B = -.0033, 95\% \text{ bias-corrected bootstrap CI } [-.0146, .0022]$ ), nor the direct effect of self-reliance on number of hookup partners ( $B = -.0133, p = .53, 95\% \text{ CI } [-.0546, .0280]$ ), was significant. A model containing the significant paths for this second analysis can be found in Fig. 2. Combined, these results suggest that women who are higher in self-reliance (and thus are reluctant to depend on others) tend to have fewer hookup partners because they are less motivated to hookup to seek pleasure with casual partners.

## Discussion

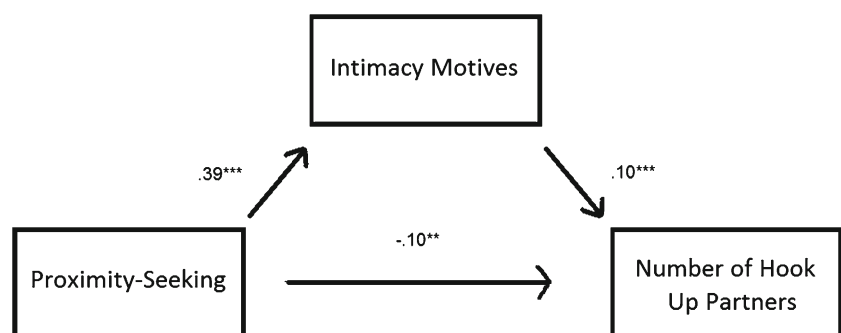
Our study examined the relationships among attachment orientations, sexual motives for hooking up, and hookup

behavior among heterosexual women in college. Consistent with Hypothesis 1, low proximity-seeking and high self-reliance (the two attachment orientations primarily associated with an avoidant style) were associated with number of hookup partners, whereas anxious clinging and jealousy/fear of abandonment (the two orientations primarily associated with an anxious style) were not. Contrary to Hypothesis 2, orientations associated with both an avoidant and anxious style (i.e., high frustration with partner, low trust/confidence in others, high ambivalence) were not associated with number of hookup partners. Consistent with Hypothesis 3, sexual motives were found to mediate the relationship between certain attachment orientations and number of hookup partners. Specifically, high proximity-seeking (an attachment orientation associated with both a secure and anxious style) was associated with more hookup partners, albeit only indirectly via intimacy motives. High self-reliance (an attachment orientation associated primarily with an avoidant style) was indirectly associated with fewer hookup partners via enhancement motives. Combined, these results suggest that certain attachment orientations underlying both secure and insecure styles are associated with women's hookup behavior when sexual motives are taken into account.

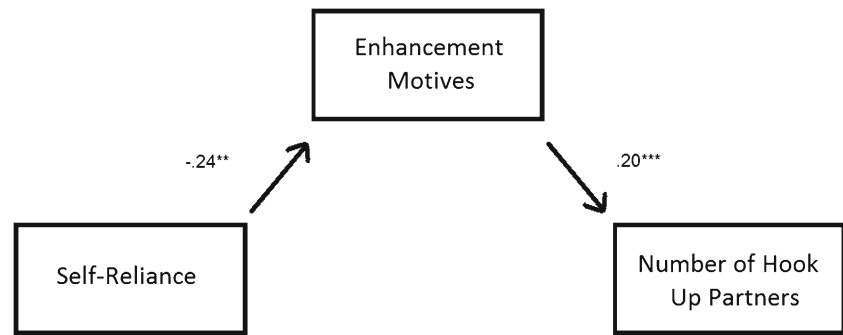
More specifically, consistent with Hypothesis 1, the two attachment orientations most strongly associated with an avoidant style were associated with women's hookup behaviors, albeit in opposing ways. As hypothesized, women who reported less proximity-seeking also reported having more hookup partners. This result is consistent with past research linking avoidance with a greater number of hookup partners (Garneau et al. 2013), as well as research specifically linking low proximity-seeking with sociosexuality (Brennan and Shaver 1995). These results suggest that women who do not seek or desire emotional closeness and sharing with partners (i.e., low proximity-seeking) may have more hookup partners because hookups provide opportunities for physical intimacy without emotional intimacy.

However, increased self-reliance, another attachment orientation predominantly associated with avoidance (Brennan and Shaver 1995), was significantly but *negatively* correlated with women's number of hookup partners. This finding

**Fig. 1** Path analysis showing significant mediating effects of intimacy motives linking proximity-seeking to number of hook up partners. Unstandardized coefficients are presented. The indirect effect through intimacy is significant ( $B = .0382, 95\% \text{ CI } [.0157, .0698]$ ). \*\*  $p < .01$ . \*\*\*  $p < .001$



**Fig. 2** Path analysis showing significant mediating effects of enhancement motives linking self-reliance to number of hook up partners. Unstandardized coefficients are presented. The indirect effect through enhancement is significant ( $B = -.0480$ , 95% CI  $[-.0824, -.0149]$ ). \*\*  $p < .01$ . \*\*\*  $p < .001$



suggests that women who find it difficult to get close to others and prefer to be alone had fewer hookup partners. This finding also is consistent with past research showing that avoidant attachment is negatively associated with a strong sex drive and frequency of sexual interactions (Jones and Furman 2011; Tracy et al. 2003). Although a lower interest in emotional connection (i.e., low proximity-seeking) was associated with more hookup partners, a greater discomfort with being close with others (i.e., high self-reliance) was associated with fewer hookup partners. Overall, the current results extend previous research by identifying specific attachment orientations associated with avoidance that are directly linked to women's hookup behaviors. In this way, these results help to interpret the contradictory results regarding avoidants found in previous studies.

Further examination of the correlations among these orientations and other dimensions of attachment may help to explain why proximity-seeking and self-reliance function in contradictory ways. Although proximity-seeking and self-reliance were significantly negatively correlated for women, only self-reliance was also positively correlated with frustration with partners and negatively correlated with trust/confidence in others. Given that women who show higher self-reliance are frustrated with and do not trust others, they may be reluctant to engage in casual sexual encounters with different partners. In a casual hookup encounter, people lack familiarity with and knowledge about one another. This lack of familiarity may be especially frustrating for those who are prone to feel frustrated with others; likewise, a lack of familiarity may amplify established feelings of distrust for others. Accordingly, casual sexual encounters for these women may be seen as risky situations without benefits. These results suggest that, for women, engaging with more sexual partners requires at least some comfort connecting with others. In contrast, for women lower in proximity-seeking, casual sexual encounters with different partners may provide opportunities for sexual pleasure and expression without requiring emotional intimacy.

Also consistent with Hypothesis 1, neither jealousy/fear of abandonment nor anxious clinging to partners (the two attachment orientations predominantly associated with

anxious attachment; Brennan and Shaver 1995) were associated with number of hookup partners. This pattern is consistent with past research indicating that anxious attachment is unrelated or weakly related to hookups (Gameau et al. 2013; Paul et al. 2000). These results suggest that women with these orientations, who exhibit anxiety about having their emotional needs met, do not necessarily seek out many different casual hookup partners. Although casual hookups may represent an opportunity for short-term intense physical and emotional connection, in the absence of commitment, casual hookups may also foster feelings of abandonment, rejection, and regret. Similarly, our results also indicated that, contrary to Hypothesis 2, attachment orientations associated with both an avoidant and anxious style (i.e., high frustration with partner, low trust/confidence in others, high ambivalence) were not associated with number of hookup partners. Combined, these results suggest that attachment orientations reflecting insecurity, in general, and uniquely associated with anxiety, in specific, are not linked to number of hookup partners for women.

Regarding motives, our results suggest that four of five sexual motives (not peer approval) were associated with number of hookup partners for women. Consistent with previous studies (Snapp et al. 2014), our results suggest that college women hookup for a variety of reasons. Also consistent with Snapp et al. (2014), decreases in intimacy motives for hooking up were significantly associated with the two attachment orientations predominantly associated with an avoidant style (i.e., decreased proximity-seeking, increased self-reliance) and the three attachment orientations associated with both avoidant and anxious styles (i.e., increased frustration with partners, increased ambivalence, decreased trust/confidence in others). However, greater intimacy motives were associated with higher proximity-seeking (characteristic of both secure and anxious styles), but unrelated to jealousy/fear of abandonment and anxious clinging (the two attachment orientations predominantly associated with an anxious style). Furthermore, enhancement motives to hookup for sexual pleasure were negatively associated with self-reliance but not proximity-seeking. Along with Snapp et al., the current results indicate direct links between attachment and sexual motives

for hookups. Moreover, our study identified the specific attachment orientations associated with avoidant, anxious, and secure styles that were linked to sexual motives.

Consistent with Hypothesis 3, our mediational analyses suggested that two motives for hooking up, intimacy and enhancement, may help explain some of the ways in which attachment orientations are associated with hookup behaviors. Proximity-seeking was both directly and indirectly related to hookups via intimacy, although in opposite directions. Specifically, multivariate analyses revealed a direct negative relationship of proximity-seeking on number of hookup partners, independent of sexual motives. That is, women with less of a desire or need for emotional connections with partners had more hookup partners than women who desired such connections. Yet, there was also a positive indirect relationship between proximity-seeking and number of hookup partners via intimacy motives. That is, women who had a greater desire or need for emotional connections with partners also reported greater intimacy motives for hookups, which in turn, were positively associated with number of hookup partners.

Combined, these patterns suggest that proximity-seeking may both obstruct and facilitate hookup behavior for college women. Although proximity-seeking, overall, was negatively associated with women's hookup behavior, proximity-seeking was also positively associated with women's hookup behavior to the degree that proximity-seeking promoted intimacy motives for hooking up. These results suggest that hookups may serve a different function for women depending on their need or desire for emotional connections with partners. For women low in proximity-seeking (associated with avoidant attachment), engaging in hookups may be a way of obtaining pleasure without commitment. For women high in proximity-seeking (associated with both secure and anxious attachment), hookups may represent sexual interactions that have the potential to meet their needs for intimacy, even briefly, and that could potentially develop into intimate relationships. In this way, women who are either high or low in this orientation may have more hookup partners—but for very different reasons. By examining sexual motives for hookups in conjunction with attachment orientations, researchers may better understand what initially appear to be contradictory or inconsistent patterns between attachment and women's hookup behaviors.

Multivariate analyses also revealed a significant indirect effect of self-reliance on number of hookups via sexual enhancement motives, but no significant direct effect of self-reliance on number of hookups was found. These results suggest that women who are more comfortable being close to others and more willing to ask others for comfort (i.e., less self-reliant) tend to have sexual enhancement (i.e., pleasure) motives for hookups, which in turn positively predict a greater number of hookup partners. In contrast, women who prefer to be alone, are less comfortable being close to others, and less willing to ask others for comfort (i.e., more self-reliant) tend to have fewer hookup

partners because they are less likely to hookup for sexual enhancement purposes. These results suggest that women high in self-reliance (an orientation predominantly associated with avoidance) do not perceive hookups as opportunities to obtain sexual pleasure. These results match past research showing that avoidance is associated with greater erotophobia; less sexual arousal, intimacy, and pleasure; and fewer sexual interactions (Birnbbaum 2007; Jones and Furman 2011; Tracy et al. 2003). However, our results add to previous research by suggesting that high self-reliance may be the specific orientation associated with avoidant attachment that explains this lower interest in sex found in past research, as well as the tendency to have fewer hookup partners observed in our study.

Combined, our results suggest that although certain aspects of avoidant attachment (i.e., low proximity-seeking) are associated with more hookup partners, other aspects of avoidant attachment (i.e., higher self-reliance) are associated with fewer hookup partners—with sexual motives explaining these connections. Because attachment avoidance combines both low-proximity-seeking and high self-reliance, and each orientation acts in opposing ways in predicting sexual behavior, analyses testing for sexual motives as potential mediators of overall avoidance with hookup behavior may not detect these patterns. However, by examining the different orientations underlying avoidance separately, the current study demonstrated that sexual motives mediate the relationship between certain aspects of attachment avoidance and casual sexual behavior.

Moreover, our study of attachment orientations also provided evidence that aspects of secure or anxious attachment styles are associated with more hookup partners—with motives explaining these associations. For example, we found that high proximity-seeking, an orientation associated with both secure and anxious styles (Brennan and Shaver 1995), was associated with more hookup partners through intimacy motives. This is consistent with past research indicating that securely attached individuals are comfortable with sexual intimacy, and anxiously attached individuals perceive sex as a possible way of gaining intimacy and potentially fulfilling unmet attachment needs (cf. Birnbbaum 2015; Davis et al. 2004; Mikulincer and Shaver 2007). Similarly, past research has shown that low self-reliance is associated with a secure attachment style (Brennan and Shaver 1995). Thus, the current mediational analyses also suggest that hookups may serve as one way for some securely attached women to obtain sexual pleasure. According to Birnbbaum (2015), individuals with secure attachment styles are more comfortable with their sexuality and are more confident about their abilities to navigate sexual situations than are individuals with insecure attachment styles. Coupled with their comfort with intimacy, this confidence affords secure individuals the ability to express their sexual desires in whatever direction they choose, whether it be in committed relationships or in hookups with no expectations for future interactions (Mikulincer and Shaver 2007).



## Limitations and Future Research Directions

One limitation of the current study is that our entirely female sample was mostly composed of White students, all of whom identified as heterosexual. An important way to expand our findings is to examine how the relationships between attachment orientations, motives, and hookup behaviors work for populations beyond those included in our study. Additional research is needed to examine these issues for men as well as with samples of lesbian, gay, or bisexual (LGB) college students. Some studies with LGB youth report differences in attachment compared to heterosexual youth (Rosario et al. 2014), whereas other studies report no difference (Ridge and Feeney 1998). Nonetheless, research suggests that sexual identity development processes may be particularly important in shaping attitudes and behaviors among LGB youth. For example, Wang et al. (2010) found significant links between attachment and both sexual identity development and sexually permissive attitudes among LGB emerging adults, with negative sexual identity development qualifying the relationship between attachment and sexual attitudes. Combined, these studies suggest that the current results may not generalize to more diverse samples. Future research needs to examine the links among attachment orientations, motives, and hookup behaviors for underrepresented students, taking into account how minority identity development may affect these relationships.

Limitations related to measurement issues should also be noted. Although our results were consistent with past research on attachment, the estimates of internal consistency for the different attachment orientation constructs varied, and lower alphas may have reduced our power to detect significant associations. In addition, past studies suggest that different operational definitions of hookups show different patterns of association with other study variables (Vranganlova 2015b). Future research is needed to investigate whether and to what degree the current pattern of findings extend across different operational definitions of attachment as well as of hookup behaviors.

Finally, although we believe our results contribute to the literature on attachment and casual sex in unique and meaningful ways, it is important to note that only two of the seven orientations were significantly related to number of hookup partners. These results suggest that other variables beyond attachment may also be related to hookup behavior. Furthermore, although sexual motives for hookups mediated some of the links between attachment orientations and hookup behavior, the negative link between proximity-seeking and hookups was not explained by sexual motives. Therefore, future research should examine possible mediators beyond motives. For example, many attachment researchers have emphasized the importance of affect and affect regulation goals in the adaptive and maladaptive functioning of individuals with

different attachment styles (Brennan and Shaver 1995; Mikulincer and Shaver 2007; Mikulincer et al. 2003). According to these researchers, those who are more avoidantly attached tend to be less aware of their emotions and prefer to avoid thinking about or dealing with their feelings, especially if those feelings are negative. In contrast, those who are more anxiously attached tend to be more aware of their emotions, struggle to regulate their emotions, and prefer to engage in strategies designed to reduce their feelings of anxiety. These differences in affect regulation goals and strategies have been linked to attachment differences in sexual behavior (Brennan and Shaver 1995; Mikulincer and Shaver 2007). Thus, they may serve as potential mediators between attachment orientations and hookup behavior.

## Practice Implications

Our results have implications for both formal and informal sexual health education on college campuses. Engaging in casual hookups with different partners may involve risks as well as benefits. The specific risks and benefits may vary as a function of each individual woman's attachment orientations and motives for casual sex. Attachment orientations underlying *both* secure and insecure attachment styles were associated with a greater number of hookup partners. Furthermore, consistent with previous research (Owen et al. 2014; Snapp et al. 2014), women reported engaging in hookups for a variety of different reasons, including enhancement and intimacy, as well as self-affirmation and coping. Combined, the current results suggest that women's casual sexual encounters do not necessarily reflect insecurity, dysfunction, psychopathology, or maladaptation. Rather, for many young women, casual sexual encounters may be a natural part of their sexual development (Snapp et al. 2015). Healthy decisions about whether and how often to engage in hookups may vary for different individuals based on their unique psychological and emotional needs. Colleges and universities should incorporate honest, frank, nonjudgmental discussions about casual sex that avoid stigmatizing casual sexual encounters and instead emphasize responsible, healthy, empowered sexual decision making.

The current findings also might help to identify women who are at risk for participating in casual sexual compliance, defined as consensual involvement in unwanted hookup activities (Katz and Schneider 2015). For example, women who engage in casual sex to satisfy both high proximity-seeking and intimacy needs underlying an anxious style may be particularly likely to comply with unwanted sexual behavior. This possibility is consistent with past research linking insecure attachment styles (but not underlying orientations) to compliant activity (Gentzler and Kerns 2004; Impett and Peplau 2003) as well as compliant sexting (Drouin and Tobin 2014). To the degree that specific attachment orientations and motives help to explain compliance, counselors could

help women to identify alternative methods for meeting their needs for closeness and intimacy that do not involve agreeing to sexual behaviors that they do not want.

## Conclusion

In conclusion, our study provides a more complex and nuanced understanding of the role of attachment in college women's hookup behaviors by investigating attachment orientations associated with both secure and insecure attachment styles. Specifically, there were attachment orientations associated with each attachment style that were associated with women's number of hookup partners, yet there were attachment orientations associated with each attachment style that did not. Moreover, sexual motives related to hookups mediated some of these relationships. Combined, these patterns help explain inconsistencies found in the previous literature on attachment and casual sex and provide a mechanism for understanding when and how the attachment orientations underlying the more general styles may relate to hookup behavior. Our results also provide additional evidence that hookups may meet different social and emotional needs for women, depending on their attachment tendencies and motives for casual sex. Therefore, to understand and promote the sexual well-being of young women, researchers and counselors should continue to examine ways in which attachment orientations and motives play a role in young women's casual sexual behaviors.

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