**Abstract**

Previous research has conflated different types of casual sex, potentially obscuring patterns that may vary across categories. Using data from two large online community samples, we examined whether differences in attachment orientation predict experiences in casual sex encounters (i.e., One-Night Stand, Booty Call, Fuck Buddies, Friends With Benefits). We construed these encounters as ranging on levels of intimacy, and hypothesized that anxious individuals would most enjoy more intimate forms of casual sex and avoidant individuals would most enjoy less intimate forms. We asked individuals engaging in casual sex about their most recent sexual encounter. Results suggest that anxious and avoidant individuals report lower well-being in casual sex contexts relative to more secure individuals; however, the specific type of encounter moderated these associations. Regardless of the type of encounter, anxious individuals experience fewer orgasms. Attachment orientation predicted motivations for engaging in, and expectations for, casual sex relationships. For avoidant individuals, physical pleasure during sex is contingent on the type of encounter (reporting the highest levels of physical pleasure in Fuck Buddies encounters). This study is the first to provide evidence that the type of casual sexual encounter influences how anxious and avoidant individuals experience sex, both emotionally and physically.

1. **Introduction**

Uncommitted sexual encounters, or casual sex encounters —sex outside the confines of long-term romantic relationships— are common in Western cultures, particularly among young adults. Approximately 60-80% of college students report having engaged in at least one uncommitted sexual encounter (Garcia, Reiber, Massey, & Merriwether, 2012; Paul, McManus, & Hayes, 2000). In fact, casual sex behaviors seem to be replacing traditional dating and courtship behaviors, as university students have twice as many “hookups” as first dates (Bogle, 2008; Bradshaw, Kahn, & Saville, 2010). Although young adults generally report that casual sex is a more positive than negative emotional experience (Owen & Fincham, 2011), the effects of casual sex on psychological well-being are still unclear, as research on the topic has yielded divergent conclusions. For instance, some studies have found greater engagement in uncommitted sexual encounters to be related to increases in drug and alcohol consumption (Bersamin et al., 2014), depressive symptoms (Mendle, Ferrero, Moore, & Harden, 2013) loneliness (Owen & Fincham, 2011), as well as lower self-esteem (Paul et al., 2000). In contrast, other studies have found positive effects of engaging in casual sex on well-being and sexual functioning such as greater confidence, satisfaction, and self-knowledge (Fielder & Carey, 2010; Grello, Welsh, & Harper, 2006; Owen, Rhoades, Stanley, & Fincham, 2010). Evidently, the association between casual sex and well-being is complex, and is likely to depend on individual differences (e.g., sociosexuality; Vrangalova & Ong, 2014). The present study examined how one individual difference—attachment insecurity—is linked to engaging in different types of uncommitted sexual encounters and the associations between such encounters and anxious and avoidant individuals’ motives for engaging in sex, and their physical and emotional experience of sex.

Given that the majority of research on this topic has examined uncommitted sexual encounters that occur among young students in college settings, we chose to examine an older community sample to ensure our results generalize to this population. Casual sex is common among young adults, particularly those who live in college campus settings (Garcia et al., 2012). However, middle-aged adults (i.e., aged 40 or older) engage in casual sex as well (Schick et al., 2010; Schwartz, Diefendorf, & McGlynn-Wright, 2014). During the sexual revolution of the 1960s and 1970s, young adults became more sexually liberated, with the rise of feminism, growth of college party events, widespread availability of birth control, and deposing of parental expectations as central to mating and marriage (Stinson, 2010; Twenge, Sherman, & Wells, 2014). This cultural shift in openness and acceptance of casual sex involved a) the Baby Boomer generation (born 1945–1964), who embraced more sexually permissive attitudes and behaviors than did previous generations (e.g., Singh, 1980; Smith, 1990; Walsh, 1989), and b) Generation X (born 1965–1981), who continued this trend with more acceptance of pre-marital sex, a younger age at first intercourse, and a higher teen pregnancy rate (e.g., Wells & Twenge, 2005). Adults affected by the sexual revolution of the 1960s are now middle-aged or older and may be more accepting of and more likely to engage in casual sex. Further, U.S. General Social Survey data has found no evidence of substantial changes in sexual behavior that would indicate a new or pervasive pattern of casual sex among contemporary college students (Monto & Carey, 2014). Sexually active respondents from young adults in the current era (2004-2012 waves) did not report higher numbers of total or recent sexual partners or more frequent sex than young adults from an earlier era (1988-1996), meaning young adults from both current and previous eras engaged in similar levels of casual sex (Monto & Carey, 2014).[[1]](#footnote-2)

Although it may be common for middle-aged adults to engage in casual sex, we believe that their psychological experience of casual sex may be different from that of young college students. First, the college environment is unique: students on campus are often surrounded by people like themselves in a close-knit living situation, they have a sense of camaraderie because they attend the same school, and often define their college years as a ‘time to party’ (Bogle, 2007, 2008). Thus, the social rituals and sexual scripts of young college students cannot be considered a representation of the sexual behavior of adults in the general public (Bogle, 2008). Moreover, middle-aged adults may experience more stigma for being single and engaging in casual sex (DePaulo & Morris, 2005). For example, a study examining negative stereotypes of unmarried individuals found that single targets were perceived more negatively (i.e., more socially immature and maladjusted) when described as being 40 than when described as being 25 (DePaulo & Morris, 2005). Thus, our study seeks to examine the casual sex experiences of individuals beyond the college years, who are nevertheless engaging in casual sex encounters, but in a different context than that of previous research.

*1.1. Conceptualizing Casual Sex*

Uncommitted sexual encounters can take many forms. Therefore, in order to systematically examine casual sex, researchers must first agree on how it should be defined (Vrangalova, 2015). In the available literature, researchers have used various terms to describe uncommitted sexual encounters, such as “sex outside a committed relationship” (Regan & Dreyer, 1999), “hooking up” (Bogle, 2008), “casual sex”, “unrestricted sex”, and “anonymous sex” (Grello et al., 2006); however, this lack of consensus on an operational definition makes it difficult for researchers to interpret results and compare findings across studies. For instance, subsuming all types of encounters under all-encompassing terms like “hooking up” fails to capture the specificities that exist within uncommitted sexual encounters and potentially conceals important patterns that might vary across categories. For example, engaging in sex with someone you have known for less than 24 hours (e.g., Fisher, Worth, Garcia, & Meredith, 2012) is likely to have a different psychological impact than engaging in casual sex in the more committed context of ongoing Friends with Benefits (FWB) relationships (Vanderdrift, Lehmiller, & Kelly, 2012). Indeed, supporting the distinctiveness of uncommitted sexual encounter types, one study found that women were more discontent with hookups with someone they just met than with those with whom they were better acquainted (although level of acquaintanceship did not affect men’s contentment with hookups; LaBrie, Hummer, Ghaidarov, Lac, & Kenney, 2014).

Wentland and Reissing (2011) used qualitative focus groups with a mix of college students and community sex educators to delineate definitions for the different types of uncommitted sexual encounters and the subtle nuances that differentiate them. Their study identified four main types of encounters: One-Night Stand, Booty Call, Fuck Buddies, and Friends with Benefits, detailed below. These types of encounters range according to levels of intimacy and self-disclosure, frequency and type of contact, and friendship (Wentland & Reissing, 2011). Given these differences, these encounter types may have differing associations with psychological well-being. Further, in Wentland and Reissing’s (2011) study, all these types of casual sex were reliably identified by the majority of participants regardless of gender or previous personal experience, suggesting the robustness of these definitions at least in a North American context. Thus, we employed the same four types of uncommitted sexual encounters in the current study, described below in order from least to most intimate (Wentland & Reissing, 2011).

Firstly, One-Night Stand is an uncommitted sexual encounter that develops between strangers or brief acquaintances and that occurs only once. This is the least emotionally intimate encounter. Next, Booty Call is an uncommitted sexual encounter in which one person calls or texts the other for immediate sexual purposes, often late at night. Individuals in a Booty Call share minimal intimacy. Fuck Buddies is the term used to describe an uncommitted sexual encounter in which individuals who are acquaintances engage in sexual activity with each other. Even though a friendship might develop between these individuals, sexual activity is the reason they spend time together (Wentland & Reissing, 2011). Lastly, Friends with Benefits is an uncommitted sexual encounter that develops between individuals who have an existing friendship prior to sexual activity. If the sexual aspect of the relationship were to end, the individuals in Friends with Benefits encounters would remain friends.

The four types of uncommitted sexual encounters identified by Wentland and Reissing (2011) imply a hierarchy of closeness and intimacy in which the encounters vary on different dimensions (e.g., existing friendship, quality of time spent together, discussion of the relationship/monogamy, secrecy, frequency of contact, intimate disclosure, type and level of communication; see Wentland & Reissing, 2011). Nevertheless, intimacy (and more specifically, affectionate behaviors like cuddling) can happen in uncommitted sexual encounters and indeed may be common within them (Garcia, Gesselman, Massey, Seibold-Simpson, & Merriwether, 2018). In the present study, we use these categories as proxies for closeness and intimacy based on Wentland and Reissing’s (2011) findings; however, our implicit taxonomy of intimacy behaviors likely does not apply to all instances (e.g., intimacy and affectionate behaviors are likely part of some One-Night Stand experiences; Garcia et al., 2018). In other words, although intimacy in casual sex encounters may generally vary in the way we suggest here (where One Night Stands are the least intimate, and Friends with Benefits the most intimate casual encounters), individual instances of these casual sex experiences may not always neatly follow this ordering.

*1.2. Adult Attachment and Sexual Experiences*

The associations between casual sex and well-being might depend not only on the type of encounter, but also on individual characteristics such as attachment orientation. Indeed, a body of past research suggests that attachment orientation plays an important role in individuals’ sexual attitudes and behaviors (e.g., Gentzler & Kerns, 2004; see reviews by Dewitte, 2012; Muise, Maxwell, & Impett, 2018; Stefanou, & McCabe, 2012). Yet what is missing from the extant literature on attachment and sex is a thorough examination of how attachment is associated with experiences — and not just willingness to engage — in casual sex encounters. According to attachment theory, early life experiences cause people to develop relatively stable views of themselves and others in romantic relationships (Bowlby, 1980), known as attachment orientation. Research has confirmed that two relatively unrelated dimensions underlie differences in attachment orientation: 1) anxiety about abandonment (attachment anxiety) — reflects the degree to which individuals fear rejection and crave reassurance that they are loved — and 2) avoidance of intimacy in relationships (attachment avoidance; Fraley, Hudson, Hefferman, & Segal, 2015; Hazan & Shaver, 1987). Below we briefly review findings regarding attachment and sex in romantic relationships that are particularly useful when generating hypotheses about the role of attachment in casual sex experiences.

Securely attached individuals (i.e. those who are low in attachment anxiety and avoidance) are generally comfortable engaging in committed relationships (Hazan & Shaver, 1987; Davis et al., 2006; Kirkpatrick & Hazan, 1994), and are more likely to experience positive affect and satisfaction in close relationships (Feeney & Noller, 1990; Hazan & Shaver, 1987; Mikulincer & Nachson, 1991). When it comes to sexual experiences, these individuals prefer sexual activity in committed romantic relationships (Birnbaum, 2007; Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006; Stephan & Bachman, 1999), and are more likely to engage in frequent and satisfying sexual activity to express love for their romantic partner (Tracy, Shaver, Albino, & Cooper, 2003).

Like secure attachment, anxious attachment has been linked to engaging in more intimate behaviors in romantic relationships (Guerrero, 1996). However, individuals high in attachment anxiety experience lower levels of satisfaction with relationships relative to less anxious individuals (Bartholomew & Horowitz, 1991). When it comes to physical affection, individuals high in attachment anxiety are more likely to engage in behaviors such as cuddling, kissing, and holding hands (Hazan, Zeifman, & Middleton, 1994). Moreover, they use sexual activity as a barometer for relationship quality (Davis et al., 2006), and engage in sex due to fear of losing their romantic partners (Davis, Follette, Vernon, & Shaver, 2001; Tracy et al., 2003). Ironically, individuals high in attachment anxiety may inhibit the expression of their own sexual needs in order to please their partner (Davis et al., 2006), and the resulting frustration may translate into relational difficulties, thus creating a cycle of sexual and relationship dissatisfaction (Birnbaum et al., 2006; Birnbaum, 2007, 2010).

In contrast, individuals high in attachment avoidance tend to minimize the amount of intimacy in their sexual encounters (Gentzler & Kerns, 2004). Thus, they are more likely to report less restrictive sexual beliefs (e.g., believe sex without commitment is acceptable) and are more likely to engage in casual sex (Gentzler & Kerns, 2004). Similarly, they are less likely to express physical affection (Guerrero, 1996; Hazan et al., 1994), are less likely to report engaging in sexual activity to express love for their partner (Tracy et al., 2003), and are more likely to report aversive feelings and cognitions about sex (e.g., estrangement, disappointment; Birnbaum et al., 2006).

*1.3. Adult Attachment and Motivations for Sex*

Not only do individuals’ sexual attitudes and behaviors differ based on their attachment orientation, but so too do their reasons for having sex. Sexual activity serves functions that are influenced by people’s attachment orientation (Birnbaum, 2010; Davis, Shaver, & Vernon, 2004) and subjective motivations for sex contribute significantly to people’s experiences of casual sex encounters (de Jong, Adams, & Reis, 2018). However, these previous studies are limited in that they did not differentiate between motivations for sex in committed relationships versus motivations for casual sex, and did not assess attachment (e.g., de Jong et al., 2018). Previous research investigating attachment-orientation differences in motivations for sex in general has found that relative to those lower in attachment anxiety, individuals high in attachment anxiety report higher levels of relationship reassurance as a motive for sexual activity (i.e. engaging in sex to feel loved). Because avoidant individuals are less likely to use sex to become close with their partner (relative to those lower in avoidance), they are less likely to report emotional closeness and reassurance as a motive for sex (Davis et al., 2004; Fraley, Davis, & Shaver, 1998).

*1.4. Adult Attachment and Sexual Satisfaction*

Sexual satisfaction has a crucial role in psychological well-being. Sexually satisfied individuals are more likely to report feeling desire for their partners and feeling desired by their partners, reaching orgasm during sex, and higher levels of emotional closeness and hugging/cuddling after sex (Frederick, Lever, Gillespie, & Garcia, 2017).

Insecurely attached individuals report lower levels of sexual satisfaction (Butzer & Campbell, 2008; Gewirtz-Meydan & Finzi-Dottan, 2018) more sexual dysfunction (Brassard, Shaver, & Lussier, 2007; Ozcan et al., 2015; Rajkumar, 2015), higher levels of sexual anxiety and dissatisfying sexual outcomes (Davis et al., 2006). This correlation between attachment orientation and sexual satisfaction is stronger in women than in men (Gewirtz-Meydan & Finzi-Dottan, 2018). Although anxiously attached women engage in frequent sex (Brassard et al., 2007) they experience less sexual arousal, intimacy, orgasm, and sexual satisfaction (Birnbaum, 2007) and are more likely to experience painful intercourse (Granot et al., 2018) and difficulties with lubrication (Stephenson & Meston, 2010) relative to securely attached individuals. Avoidantly attached women also experience less sexual arousal, intimacy and excitement during sex relative to securely attached individuals (Birnbaum, 2007), suggesting that perhaps women on average benefit more from secure attachment to a partner in terms of their sexual satisfaction.

Although previous research has thoroughly examined the association between sexual satisfaction and attachment orientation, most of these findings are limited to sex in committed relationships. A body of research supports the claim that sex in committed relationships is of higher quality than sex in uncommitted sexual encounters. For instance, because the conditions conducive to orgasm (e.g., oral sex, direct clitoral stimulation) are more likely to be met in the context of a committed relationship than in casual sex, women experience orgasms more often in committed relationships than in ‘hookups’ (Armstrong, England, & Fogarty, 2012). Nevertheless, these studies have failed to examine sexual satisfaction and attachment orientation across the different types of casual sex encounters.

*The Present Study*

Although previous studies have focused on the association between attachment and willingness to engage in casual sex generally, to our knowledge little research has examined the role of attachment in the motivation to engage in casual sex and the emotional experience of casual sex. Further, in addition to not examining attachment, most findings on casual sex are limited to uncommitted sexual encounters that occur among young students in college settings and have failed to differentiate between different types of casual sex encounters (e.g., Owen & Fincham, 2011). We stipulate that sexual behavior serves the needs of the attachment system (e.g., Birnbaum, 2010; Davis et al., 2004), and that this assertion extends to sexual behavior in the context of casual relationships. Thus, the main goal of our research was to examine how individual differences in attachment security relate to the four different types of uncommitted sexual encounters identified by Wentland and Reissing (2011) using two broad community samples. Given their similarity, we combine the two samples whenever possible to increase statistical power.

Specifically, we examined anxious and avoidant individuals’ motivations for engaging in each of the types of encounters, as well as how much individuals enjoy the encounters, both physically (e.g., by reaching orgasm and experiencing physical pleasure) and psychologically (e.g. by experiencing positive/negative emotions). Moreover, in order to examine how casual sex differs from sex in committed relationships we recruited participants in committed relationships as a comparison group in Sample 2.

Previous studies have found that whereas insecurity on both dimensions of attachment is associated with aversive sexual affect and cognitions, anxiety is more strongly related to negative affect following sexual encounters (Gentzler & Kerns, 2004) and is possibly more detrimental to sexual well-being (Birnbaum, 2007) than avoidance. Thus, we had firmer predictions for the role of anxiety. In line with previous studies (Davis et al., 2004), we hypothesized that anxious individuals would be more likely to report engaging in casual sex to attain emotional closeness and reassure themselves they are loved (i.e. relationship reassurance), relative to less anxious individuals. In contrast, because avoidant individuals see sex and intimacy as distinct, they would be less likely to report engaging in casual sex to reassure themselves about their relationship. We further hypothesized that anxious individuals would be more likely to reach orgasm and experience physical pleasure and positive emotions and less likely to experience negative emotions in highly intimate encounters (i.e. Fuck Buddies, Friends With Benefits, committed relationships) relative to less intimate encounters (i.e. One-Night Stand, Booty Call), because highly intimate encounters should satisfy their need for reassurance and intimacy, but low intimate encounters should not. Finally, because avoidant individuals do not seek reassurance and intimacy in their relationships, we expected that their likelihood of experiencing physical pleasure and positive/negative emotions would not be contingent on the type of encounter.

**2. Materials and Methods**

*2.1. Participants*

**Sample 1.** We recruited482 participants from the United States and Canada online through Amazon’s Mechanical Turk in 2013. Due to the personal and sexual nature of the measures in our study, we used an online survey to ensure that participants felt comfortable and anonymous when responding to the questions (Tourangeau, Rips, & Rasinski, 2000). We advertised the study on Mechanical Turk as one that examines individuals’ sexual experiences. We compensated participants $1.00 for completing the survey, which took approximately 20 minutes, and incentivized them to pay attention by granting a $0.20 bonus if they passed the two attention checks embedded in the survey[[2]](#footnote-3).We required participants to be single, heterosexual[[3]](#footnote-4), and required they had engaged in an uncommitted sexual encounter – defined as a sexual act that occurs outside the context of a committed romantic/dating relationship – in the past two years. Because we wanted to examine the association between casual sex and psychological well-being during middle adulthood (as opposed to emerging adulthood, during which casual sex is normative; Lambert, Kahn, & Apple, 2003) we recruited only participants over the age of 30. Additionally, we wanted to compare individuals engaging in casual sex at different stages of adulthood, and thus we purposefully sampled equal numbers of participants in each age group (i.e., 30 to 40, 40 to 50 and 50+), as well as equal numbers of participants by gender. We achieved this by posting several separate MTurk hits.

We excluded 40 (8%) participants for not meeting the study eligibility criteria, and 49 (10%) participants for failing to pass the two attention checks. The final sample consisted of 393 individuals and included 190 (48%) males and 203 (52%) females between the ages of 30 and 73 (*M =* 43.94, *SD =* 9.79; see Table 1 for sample breakdown by type of casual sex). Eighty percent of the participants in the sample were White/Caucasian (see Table 2 for sample breakdown by ethnicity).

**Sample 2.**We recruited 1008 participants from the United States or Canada, recruited online through Amazon’s Mechanical Turk in 2014.  We compensated participants $0.80 for completing the survey, which took around 20 minutes to complete, and incentivized them to pay attention by granting a $0.30 bonus if they passed the two attention checks embedded in the survey.We required participants to be heterosexual and fall into one of the two following conditions: 1) be currently involved in a committed exclusive romantic relationship or 2) have engaged in an uncommitted sexual encounter– defined as a sexual act that occurs outside the context of a committed romantic/dating relationship – in the past *month,* and be single (not currently dating). Note that these criteria exclude individuals who are simultaneously pursuing casual sex while in a committed relationship (such as infidelity or consensual non-monogamous relationship). Because we wanted to compare individuals engaging in casual sex to individuals in committed romantic relationships, we purposefully sampled equal numbers of participants in the casual sex and committed relationship conditions, as well as equal numbers of participants by gender.

We excluded 50 (5%) participants for failing to pass the two attention checks. The final sample consisted of 958 individuals and included 474 (49.5%) males and 479 (50%) females (5 participants did not disclose their gender) between the ages of 20 and 77 (*M =* 31.95, *SD =* 9.53). A total of 471 participants (49.1%) reported having engaged in an uncommitted sexual encounter the past month, and 487 participants (50.8%) reported being involved in a committed romantic relationship at the time of the study (see Table 1 for sample breakdown by relationship type). The mean relationship length was 7 years 1 month (*SD* = 101 months) for participants in committed romantic relationships. The mean sexual relationship length was 21 months (*SD* = 41 months) for participants engaging in casual sex (excluding those who had engaged in One-Night Stand encounters, as these by definition are not ongoing relationships). Forty percent of the participants in committed romantic relationships were married. Seventy four percent of the participants in the sample were White/Caucasian (see Table 2 for sample breakdown by ethnicity).

*2.2. Measures and Procedure*

After consenting to participate in our study, participants responded to demographic measures and a measure of attachment style (Experiences in Close Relationships Scale - Short Form; Wei, Russell, Mallinckrodt, & Vogel, 2007). They next reported on when their most recent sexual encounter occurred, and were given definitions to identify which type of encounter it was (e.g. Relationship, One-Night Stand, Booty Call, Fuck Buddies, Friends with Benefits; Wentland & Reissing, 2011). Participants provided descriptive information about the encounter and their relationship with their sexual partner, their motivations for engaging in the encounter (detailed below), the physical pleasure they experienced, and their emotions after the encounter (Emotional Reactions to Hooking Up Scale; Owen & Fincham, 2011). Participants also completed measures we included for hypotheses we did not test or report in the present research paper (see <https://osf.io/tgph4/?view_only=c2a9752442414ac792a21183a1047f84> for all questionnaires). Participants then read a debriefing form and we compensated them via Amazon’s Mechanical Turk.

*2.2.1. Experiences in Close Relationships Scale – Short Form (ECR-S; Wei et al., 2007)*

To assess participants’ adult attachment style, we asked participants to consider how they feel about their “relationships in general” (given participants reporting on casual sex are not currently in a romantic relationship). Participants identified the extent to which they agree with six items representing attachment anxiety (e.g., “I need a lot of reassurance that I am loved by my partner”, *M =* 3.54, *SD* = 1.33, *α* = 0.80) and six items representing attachment avoidance (e.g., “I try to avoid getting too close to my partner”, *M =* 2.98, *SD =* 1.23, *α* = 0.81) on a scale from *strongly agree* (1) to *strongly disagree* (7). Higher scores indicate higher levels of attachment anxiety and avoidance, respectively.

*2.2.2. Motivations for Sex*

In Sample 1, we asked participants their reasons for engaging in casual sex in general (i.e. not for a particular encounter) by presenting them a list of 13 motives (inspired by the existing literature; e.g., Davis et al., 2004; Garcia & Reiber, 2008; Weaver & Herold, 2000; and brainstormed by the second and third author) and asking them to check off all motives that applied. We improved upon this measure in Sample 2 by adding additional motives (including those Sample 1 participants identified in an open-ended question) and by asking participants to rate the extent to which *each* of the 30reasons influenced their decision to engage in their most recent sexual encounter on a scale from 1 = *not at all* to 7 = *very much*.We use the continuous motivation measure from Sample 2 in analyses. We conducted an exploratory factor analysis of the items (see Supplemental Material for details) which revealed four separate types of motivations: relational (e.g., “I engaged in my most recent sexual encounter to feel secure about my partner’s feelings for me”, 6 items, *M* = 4.31, *SD =*1.70, *α* = 0.90), ulterior (e.g., “To get other things I want from my partner,” 7 items, *M* = 1.74, *SD =*1.04, *α* = .85), self (e.g., “I engaged in my most recent sexual encounter to feel good about myself”, 3 items, *M* = 3.51, *SD =* 1.66, *α* = 0.79) , and pleasure (e.g., “To fulfill sexual fantasies/kinks”, four items, *M* = 3.79, *SD =* 1.46, *α* = .72 )*.*

*2.2.3. Orgasm and Physical Pleasure.*

Participants in both studies reported whether they experienced an orgasm during their last sexual encounter (e.g., “yes”, “no” or “I don’t remember”). However, because pleasure can be experienced in the absence of orgasm, we did not want to emphasize orgasm as the end goal for sex and sought to get a more comprehensive measure of physical pleasure. Thus, participants in Sample 2 also reported how much physical pleasure they experienced on a 7-point scale ranging from *no pleasure at all* (1) to *extreme pleasure* (7) (*M* = 5.57, *SD* = 1.25). Additionally, participants in Sample 2 reported how much they felt that their partner was trying to please them sexually (*M* = 5.52, *SD* = 1.41) on a 7-point scale ranging from *not trying at all* (1) to *trying extremely hard* (7).

*2.2.4. Nature of the Encounter and Relationship with Partner.*

For broader study goals participants answered questions regarding the nature of the encounter (e.g**.,** “Who initiated the encounter? Which sexual acts did you and your partner perform?”) and their relationship with their sexual partner (e.g., “Are you still in contact with him/her? If so, how often do you typically see each other?”).

*2.2.5. Emotional Reactions to Hooking Up (Owen & Fincham, 2011).*

We measured participants’ positive (e.g. happy, desirable, *M =* 4.02, *SD =* 0.93, *α* = 0.94) and negative (e.g. awkward, empty, *M* = 1.53, *SD* = 0.80, *α* = 0.96) reactions to their last sexual encounter using this 10-item scale. For their last uncommitted sexual encounter, participants identified the degree to which they experienced each emotion right after the encounter on a 5-point scale ranging from *not at all* (1) to *very much* (5).  Higher scores indicate more positive or negative emotional reactions, respectively.

**3. Results**

We tested all our hypotheses using multiple regression analyses, zero-inflated poisson regressions (when examining number of casual sex encounters), and logistic regression (when examining orgasm likelihood) in SPSS. In all models, we entered attachment anxiety and attachment avoidance (grand-mean centered) simultaneously to examine the independent effects of each (e.g., Fraley, Heffernan, Vicary, & Brumbaugh, 2011). In the text we report the results of the combined analyses (except for those analyses involving the measures of physical pleasure and motives for sex which we only administered in Sample 2), but in the tables we report analyses separated by sample for interested readers (see Tables 3 to 8). All data analysis code can be found at <https://osf.io/tgph4/?view_only=c2a9752442414ac792a21183a1047f84> and data is available upon request.

When testing for interactions by type of encounter, because type of sexual encounter was a categorical variable with 5 levels, it was entered in the regression model as four effect-coded terms. Thus, to assess whether attachment anxiety interacted with type of encounter, we controlled for attachment avoidance and the interaction between avoidance and encounter type (represented as four terms in the model), and conducted a hierarchical regression wherein we entered the attachment anxiety by type interaction (represented as four terms in the model) in a separate step and examined the subsequent change in *R2*, whereby a significant change in *R2* indicates a significant interaction. We followed the same procedure for attachment avoidance whereby we controlled for anxiety and the anxiety by encounter type interaction, and then assessed the change in *R2* when the avoidance by encounter type terms were added to the model. We then conducted follow-up analyses within each encounter type by creating four dummy-coded variables where that particular encounter type received a value of 0 in all four columns, and report the associations (including main effects) of avoidance and anxiety from the full model, accounting for both the anxiety and avoidance by encounter interactions. We follow this approach throughout when examining the attachment by encounter type interaction.

*3.1. Descriptives: Attachment Differences Across Encounter Type*

For descriptive purposes we first examined whether attachment anxiety and avoidance predicted the likelihood of reporting on each type of casual encounter versus a committed relationship using multinomial logistic regression with committed relationship as the reference category (see Table 3). In other words, this analysis tells us whether anxiety and avoidance levels are higher in those who reported on a casual encounter versus those currently in romantic relationships. Higher attachment anxiety predicted significantly greater odds of one’s most recent sexual encounter being a Friends with Benefits or Booty Call (but not Fuck Buddy or One Night Stand) versus a committed relationship. Higher attachment avoidance was associated with significantly greater odds of one’s most recent sexual encounter being any form of casual encounter relative to in a committed relationship. Additionally, in Sample 1, participants indicated how many instances of each encounter type they had over the past two years. We ran four zero-inflated poisson regressions (because many individuals had not engaged in each type of encounter) predicting participants’ frequency of Friends With Benefits, Fuck Buddy, Booty Call and One Night Stands over the past two years from their anxiety and avoidance. As can be seen in Table 4, higher attachment anxiety was associated with lower numbers of Fuck Buddy and One Night Stand relationships, whereas higher levels of attachment avoidance were associated with greater numbers of Fuck Buddy, Booty Call and One Night Stand encounters.

*3.2. Attachment and Motives*

To test whether individuals’ motivations for casual sex differed by attachment orientation (assessed in Sample 2), we conducted a multivariate linear regression predicting the relational, ulterior, self and sexual enjoyment motivations from attachment anxiety and avoidance. The results of the multivariate test revealed that, as a whole, motivation for one’s most recent sexual encounter was predicted by attachment anxiety, *F*(4, 952), = 29.48, *p* < .001, and attachment avoidance, *F* (4, 952) = 124.84, *p* < .001. Attachment anxiety was positively related to all types (i.e. relational, ulterior, self and pleasure) of motivations for sex (see Table 5). In contrast, attachment avoidance was negatively related to relational motives, and positively related to ulterior, self and pleasure motives.

For interested readers, we report analyses testing whether the association between attachment and sexual motivations differed by the type of encounter in the Supplemental Materials. These analyses reveal that individuals higher in attachment anxiety were more likely to say they had both committed sex and casual sex for relational purposes, and had casual sex for ulterior motives. Individuals higher in attachment avoidance were less likely to say they had sex for relational purposes, and more likely to say they had sex for ulterior motives--but only in high intimacy encounters (i.e. committed relationships and Friends with Benefits). The associations between attachment styles and self and pleasure motives did not differ by encounter type.

*3.3. Attachment and Likelihood of Orgasm*

To test whether anxiety and avoidance were associated with a lower likelihood of orgasm we conducted a stepwise logistic regression in which we predicted participants’ orgasm during their last encounter (1= orgasm 0 = no orgasm or unsure). We conducted a hierarchical regression wherein the last step we added the anxiety by encounter type interaction (represented by four effects-coded variables), controlling for the avoidance by encounter type interactions, and examined the improvement in model fit (denoted by a significant Δ*Χ2*). We repeated the analyses for the avoidance by type interactions. We found that adding the anxiety by encounter type interaction significantly improved model fit, Δ*Χ2*(4) = 15.24, *p* = .004, whereas adding the avoidance by encounter type interaction did not significantly improve model fit, Δ*Χ2*(4) = 2.53, *p* = .640. Thus, we conducted simple slopes follow-ups where we looked at the association between anxiety and orgasm within each encounter type (see Table 6 for results). Anxiety predicted a lower likelihood of orgasm in Friends With Benefits and Fuck Buddies encounters, but not in relationships, One Night Stands or Booty Call encounters (Table 6).

*3.4. Attachment and Physical Pleasure*

Using the continuous measure of physical pleasure we used for Sample 2, we then examined whether physical pleasure was contingent on the type of encounter. As expected, there was a negative main effect of attachment anxiety on physical pleasure, β = -.09, *p*= .013*,* but contrary to our predictions, there was no interaction between anxiety and type of encounter on physical pleasure, Δ*R2*= .008, Δ*F*(4, 943) = 2.12, *p*= .076, suggesting that anxious individuals’ physical pleasure does not significantly differ across sexual encounters (Figure 1). We also found a significant negative main effect of attachment avoidance on physical pleasure,β = -.21, *p*< .001, and an interaction between avoidance and type of encounter on physical pleasure, Δ*R2* = .019, Δ*F*(4, 943) = 5.22, *p* < .001. Specifically, higher avoidance was associated with less physical pleasure in highly intimate encounters such as committed relationships, β = -.45, *p* < .001, and Friends With Benefits, β = -.32, *p* < .001, as well as in low intimacy encounters, such as One-Night Stand, β = -.32, *p* = .001), but not in moderately intimate encounters (Booty Call, Fuck Buddies, *p*s > .381). Interestingly, highly avoidant individuals (+1 *SD*) reported the highest levels of physical pleasure in Fuck Buddies encounters, followed by other casual encounters, and the lowest levels of pleasure in committed relationships (Figure 2).

Lastly, we examined whether attachment predicted individuals’ perception that their partner was trying to please them, and whether or not this was moderated by type of sexual encounter. Overall, those higher in anxiety, β = -.14, *t*(943) = -3.69, *p* < .001, and avoidance, β= -.12, t(943) = -2.60, *p* = .009, were less likely to report that their partner was trying to please them during their most recent sexual encounter[[4]](#footnote-5).

*3.5. Attachment and Positive/Negative Emotions*

We first conducted an exploratory factor analysis (Maximum Likelihood estimation, Promax rotation) of the items in the Emotional Reactions to Hooking UpScale (Owen & Fincham, 2011) to confirm that participants’ positive and negative emotions experienced immediately after the encounter loaded onto separate positive and negative factors, and thus we computed scores on recalled positive and negative emotions.

*3.5.1 Positive Emotions*

We examined whether positive emotions experienced immediately after the encounter were contingent on attachment orientation. As expected, we found significant negative main effects of both anxiety, β = -.12, *p* < .001, and avoidance, β = -.18, *p* < .001, on positive emotions. Examining the anxiety by encounter type interactions improved the model fit, Δ*R2* = .009, Δ*F*(4, 1336) = 3.52, *p* = .007. Greater anxiety predicted significantly lower positive emotions when engaging in Friends With Benefits, β = -.20, *p* < .001, Fuck Buddy, β = -.25, *p* < .001, and One-Night Stand, β = -.17, *p* = .003, but not when engaging in committed relationships, β = .008, *p* = .882, and Booty Call encounters, β = .01, *p* = .914 (see Figure 3).

The association between avoidance and positive emotions was also contingent on the type of encounter, Δ*R2* = .012, Δ*F*(4, 1336) = 4.66, *p* = .001. Specifically, greater avoidance predicted significantly less positive emotions when engaging in encounters with high levels of intimacy (Table 7): committed relationships, β = -.41, *p* < .001, and Friends With Benefits, β = -.20, *p* = .001, as well as in encounters with low levels of intimacy: such as One-Night Stand, β = -.18, *p* = .009but not in encounters with moderate levels of intimacy: Booty Call, Fuck Buddies, *p*s > .395. Interestingly, highly avoidant individuals (+1 *SD* above the sample mean; West, Aiken, & Krull, 1996) reported higher levels of positive emotions in Fuck Buddies encounters than in other encounters (see Figure 4).

*3.5.2 Negative Emotions*

Similarly, we found a significant positive main effect of both anxiety, β = .29, *p* < .001, and avoidance, β = .15, *p* < .001, on negative emotions. The association between anxiety and negative emotions was contingent on the type of encounter, Δ*R2*= .015, Δ*F(*4, 1335) = 6.64, *p* < .001. The association between avoidance and negative emotions was not contingent on the type of encounter, Δ*R2* = .003, Δ*F*(4, 1335) = 1.48, *p* = .207. Greater anxiety was associated with significantly more negative emotions relative to lower anxiety in all types of encounters, but the associations differed in magnitude (Table 8), which in order from highest to lowest were: One-Night Stand encounters, β = .42, *p* < .001, Friends With Benefits encounters, β = .37, *p* < .001, Fuck Buddies encounters, β = .30, *p* < .001, Booty Call encounters, β = .28, *p* = .002, and committed relationships, β = .09, *p* = .089.

*3.6. Additional Analyses*

We re-ran all our models simultaneously controlling for time elapsed since the encounter, participant’s age, and participant’s gender. By and large, our pattern of results did not change.

**4. Discussion**

The present study aimed to reconcile past mixed findings on the positive and negative associations between casual sex on psychological well-being. As expected, we found that whether casual sex was associated with benefits or costs may depend on the individual’s level of attachment security, the type of sexual encounter (One-Night Stand, Booty Call, Fuck Buddy, Friends With Benefits, or committed relationship), and the combination of attachment and encounter type. By and large, our findings suggest that for anxious individuals, all types of casual sex encounters operate much like sex in romantic relationships; that is, higher anxiety was associated with experiencing less physical pleasure, having a lower likelihood of orgasm, and experiencing more negative emotions mirroring anxious individuals’ sexual experiences in committed romantic relationships. Whereas for anxious individuals physical pleasure and positive/negative emotions largely generalized across all types of casual sexual encounters, avoidant individuals experience different levels of physical pleasure and positive emotions across different casual sexual encounters. For avoidant individuals sex in Friends with Benefits relationships is experienced much like sex in committed relationships and is accompanied by negative outcomes (e.g., less pleasure and positive emotions relative to less avoidant individuals). Conversely, avoidant individuals reported the highest levels of physical pleasure and positive emotions in Fuck Buddy encounters.

More specifically, our findings indicated that a) attachment orientation predicts motivations for sex in casual encounters similar to committed relationships; b) anxious individuals report lower levels of physical pleasure, less positive emotions, and more negative emotions after casual sex encounters relative to more secure individuals; the association between attachment anxiety and physical pleasure is not contingent on the type of encounter, but the association between anxiety and positive and negative emotions are; and c) the associations between attachment avoidance and physical pleasure, and positive emotions are contingent on the type of encounter and particularly emerge in more intimate encounters (i.e. committed relationships and Friends with Benefits).

**Attachment and Motives for Sex.** With regards to subjective motivations for sex, results indicated that insecure individuals (i.e., both anxious and avoidant) were more likely to say they had both committed sex and casual sex for self-focused reasons aimed at reassurance (e.g. “I engage in sex to feel good about myself”) and for pleasure-focused motives (e.g., “To experience novelty”).

The finding that both anxious and avoidant individuals reported self-focused reasons as a motive for all sexual encounter types is in line with past work that has found that insecure attachment (i.e. both anxious and avoidant) is negatively associated with self-esteem (Foster, Kernis, & Goldman, 2007; Srivastava & Beer, 2005; Wu, 2009) and positively related to self-esteem enhancement as a motive for sex (Davis et al., 2004). These findings suggest that both anxious and avoidant individuals may use sex as a mechanism to assure their self-worth in casual sex encounters.

Moreover, the finding that anxiety is associated with relational motives in all sexual encounter types is analogous to the increased desire for closeness, interdependence, and proximity that anxious individuals experience when they feel insecure regarding the availability of their partner (Davis et al., 2004). The fact that avoidant individuals were less likely to report relational motives is consistent with the notion that avoidant individuals tend to be uncomfortable with emotional closeness, and thus defensively do not seek out emotional reassurance from sex (see also Impett, Gordon, & Strachman, 2008).

Overall, these findings support a body of evidence stipulating sexual behavior serves the needs of the attachment system (e.g., Birnbaum, 2010; Davis et al., 2004), but notably, extend this notion to sexual behavior in the context of casual relationships. Because anxious individuals are extremely sensitive to rejection and relationship threats (Davis et al., 2004; Shaver & Mikulincer, 2002), they engage in sex to feel reassured both about their self-worth and about their relationship, as well as for ulterior and purely sexual reasons. Moreover, these patterns were present in individuals reporting on both casual and committed sexual encounters, suggesting that for anxious individuals, casual sexual behavior is motivated by the same concerns as sexual behavior in committed romantic relationships. In contrast, because avoidant individuals tend to minimize the degree of intimacy in their relationships (Gentzler & Kerns, 2004), for all types of sexual encounters they engage in sex to feel reassured about their self-worth, and for purely sexual reasons.

**Sexual Well-Being.** Anxiety predicted a lower likelihood of orgasm in moderately intimate encounters (Friends With Benefits and Fuck Buddies encounters), but not in committed relationships, One Night Stands, or Booty Call encounters. As expected, both dimensions of insecure attachment were negatively related to physical pleasure*.* This is consistent with findings in the context of romantic relationships that both anxiety and avoidance predict lower levels of orgasmic frequency (Birnbaum, 2007; Cohen & Belsky, 2008), less arousal during sex (Birnbaum, 2007), and less enjoyment of sex in general (Birnbaum, 2007; Birnbaum, Glaubman, & Mikulincer, 2001; Hazan et al., 1994), but importantly extend these patterns to the casual sex context. Moreover, both dimensions of insecure attachment were negatively related to positive emotions, and positively related to negative emotions*.* This is consistent with previous findings in the context of romantic relationships that both anxiety and avoidance are associated with more negative emotions during sex (Birnbaum et al., 2006; Davis et al., 2006), less positive emotions after sex (Brennan, Wu, & Loev, 1998), and more aversive sexual affect and cognitions (Birnbaum, 2007).

**Attachment Anxiety.** Because the encounters outlined by Wentland and Reissing (2011) are theorized to range according to levels of intimacy, and anxious individuals seek intimacy in their relationships, we predictedthat the association between attachment anxiety and physical pleasure would be contingent on the type of encounter. Contrary to our predictions, there was no interaction between anxiety and type of encounter on physical pleasure, suggesting that anxious individuals experience similar levels of physical pleasure across all encounters. Similarly, we predictedthat the association between attachment anxiety and positive and negative emotions would be contingent on the type of encounter. There was an interaction between anxiety and the type of encounter on positive emotions, but contrary to our predictions anxious individuals experienced low levels of positive emotions across almost all casual encounters (except for Booty Calls). Likewise, the association between anxiety and negative emotions was contingent on the type of encounter. Specifically, greater anxiety was associated with more negative emotions in all types of encounters, but slightly more negative emotions in uncommitted sexual encounters than in committed relationships.

These findings suggest that anxious individuals experience negative outcomes (i.e., low levels of physical pleasure and less positive emotions) in nearly all types of sexual encounters, perhaps due to anxious individuals’ excessive need for relationship reassurance during sex. Because anxious individuals use sex as a means of achieving intimacy and emotional closeness (Davis et al., 2004; Schachner & Shaver, 2004), they may experience frustration and alienation from the event when their relational needs are not satisfied (Birnbaum, 2007). Indeed, previous studies have found that attachment anxiety is associated with excessive worry (Davis et al., 2001), indifference, detachment, and distraction by relational concerns during sex (Birnbaum, 2007), and that these concerns further interfere with the experience of passionate emotions during sex (Tracy et al., 2003). Thus, anxious individuals’ preoccupation with relationship reassurance—even in casual encounters—may pose an obstacle to their enjoyment of sex by impairing their ability to experience both physical pleasure and positive emotions.

**Attachment Avoidance.** Because avoidant individuals do not seek intimacy in their encounters and are comfortable engaging in casual sex, we predictedthat avoidant attachment’s associations with physical pleasure and positive/negative emotions would not be contingent on the type of encounter. Surprisingly, we found an interaction between avoidance and type of encounter on both physical pleasure and positive emotions, suggesting that avoidant individuals experience different levels of physical pleasure and positive emotions across the different types of encounters. Overall, highly avoidant individuals engaging in uncommitted sexual encounters reported higher levels of physical pleasure than highly avoidant individuals in committed relationships, which is consistent with previous findings that avoidant individuals are more likely to enjoy the non-affectional, “instrumental” aspects of sex (Brennan & Shaver, 1995; Brennan et al., 1998; Gentzler & Kerns, 2004; Schachner & Shaver, 2004), are more likely to endorse the view that “sex without love is pleasurable” (Brennan & Shaver, 1995), and are more likely to engage in uncommitted sexual encounters (Feeney, Noller, & Patty, 1993).

Higher avoidance was associated with less physical pleasure, less positive emotions, and more negative emotions in highly intimate encounters (i.e., committed relationships, Friends With Benefits), and in low intimacy encounters, (i.e., One-Night Stand), but not in moderately intimate encounters (i.e., Fuck Buddies, Booty Call). Interestingly, highly avoidant individuals reported the highest levels of physical pleasure and positive emotions in Fuck Buddies encounters (a moderately intimate encounter), suggesting that avoidant individuals may benefit the most from engaging in casual relationships with moderate levels of intimacy. Unlike other encounters, Fuck Buddies offer an opportunity to develop a friendship as a result of repeated sexual activity; however, this friendship is superficial and ends with the termination of the sexual relationship (Wentland & Reissing, 2011). Thus, Fuck Buddies may allow avoidant individuals to experience intimacy and affection without having to give up the autonomy and independence that they value (Fraley & Davis, 1997). Although the conclusion that avoidant individuals might benefit from intimacy in their sexual encounters might seem counterintuitive (as avoidant individuals are known for minimizing intimacy in their relationships), it is consistent with findings in the attachment literature that avoidant individuals are not indifferent to social feedback (i.e., show a fundamental need to feel connected to others; Carvallo & Gabriel, 2006; Hudson, Fraley, Brumbaugh, & Vicary, 2014; but see Philipp-Muller, & MacDonald, 2017) and are able to inhibit their attachment-related defensive strategies under certain circumstances (Edelstein & Gillath, 2008). Fuck Buddy encounters may thus be a “sweet spot” in which avoidant individuals can get their intimacy and sexual needs met without feeling threatened. This is consistent with research suggesting that sex buffers against the effects of attachment insecurity by inhibiting the activation of the attachment system in the first place (Little, McNulty, & Russell, 2010). It is possible that Fuck Buddy encounters may be soothing the attachment-related concerns of avoidant individuals while at the same time meeting their needs for closeness and intimacy.

*4.1. Strengths, Limitations, and Future Directions*

Our study makes a contribution to both the attachment and casual sex literatures by systematically examining how different attachment orientations affect the experience of casual sex encounters. A key strength of our study is that we improved upon the limitations in past literature by directly examining different forms of casual sex and by recruiting a sample broader than typical college samples (see review by Garcia et al., 2012). Casual sex for young versus older adults happens in different environments, carrying different scripts and possible stigmas (Bogle, 2008; DePaulo & Morris, 2005). Yet, we found that all of our key results held controlling for age, and found similar patterns of results to past studies using college aged samples (e.g., Bradshaw et al., 2010; Owen & Fincham, 2011; Vrangalova & Ong, 2014). Another of the strengths of the present study is that we combined across the two samples to ensure we had high statistical power and enough participants within each encounter type category.

Despite these strengths, the present study has limitations that should be addressed. First, our studies were retrospective (and correlational) in nature, so participants’ recall of the sexual encounter may have been inaccurate or subject to biases. In Sample 2, we tried to minimize this possibility by only recruiting participants who had had a sexual encounter within the past month. Future research could use repeated measure diary designs (de Jong et al., 2018), to capture encounters as they happen, and to better inform the causal direction of the observed associations. Second, in order to maximize accuracy, we only asked participants about their most recent uncommitted sexual encounter (Sample 1) or their most recent sexual encounter (Sample 2). Because sexual relationships tend to change over time, a single episode might not reflect the complexities of the relationship. For instance, some uncommitted sexual encounters can evolve into more intimate (but still uncommitted) sexual encounters (e.g., Fuck Buddies might turn into Friends With Benefits) or into a committed relationship if partners become attached or “fall for each other” (Owen & Fincham, 2012; Wentland & Reissing, 2011). Furthermore, sexual satisfaction in committed relationships tends to reach a peak period (i.e., “honeymoon period”; Aubin & Heiman, 2004) after which it decays significantly (Birnbaum, 2018; Khoury & Findlay, 2014; Schmiedeberg & Schroder, 2016); however, it is unclear whether sexual satisfaction in casual relationships shows a similar pattern. Third, in Sample 2 our design purposely contrasted those in committed relationships from those who were single and had engaged in casual sex, thereby excluding individuals who may simultaneously be in a relationship and engaging in casual sex (such as those in open relationships, who may show different patterns of results).

In the present study, we used the categories identified by Wentland and Reissing (2011) as proxies for the varying degrees of intimacy and closeness that occur in casual sexual relationships. This hierarchy (where One-Night Stand < Booty Call < Fuck Buddy < Friends with Benefits < committed relationship) implies that some sexual encounters involve greater degrees of intimacy and closeness than others. However, research has found that intimacy-motivated behaviors (e.g., cuddling, foreplay, eye gazing) are common in the context of uncommitted sexual encounters, and that this is especially pronounced in individuals with a preference for casual sex encounters over romantic relationships (Garcia et al., 2018). Thus, these categories and their implied levels of intimacy and closeness may not apply to all instances. Future work should directly assess intimacy levels within each type of casual sex encounter. This work may require both individual and dyadic investigation to fully understand the complexities of each encounter.

Future studies should therefore a) examine how casual relationships develop and change over time (which can also inform the directionality of observed associations); b) assess intimacy levels within each type of casual encounter and outline the factors that make the different types of casual encounters evolve into more intimate relationships; and c) examine the course of sexual satisfaction in casual relationships and how each of these differ as a function of one’s attachment orientation. Fourth, our studies examined sexual encounters at the individual level. However, individuals’ perceptions might differ from their sexual partners’ perceptions, especially when the partners have differing attachment styles (Lavy, Mikulincer, & Shaver, 2010). For instance, participants’ perceptions of their partner’s efforts to please them might not reflect their actual partner’s efforts. Further, sexual partners may disagree about how to categorize the relationship (i.e., highly anxious individuals may see more intimacy than is truly there). The associations between casual sex and well-being should therefore be investigated at the dyadic level. Future studies should also examine the role of sexual communication (i.e., the extent to which individuals disclose their sexual needs and desires to their partner) in casual relationships, as it is a critical predictor of sexual satisfaction and physical pleasure (Byers, 2011; Khoury & Findlay, 2014; Timm & Keiley, 2011).

Finally, the predominance of White/Caucasian participants in our samples and our focus on heterosexual participants means generalizations to broader populations should be made with caution. Future studies should explore how other sexual orientations (e.g. gay, lesbian, bisexual) and non-Western cultures conceptualize and experience casual relationships. For instance, non-heterosexual individuals may engage in uncommitted sexual encounters in different contexts (e.g., bathhouses for same-sex attracted men; Richters, 2007), and non-Western individuals may be less accepting of casual sex (Ahrold, & Meston, 2010). Lastly, it should be noted that although we had a relatively large sample, fewer participants reported their most recent encounter was a Booty Calls (*N* = 93), and thus future research may benefit from directly targeting those who experienced Booty Calls.

**Conclusion.**

In sum, this research sheds important light on the associations between casual sex and well-being, by illustrating the critical role of attachment orientation. Given that our findings indicate insecure individuals are particularly likely to be engaging in casual encounters, it is important to understand how insecure individuals experience these types of sexual encounters. Taken together, our findings provide evidence that the type of sexual encounter affects how anxious and avoidant individuals experience sex, both physically and psychologically. Our findings are in line with the contention that attachment anxiety may be more detrimental to sexual well-being than attachment avoidance (Birnbaum, 2007). Whereas avoidant individuals may benefit from engaging in moderately intimate uncommitted sexual encounters (i.e., Fuck Buddies), anxious individuals may experience negative outcomes across all encounters. Notably, our findings echoed previous findings in the committed relationships literature, thereby advancing the attachment literature by suggesting that sexual phenomena in committed relationships might extend equally to various forms of casual sex. However, because little is known about the different types of casual relationships, the effects of casual sex on well-being warrant further investigation.

This work has been supported by Social Science and Humanities Research Council (SSHRC) through: a Canadian Graduate Scholarship and postdoctoral fellowship awarded to the second author, a University of Toronto Excellence Award awarded to the third author, and an Insight Grant awarded to the fourth author.

References

Ahrold, T. K., & Meston, C. M. (2010). Ethnic differences in sexual attitudes of US college students: Gender, acculturation, and religiosity factors. *Archives of Sexual Behavior*, *39*, 190-202.

Aubin, S., & Heiman, J. R. (2004). Sexual dysfunction from a relationship perspective. In J. H. Harvey, A. Wenzel & S. Sprecher (Eds.), *The handbook of sexuality in close relationships* (pp. 477-519). Seattle, WA: Lawrence Erlbaum Associates.

Armstrong, E. A., England, P., & Fogarty, A. C. K. (2012). Accounting for women’s orgasm and sexual enjoyment in college hookups and relationships. *American Sociological Review*, *77*(3), 435–462.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61,* 226-244.

Bersamin, M. M., Zamboanga, B. L., Schwartz, S. J., Donnellan, M. B., Hudson, M., Weisskirch, R. S., … & Caraway, S. J. (2014). Risky business: Is there an association between casual sex and mental health among emerging adults? *Journal of Sex Research, 51*(1), 43-51.

Birnbaum, G. E. (2007). Attachment orientations, sexual functioning, and relationship satisfaction in a community sample of women. *Journal of Social and Personal Relationships, 24*(1), 21-35.

Birnbaum, G. E. (2010). Bound to interact: The divergent goals and complex interplay of attachment and sex within romantic relationships. *Journal of Social and Personal Relationships, 27*(2), 245-252.

Birnbaum, G. E. (2018). The fragile spell of desire: A functional perspective on changes in sexual desire across relationship development. *Personality and Social Psychology Review*, *22*(2), 101-127.

Birnbaum, G. E., Glaubman, H., & Mikulincer, M. (2001). Women’s experiences of heterosexual intercourse: Scale construction, factor structure, and relations to orgasmic disorder. *The Journal of Sex Research, 38*, 191-204.

Birnbaum, G. E., Reis, H. T., Mikulincer, M., Gillath, O., & Orpaz, A. (2006). When sex is more than just sex: Attachment orientations, sexual experience, and relationship quality. *Journal of Personality and Social Psychology, 91*, 929-943.

Bogle, K. A. (2007). The shift from dating to hooking up in college: What scholars have missed. *Sociology Compass, 1*(2), 775-788.

Bogle, K. A. (2008). *Hooking up: Sex, dating, and relationships on campus*. New York, NY: New York University Press.

Bowlby, J. (1980). *Attachment and loss. Vol. 3. Separation: Anxiety and anger.* New York, NY: Basic Books.

Bradshaw, C., Kahn, A. S., & Saville, B. K. (2010). To hook up or to date: Which gender benefits? *Sex Roles, 62*, 661-669.

Brassard, A., Shaver, P. R., & Lussier, Y. (2007). Attachment, sexual experience, and sexual pressure in romantic relationships: A dyadic approach. *Personal Relationships, 14*(3), 475-493.

Brennan, K. A., & Shaver, P. R. (1995). Dimensions of adult attachment, affect regulation, and romantic relationship functioning. *Personality and Social Psychology Bulletin, 21*, 267-283.

Brennan, K. A., Wu, S., & Loev, J. (1998). Adult romantic attachment and individual differences in attitudes toward physical contact in the context of adult romantic relationships. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 248-256). New York, NY: McGraw-Hill.

Butzer, B., & Campbell, L. (2008). Adult attachment, sexual satisfaction, and relationship satisfaction: A study of married couples. *Personal Relationships, 15*, 141-154.

Byers, E. S. (2011). Beyond the birds and the bees and was it good for you?: Thirty years of research on sexual communication.*Canadian Psychology/Psychologie Canadienne, 52*(1), 20-28.

Carvallo, M., & Gabriel, S. (2006). No man is an island: The need to belong and dismissing avoidant attachment style. *Personality and Social Psychology Bulletin, 32*(5), 697-709.

Cohen, D. L., & Belsky, J. (2008). Avoidant romantic attachment and female orgasm: Testing an emotion-regulation hypothesis*. Attachment and Human Development, 10*(1),1-10.

Davis, D., Follette, W. C., Vernon, M. L., & Shaver, P. R. (2001). *Adult attachment style and the extent and manner of expression of sexual needs*. Maui, HI: Western Psychological Association.

Davis, D., Shaver, P. R., & Vernon, M. L. (2004). Attachment style and subjective motivations for sex. *Personality and Social Psychology Bulletin, 30*(8), 1076-1090.

Davis, D., Shaver, P. R., Widaman, K. E., Vernon, M. L., Beitz, K., & Follette, W. C. (2006). “I can’t get no satisfaction”: Insecure attachment, inhibited sexual communication, and dissatisfaction. *Personal Relationships, 13*, 465-483.

de Jong, D. C., Adams, K. N., & Reis, H. T. (2018). Predicting women’s emotional responses to hooking up: Do motives matter? *Journal of Social and Personal Relationships*, *35*(4), 532–556.

Dewitte, M. (2012). Different perspectives on the sex-attachment link: Towards an emotion-motivational account. *Journal of Sex Research, 49*(2,3), 105-124.

DePaulo, B. M., & Morris, W. L. (2005). Singles in society and in science. *Psychological Inquiry, 16*(2-3), 57-83.

Edelstein, R. S., & Gillath, O. (2008). Avoiding interference: Adult attachment and emotional processing biases. *Personality and Social Psychology Bulletin, 34*(2), 171-181.

Feeney, J. A., & Noller, P. (1990). Attachment style as a predictor of adult romantic relationships. *Journal of Personality and Social Psychology, 58*, 281-291.

Feeney, J. A., Noller, P., & Patty, J. (1993). Adolescents’ interactions with the opposite sex: Influence of attachment style and gender. *Journal of Adolescence, 16*(2), 169-186.

Fielder, R. L., & Carey, M. P. (2010). Predictors and consequences of sexual “hookups” among college students: A short-term prospective study. *Archives of Sexual Behavior, 39,* 1105-1119.

Fisher, M. L., Worth, K., Garcia, J. R., & Meredith, T. (2012). Feelings of regret following uncommitted sexual encounters in Canadian university students. *Culture, Health & Sexuality*, *14*, 45-57.

Foster, J. D., Kernis, M. H.,  & Goldman, B. M. (2007). Linking adult attachment to self-esteem stability. *Self and Identity, 6*(1), 64-73.

Fraley, R. C., & Davis, K. E. (1997). Attachment formation and transfer in young adults’ close friendships and romantic relationships. *Personal Relationships, 4*(2), 131-144.

Fraley, R. C., Davis, K. E., & Shaver, P. R. (1998). Dismissing-avoidance and the defensive organization of emotion, cognition, and behaviour. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 249-280). New York, NY: Guilford.

Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The experiences in close relationships—Relationship structures questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment, 23*(3), 615-625.

Fraley, R. C., Hudson, N. W., Hefferman, M. E., & Segal, N. (2015). Are adult attachment styles categorical or dimensional? A taxometric analysis of general and relationship-specific attachment orientations. *Journal of Personality and Social Psychology, 109*(2), 354.

Frederick, D. A., Lever, J., Gillespie, B. J., & Garcia, J. R. (2017). What keeps passion alive? Sexual satisfaction is associated with sexual communication, mood setting, sexual variety, oral sex, orgasm, and sex frequency in a national US study. *The Journal of Sex Research, 54*(2), 186-201.

Garcia, J. R., & Reiber, C. (2008). Hook-up behavior: A biopsychosocial perspective. *Journal of Social, Evolutionary, and Cultural Psychology, 2*(4), 192-208.

Garcia, J., Gesselman, A., Massey, S., Seibold-Simpson, S., & Merriwether, A. (2018). Intimacy Through Casual Sex: Relational Context of Sexual Activity and Affectionate Behaviours. *Journal of Relationships Research,* *9*, E12. doi:10.1017/jrr.2018.10

Garcia, J. R., Reiber, C., Massey, S. G., & Merriwether, A. M. (2012). Sexual hookup culture: A review. *Review of General Psychology, 16*, 161-176.

Gentzler, A. L., & Kerns, K. A. (2004). Associations between insecure attachment and sexual experiences. *Personal Relationships, 11,* 249-265.

Gewirtz-Meydan, A., & Finzi-Dottan, R. (2018). Sexual satisfaction among couples: The role of attachment orientation and sexual motives. *The Journal of Sex Research, 55*(2), 178-190.

Granot, M., Yovell, Y., Somer, E., Beny, A., Sadger, R., Uliel-Mirkin, R., & Zisman-Ilani, Y. (2018). Trauma, attachment style, and somatization: A study of women with dyspareunia and women survivors of sexual abuse. *BMC Women’s Health, 18*(1), 29.

Grello, C. M., Welsh, D. P., & Harper, M. S. (2006). No strings attached: The nature of casual sex in college students. *The Journal of Sex Research, 43*(3), 255-267.

Guerrero, L. K. (1996). Attachment-style differences in intimacy and involvement: A test of the four-category model. *Communication Monographs, 63*, 269-292.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52,* 511-524.

Hazan, C., Zeifman, D., & Middleton, K. (1994, July). Adult romantic attachment, affection, and sex. Paper presented at the 7th International Conference on Personal Relationships, Groningen, The Netherlands.

Hudson, N. W., Fraley, R. C., Brumbaugh, C. C., & Vicary, A. M. (2014). Co-regulation in romantic partner’s attachment styles: A longitudinal investigation. *Personality and Social Psychology Bulletin, 40(*7), 845-857.

Impett, E. A., Gordon, A. M., & Strachman, A. (2008). Attachment and daily sexual goals: A study of dating couples. *Personal Relationships*, *15*(3), 375-390.

Khoury, C. B., & Findlay, B. M. (2014). What makes for good sex? The associations among attachment style, inhibited communication and sexual satisfaction. *Journal of Relationships Research, 5.*

Kirkpatrick, L. A., & Hazan, C. (1994). Attachment styles and close relationships: A four-year prospective study. *Personal Relationships, 1*, 123-142.

LaBrie, J. W., Hummer, J. F., Ghaidarov, T. M., Lac, A., & Kenney, S. R. (2014). Hooking up in the college context: The event-level effects of alcohol use and partner familiarity on hookup behaviors and contentment. *Journal of Sex Research*, *51*, 62-73.

Lambert, T. A., Kahn, A. S., & Apple, K. J. (2003). Pluralistic ignorance and hooking up. *Journal of Sex Research, 40*(2), 129-133.

Lavy, S., Mikulincer, M., & Shaver, P. R. (2010). Autonomy-proximity imbalance: An attachment theory perspective on intrusiveness in romantic relationships. *Personality and Individual Differences, 48*(5), 552-556.

Licoppe, C., Rivière, C. A., & Morel, J. (2016). Grindr casual hook-ups as interactional achievements. *New Media & Society*, *18*(11), 2540–2558.

Mao, L., Crawford, J., Van De Ven, P., Prestage, G., Grulich, A., Kaldor, J., & Kippax, S. (2006). Differences between men who report frequent, occasional or no unprotected anal intercourse with casual partners among a cohort of HIV-seronegative gay men in Sidney, Australia. *AIDS Care, 18*(8), 942-951.

Little, K. C., McNulty, J. K., & Russell, V. M. (2010). Sex buffers intimates against the negative implications of attachment insecurity. *Personality and Social Psychology Bulletin*, *36*(4), 484-498.

Mendle, J., Ferrero, J., Moore, S. R., & Harden, K. P. (2013). Depression and adolescent sexual activity in romantic and non-romantic relational contexts: A genetically informative sibling comparison. *Journal of Abnormal Psychology, 122*, 51-63.

Mikulincer, M., & Nachson, O. (1991). Attachment styles and patterns of self-disclosure. *Journal of Personality and Social Psychology, 61,* 321-331.

Monto, M. A., & Carey, A. G. (2014). A new standard of sexual behavior? Are claims associated with the “hookup culture” supported by general social survey data? *The Journal of Sex Research*, *51*(6), 605-615.

Muise, A., Maxwell, J. A., & Impett, E. A. (2018). What theories and methods from relationship research can contribute to sex research. *The Journal of Sex Research, 55*(4-5), 540-562.

Owen, J., & Fincham, F. (2011). Effects of gender and psychosocial factors on “Friends with Benefits” relationships among young adults. *Archives of Sexual Behavior, 40*(2), 311-320.

Owen, J., & Fincham, F. D. (2012). Friends with benefits relationships as a start to exclusive romantic relationships. *Journal of Social and Personal Relationships*, *29*(7), 982–996.

Owen, J. J., Rhoades, G. K., Stanley, S. M., & Fincham, F. (2010). “Hooking up” among college students: Demographic and psychosocial correlates. *Archives of Sexual Behavior, 3*, 103-111.

Ozcan, O., Elbozan Cumurcu, B., Karlidag, R., Unal, S., Aktan Mutlu, E., & Kartalci, S. (2015). Attachment styles in women with vaginismus. *Anatolian Journal of Psychiatry/Anadolu Psikivatri Dergisi, 16*(1).

Paul, E. L., McManus, B., & Hayes, A. (2000). “Hookups”: Characteristics and correlates of college students’ spontaneous and anonymous sexual experience*. Journal of Sex Research, 37*, 76-88.

Philipp-Muller, A. & MacDonald, G. (2017). Avoidant individuals may have muted responses to social warmth after all: An attempted replication of MacDonald and Borsook (2010). *Journal of Experimental Social Psychology, 70,* 272-280.

Rajkumar, R. P. (2015). The impact of disrupted childhood attachment on the presentation of psychogenic erectile dysfunction: An exploratory study. *The Journal of Sexual Medicine, 12*(3), 798-803.

Regan, P. C., & Dreyer, C. S. (1999). Lust? Love? Status? Young adults’ motives for engaging in casual sex. *Journal of Psychology and Human Sexuality, 11*, 1-24.

Richters, J. (2007). Through a hole in a wall: setting and interaction in sex-on-premises venues. *Sexualities*, *10*, 275-297.

Schachner, D. A., & Shaver, P. R. (2004). Attachment dimensions and sexual motives. *Personal Relationships*, *11*, 179-195.

Schick, V., Herbenick, D., Reece, M., Sanders, S. A., Dodge, B., Middlestadt, S. E., & Fortenberry, J. D. (2010). Sexual behaviors, condom use, and sexual health of Americans over 50: implications for sexual health promotion for older adults. *The Journal of Sexual Medicine*, *7*, 315-329.

Schmiedeberg, C., & Schroder, J. (2016). Does sexual satisfaction change with relationship duration? *Archives of Sexual Behavior, 45*(1), 99-107.

Schwartz, P., Diefendorf, S., & McGlynn-Wright, A. (2014). Sexuality in aging. In D. L. Tolman, L. M. Diamond, J. A. Bauermeister, W. H. George, J. G. Pfaus, & L. M. Ward (Eds.), APA handbook of sexuality and psychology, Vol. 1. Person-based approaches (pp. 523-551). Washington, DC, US: American Psychological Association.

Shaver, P. R., & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment and Human Development, 4*(2), 133-161.

Singh, B. K. (1980). Trending attitudes toward premarital sexual relations. *Journal of Marriage and the Family, 42,* 387-393.

Smith, T. W. (1990). The polls — A report on the sexual revolution. *Public Opinion Quarterly, 54*, 415-435.

Srivastava, S., & Beer, J. S. (2005). How self-evaluations relate to being liked by others: Integrating sociometer and attachment perspectives. *Journal of Personality and Social Psychology, 89*(6), 966-977.

Stefanou, C., & McCabe, M. P. (2012). Adult attachment and sexual functioning: A review of past research. *The Journal of Sexual Medicine*, *9*(10), 2499-2507.

Stephan, C. W., & Bachman, G. F. (1999). What’s sex got to do with it? Attachment, love schemas, and sexuality. *Personal Relationships, 6,* 111-123.

Stephenson, K. R., & Meston, C. M. (2010). Differentiating components of sexual well-being in women: Are sexual satisfaction and sexual distress independent constructs? *The Journal of Sexual Medicine, 7*(7), 2458-2468.

Stinson, R. D. (2010). Hooking up in young adulthood: A review of factors influencing the sexual behavior of college students. *Journal of College Student Psychotherapy, 24*(2), 98-115.

Timm, T. M., & Keiley, M. K. (2011). The effects of differentiation of self, adult attachment, and sexual communication on sexual and marital satisfaction: A path analysis. *Journal of Sex and Marital Therapy, 37*(3), 206-223.

Tracy, J. L., Shaver, P. R., Albino, A. W., & Cooper, M. L. (2003). Attachment styles and adolescent sexuality. In P. Florsheim (Eds.), *Adolescent romance and sexual behavior: Theory, research, and practical implications* (pp. 137-159). Mahwah, NJ: Erlbaum.

Tourangeau, R., Rips,  L. J., & Rasinski, K. (2000). *The psychology of survey response* (pp. 289-312). Cambridge: Cambridge University Press.

Twenge, J. M., Sherman, R. A., & Wells, B. E. (2014). Changes in American adults’ sexual behavior and attitudes, 1972-2012. Archives of Sexual Behavior, 44(8), 2273-2285.

Vanderdrift, L. E., Lehmiller, J. J., & Kelly, J. R. (2012). Commitment in friends with benefits relationships: Implications for relational and safe‐sex outcomes. *Personal Relationships*, *19*, 1-13.

Vrangalova, Z. (2015). Hooking up and psychological well-being in college students: Short-term prospective links across different hookup definitions. *Journal of Sex Research, 52*(5), 485-498.

Vrangalova, Z., & Ong, A. D. (2014). Who benefits from casual sex? The moderating role of sociosexuality. *Social Psychological and Personality Science, 5*(8), 883-891.

Walsh, R. (1989). Premarital sex among teenagers and young adults. In K. McKinney & S. Spre\*echer (Eds.), *Human sexuality: The societal and interpersonal context* (pp. 162-186). Norwood, NJ: Ablex.

Weaver, S. J., & Herold, E. S. (2000). Casual sex and women: Measurement and motivational issues. *Journal of Psychology and Human Sexuality, 12*(3), 23-41.

Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The experiences in close relationships scale (ECR)-Short Form: Reliability, validity, and factor structure. *Journal of Personality Assessment, 88*(2), 187-204.

Wells, B. E., & Twenge, J. M. (2005). Changes in young people’s sexual behavior and attitudes, 1943-1999: A cross-temporal meta-analysis. *Review of General Psychology, 9*, 249-261.

Wentland, J. J., & Reissing, E. D. (2011). Taking casual sex not too casually: Exploring definitions of casual sexual relationships. *The Canadian Journal of Human Sexuality, 20*(3), 75-91.

West, S. G., Aiken, L. S., & Krull, J. L. (1996). Experimental personality designs: Analyzing categorical by continuous variable interactions. *Journal of Personality, 64*(1), 1-48.

Wu, C. H. (2009). The relationship between attachment style and self-concept clarity: The mediation effect of self-esteem. *Personality and Individual Differences, 47*(1), 42-46.

Table 1

*Participants in Sample 1, Sample 2, and combined samples by type of relationship*

|  |  |  |
| --- | --- | --- |
|  | Number of participants | Percentage |
| **Sample 1** |  |  |
| Friends With Benefits | 182 | 46% |
| Fuck Buddies | 73 | 19% |
| Booty Call | 36 | 9% |
| One-Night Stand | 102 | 26% |
| **Sample 2** |  |  |
| Committed Relationship | 487 | 51% |
| Friends With Benefits | 156 | 16% |
| Fuck Buddies | 110 | 12% |
| Booty Call | 57 | 6% |
| One-Night Stand | 148 | 15% |
| **Combined Samples** |  |  |
| Committed Relationship | 487 | 36% |
| Friends With Benefits | 338 | 25% |
| Fuck Buddies | 183 | 13.5% |
| Booty Call | 93 | 7% |
| One-Night Stand | 250 | 18.5% |
| Total | 1351 |  |

Table 2

*Ethnicity breakdown of participants in Sample 1, Sample 2, and combined samples*

|  |  |  |
| --- | --- | --- |
|  | Number of participants | Percentage |
| **Sample 1** |  |  |
| White/Caucasian | 315 | 80.2% |
| Black | 38 | 9.7% |
| European  Arab/West Asian  Aboriginal  Latin American  Japanese  Chinese  Filipino  Korean  South Asian | 32  3  6  30  1  4  6  0  1 | 8.1%  0.8%  1.5%  7.6%  0.3%  1%  1.5%  0%  0.3% |
| South East Asian  No Answer  Other | 1  6  5 | 0.3%  1.5%  1.3% |
| **Sample 2** |  |  |
| White/Caucasian | 709 | 74% |
| Black | 96 | 10% |
| European  Arab/West Asian  Aboriginal  Latin American  Japanese  Chinese  Filipino  Korean  South Asian | 97  4  25  51  3  15  13  9  8 | 10.1%  0.4%  2.6%  5.3%  0.3%  1.6%  1.4%  0.9%  0.8% |
| South East Asian  No Answer  Other | 5  7  9 | 0.5%  0.7%  0.9% |
| **Combined Samples** |  |  |
| White/Caucasian | 1024 | 75.8% |
| Black | 134 | 9.9% |
| European  Arab/West Asian  Aboriginal  Latin American  Japanese  Chinese  Filipino  Korean  South Asian | 129  7  31  81  4  19  19  9  9 | 9.5%  0.5%  2.3%  6%  0.3%  1.4%  1.4%  0.7%  0.7% |
| South East Asian  No Answer  Other | 6  13  14 | 0.4%  1%  1% |

*Note.* Participants could select multiple ethnicities. *N* = 1351

Table 3

*Attachment and odds of reporting on each type of casual sex encounter relative to a committed relationship (multinomial regression)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Encounter Type vs.  Committed Relationship |  | *Odds Ratio* | *p* | 95% CI | |
|  |  |  | Lower | Upper |
| Friends With Benefits | **Anxiety** | **1.168** | **.010** | **1.038** | **1.314** |
| **Avoidance** | **2.565** | **< .001** | **2.207** | **2.981** |
| Fuck Buddies | Anxiety | 1.111 | .152 | 0.962 | 1.284 |
| **Avoidance** | **3.429** | **< .001** | **2.859** | **4.111** |
| Booty Call | **Anxiety** | **1.217** | **.033** | **1.016** | **1.457** |
| **Avoidance** | **3.258** | **< .001** | **2.606** | **4.075** |
| One Night Stand | Anxiety | 1.111 | .109 | 0.977 | 1.265 |
| **Avoidance** | **2.87** | **< .001** | **2.439** | **3.377** |

Table 4

*Sample 1. Predicting the number of each type of encounter the participant engaged in over the past 2 years from participants’ attachment orientation (zero-inflated poisson regression)*

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | *z score* | *p* |
| Friends With Benefits | Anxiety | -0.724 | .469 |
| Avoidance | 1.512 | .131 |
|  |  |  |  |
| Fuck Buddies | **Anxiety** | **-2.048** | **.041** |
| **Avoidance** | **3.099** | **.002** |
|  |  |  |  |
| Booty Calls | Anxiety | 0.475 | .635 |
| **Avoidance** | **4.42** | **< .001** |
|  |  |  |  |
| One Night Stand | **Anxiety** | **-3.127** | **.002** |
| **Avoidance** | **3.907** | **< .001** |

Table 5

Sample 2. *Multivariate regression predicting motivations for most recent sexual encounter from attachment orientation*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent Variable |  | *b* | *SE* | *t* | *p* | 95% CI | |
|  |  |  |  |  |  | Lower | Upper |
| Relational Motivation | **Anxiety** | **0.18** | **0.04** | **4.80** | **< .001** | **0.11** | **0.25** |
| **Avoidance** | **-0.67** | **0.04** | **-17.21** | **< .001** | **-0.75** | **-0.60** |
|  |  |  |  |  |  |  |  |
| Ulterior Motivation | **Anxiety** | **0.14** | **0.03** | **5.72** | **< .001** | **0.09** | **0.19** |
| **Avoidance** | **0.19** | **0.03** | **7.17** | **< .001** | **0.14** | **0.24** |
|  |  |  |  |  |  |  |  |
| Self Motivation | **Anxiety** | **0.38** | **0.04** | **9.73** | **< .001** | **0.30** | **0.45** |
| **Avoidance** | **0.21** | **0.04** | **5.14** | **< .001** | **0.13** | **0.29** |
|  |  |  |  |  |  |  |  |
| Pleasure Motivation | **Anxiety** | **0.08** | **0.04** | **2.22** | **.027** | **0.01** | **0.15** |
| **Avoidance** | **0.11** | **0.04** | **2.82** | **.005** | **0.03** | **0.18** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

Table 6

*Logistic regression predicting likelihood of orgasm for most recent sexual encounter from attachment orientation*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | **Anxiety** | | | **Avoidance** | | |  |
| **Sample 1** | β | *SE* | | Odds Ratio | 95% CI | β | *SE* | Odds Ratio | 95% CI |
| Friends With Benefits | -.342\* | .146 | | .711 | [.534 - .945] | .091 | .192 | 1.095 | [.751 - 1.596] |
| Fuck Buddies | -.524† | .291 | | .592 | [.335-1.047] | .392 | .362 | 1.480 | [.728 - 3.009] |
| Booty Call | -.040 | .342 | | .961 | [.491 - 1.880] | -.231 | .336 | .794 | [.411 - 1.534] |
| One-Night Stand | -.320† | .172 | | .726 | [.518 - 1.018] | -.156 | .207 | .856 | [.579 - 1.285] |
| **Sample 2** | β | *SE* | | Odds Ratio | 95% CI | β | *SE* | Odds Ratio | 95% CI |
| Committed Relationship | -.060 | .115 | | .942 | [.752 - 1.181] | -.185 | .137 | 1.834 | [.636 - 1.086] |
| Friends With Benefits | -.455\*\* | .159 | | .634 | [.464 - .867] | .032 | .193 | 1.033 | [.708 - 1.507] |
| Fuck Buddies | -.567\*\* | .227 | | .567 | [.364 - .884] | -.296 | .274 | .744 | [.434 - 1.273] |
| Booty Call | .128 | .217 | | 1.137 | [.742 - 1.740] | .419 | .261 | 1.521 | [.921 - 2.536] |
| One-Night Stand | -.064 | .153 | | .938 | [.695 - 1.267] | -.034 | .210 | .967 | [.641 - 1.459] |
| **Combined Samples** | β | *SE* | | Odds Ratio | 95% CI | β | *SE* | Odds Ratio | 95% CI |
| Committed Relationship | -.040 | .121 | | .961 | [.758 - 1.219] | -.166 | .143 | .847 | [.640 - 1.121] |
| Friends With Benefits | -.498\*\* | .118 | | .608 | [.482-.767] | .022 | .149 | 1.023 | [.763-1.370] |
| Fuck Buddies | -.538\*\* | .172 | | .584 | [.417 - .817] | -.066 | .217 | .936 | [.612 - 1.431] |
| Booty Call | .126 | .186 | | 1.134 | [.788 - 1.633] | .192 | .200 | 1.211 | [.819 - 1.791] |
| One-Night Stand | -.184 | .115 | | .832 | [.664 - 1.042] | -.108 | .147 | .898 | [.673 - 1.197] |

†p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001.

Table 7

*Associations between attachment anxiety and avoidance with positive emotions by type of encounter. Effect size r is reported.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Anxiety** | | | | | | **Avoidance** | | | | | |
| **Sample 1** | β | | | *r* | 95% CI for unstandardized estimate | | | | β | *r* | | 95% CI for unstandardized estimate |
| Friends With Benefits | | -0.156\* | -.114 | | | [-0.213, -0.014] | | -.028 | | -.019 | [-0.153, 0.104] | |
| Fuck Buddies | | -0.294\* | -.116 | | | [-0.399, -0.030] | | 0.073 | | .031 | [-0.143, 0.271] | |
| Booty Call | | 0.089 | .023 | | | [-.224, 0.354] | | -0.535\*\* | | -.165 | [-0.753, -0.188] | |
| One-Night Stand | | -0.313\*\*\* | -.169 | | | [-0.362, -0.094] | | 0.004 | | .002 | [-0.155, 0.163] | |
| **Sample 2** | | β | *r* | | | 95% CI for unstandardized estimate | | β | | *r* | 95% CI for unstandardized estimate | |
| Committed Relationship | | 0.008 | .005 | | | [-0.065, 0.076] | | -0.428 | | -.225 | [-0.397, -0.225] | |
| Friends With Benefits | | -0.265 | -.115 | | | [-0.285, -0.082] | | -0.359 | | -.135 | [-0.383, -0.138] | |
| Fuck Buddies | | -0.226\* | -.082 | | | [-0.277, -0.035] | | -0.111 | | -.034 | [-0.231, 0.070] | |
| Booty Call | | 0.061 | .018 | | | [-0.110, 0.195] | | 0.236† | | .059 | [-0.014, 0.357] | |
| One-Night Stand | | -0.106 | -.046 | | | [-0.176, 0.029] | | -0.311\*\* | | -.103 | [-0.365, -0.086] | |
| **Combined Samples** | | β | *r* | | | 95% CI for unstandardized estimate | | β | | *r* | 95% CI for unstandardized estimate | |
| Committed Relationship | | 0.008 | .004 | | | [-0.068, 0.079] | | -0.411\*\*\* | | -.183 | [-0.401, -0.221] | |
| Friends With Benefits | | -0.196\*\*\* | -.107 | | | [-0.206, -0.069] | | -0.198\*\* | | -.094 | [-0.235, -0.064] | |
| Fuck Buddies | | -0.254\*\*\* | -.097 | | | [-0.276, -0.080] | | -0.017 | | -.006 | [-0.132, 0.107] | |
| Booty Call | | 0.010 | .003 | | | [-0.126, 0.141] | | -0.086 | | -.023 | [-0.215, 0.085] | |
| One-Night Stand | | -0.170\*\* | -.081 | | | [-0.198, -0.040] | | -0.176\*\* | | -.071 | [-0.234, -0.033] | |

†p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001.

Table 8

*Associations between attachment anxiety and avoidance with negative emotions by type of encounter. Effect size r is reported.*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Anxiety** | | | | **Avoidance** | | | |
| **Sample 1** | β | *r* | 95% CI for unstandardized estimate | β | | *r* | 95% CI for unstandardized estimate |
| Friends With Benefits | 0.298\*\*\* | .228 | [0.117, 0.294] | -.061 | | -.045 | [-0.165, 0.063] |
| Fuck Buddies | 0.448\*\*\* | .186 | [0.145, 0.473] | -0.073 | | -.033 | [-0.244, 0.123] |
| Booty Call | 0.256 | .069 | [-0.081, 0.433] | 0.469\*\* | | .155 | [0.139, 0.642] |
| One-Night Stand | 0.471\*\*\* | .265 | [0.206, 0.444] | 0.068 | | .040 | [-0.085, 0.198] |
| **Sample 2** | β | *r* | 95% CI for unstandardized estimate | β | | *r* | 95% CI for unstandardized estimate |
| Committed Relationship | 0.087† | .059 | [-0.004, 0.106] | 0.292\*\*\* | | .168 | [0.112, 0.247] |
| Friends With Benefits | 0.515\*\*\* | .236 | [0.222, 0.380] | 0.392\*\*\* | | .159 | [0.145, 0.337] |
| Fuck Buddies | 0.243\*\* | .096 | [0.047, 0.236] | 0.271\*\* | | .090 | [0.049, 0.285] |
| Booty Call | 0.188† | .059 | [-0.010, 0.229] | -0.181 | | -.049 | [-0.257, 0.034] |
| One-Night Stand | 0.407\*\*\* | .187 | [0.158, 0.318] | 0.230\* | | .082 | [0.032, 0.250] |
| **Combined Samples** | β | *r* | 95% CI for unstandardized estimate | β | | *r* | 95% CI for unstandardized estimate |
| Committed Relationship | 0.085† | .047 | [-0.008, 0.110 | 0.276\*\*\* | | .133 | [0.108, 0.252] |
| Friends With Benefits | 0.373\*\*\* | .215 | [0.170, 0.279] | 0.137\* | | .070 | [0.021, 0.158] |
| Fuck Buddies | 0.296\*\*\* | .121 | [0.100, 0.257] | 0.130† | | .047 | [-0.011, 0.180] |
| Booty Call | 0.274\*\* | .083 | [0.058, 0.272] | 0.049 | | .014 | [-0.088, 0.152] |
| One-Night Stand | 0.424\*\*\* | .212 | [0.192, 0.318] | 0.154\* | | .067 | [0.020, 0.180] |

†p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001

*Figure 1.* Attachment anxiety and physical pleasure (Sample 2). Possible scores ranged from 1 to 7. † p < .063 \*\*p < .01.

*ns*

*ns*

*\*\**

*ns*

†

*Figure 2*. Attachment avoidance and physical pleasure (Sample 2). Possible scores ranged from 1 to 7. \*\*p < .01, \*\*\*p < .001.

*\*\**

*\*\*\**

*\*\*\**

*ns*

*ns*

|  |  |
| --- | --- |
| |  | | --- | |  | |

|  |  |
| --- | --- |
| |  | | --- | |  | |

*Figure 3.* Attachment anxiety and positive emotions. Possible scores ranged from 1 to 5. \*\*p< .01, \*\*\*p < .001.

*ns*

*\*\**

*\*\*\**

*ns*

*Figure 4*. Attachment avoidance and positive emotions. Possible scores ranged from 1 to 5. \*\*p< .01, \*\*\*p < .001.

*ns*

*\*\**

*\*\*\**

*ns*

*\*\**

Online Supplemental Material

**Sexual Motives: Exploratory Factor Analysis**

We conducted an exploratory factor analysis guided by best practice recommendations (Costello & Osborne, 2005; Fabrigar & Wegener, 2012; Sakaluk & Short, 2016), using maximum likelihood estimation with a promax (oblique) rotation. A scree plot (Cattell, 1966) suggested a four factor solution, although eigenvalues were greater than 1 for 6 factors, and a parallel analysis (O’Connor, 2000) indicated 10 factors had eigenvalues significantly greater than eigenvalues from the randomly generated data set. However, we chose the four-factor solution due to its theoretical interpretability and low degrees of cross-loadings (e.g., Fabrigar & Wegener, 2012; Sakaluk & Short, 2016); both which were not present in models with more than 4 factors.

As such, we re-ran the exploratory factor analysis specifying the extraction of four factors, which together accounted for 55.03% of the variance in the scale. We retained items that had loadings above .5, and cross-loadings less than half that size (i.e., .25). All factors had at least three strongly loading items (Costello & Osborne, 2005). See below for the pattern matrix of this factor analysis (Supplemental Table 1), where retained items are bolded and coloured.

**Attachment and Motives: Follow-Up Analyses**

We wanted to test if the associations between attachment and sexual motivations differed by the type of encounter (committed relationship, Friends With Benefits, Fuck Buddy, Booty Call, and One Night Stand). Because type of sexual encounter was a categorical variable with 5 levels, it was entered in the regression model as four effect-coded terms. Thus, to assess whether attachment anxiety interacted with type of encounter, we controlled for attachment avoidance and the interaction between avoidance and encounter type (represented as four terms in the model), and conducted a hierarchical regression where we put the attachment anxiety by type interaction (represented as four terms in the model) in a separate step and examined the subsequent change in *R2*, whereby a significant change in *R2* indicates a significant interaction. We followed the same procedure for attachment avoidance whereby we controlled for anxiety and the anxiety by encounter type interaction, and then assessed the change in *R2* when the avoidance by encounter type terms were added to the model. We then conducted follow-up analyses within each encounter type by creating four dummy-coded variables where that particular encounter type received a value of 0 in all four columns, and report the associationss of avoidance and anxiety from the full model, accounting for both the anxiety and avoidance by encounter interactions.

1. *Relational Motives*

The positive association between anxiety and relational motives was not contingent on the type of encounter; Δ*R2* = .003, ΔF(4, 943) = 1.21, *p* = .307; however the negative association between avoidance and relational motives was contingent on the type of encounter Δ*R2* = .016, ΔF(4, 943) = 7.46, *p* < .001. Simple effects follow-ups suggest that the negative association between avoidance and relational motives only emerged for committed relationship and Friends with Benefits encounters (see Supplemental Table 2). In other words, higher avoidance was associated with a lower likelihood of having relational motives for sex in committed relationships and Friends with Benefits encounters.

1. *Ulterior Motives*

The positive association between anxiety Δ*R2* = .010, Δ*F*(4, 943) = 2.59, *p* = .035 and avoidance Δ*R2* =.020, ΔF(4, 943) = 5.301, *p* < .001 with ulterior motives was contingent on the type of encounter. Simple effects follow-ups suggest that the positive association of anxiety with ulterior motives emerged in Friends with Benefits, Fuck Buddy, and One Night Stand encounters, but not in committed relationships or Booty Calls (although there was a positive trend). For avoidance, the follow-up tests indicate that the positive association between avoidance and ulterior motives for sex only emerged for committed relationships and Friends with Benefits encounters (Supplemental Table 2). In other words, higher anxiety was associated with a higher likelihood of having ulterior motives for sex in Friends with Benefits, Fuck Buddy, and One Night Stand encounters. Higher avoidance was associated with a higher likelihood of having ulterior motives for sex in committed relationships and Friends with Benefits encounters.

1. *Self Motives*

When predicting self motives for sex, neither attachment anxiety Δ*R2* = .003 Δ*F* (4, 943) = .78 *p* = .541 nor avoidance *R2* = .006, Δ*F*(4, 943) = 1.54 *p* = .189 interacted with encounter type.

1. *Pleasure Motives*

When predicting pleasure motives for sex, neither attachment anxiety Δ*R2* = .004.Δ*F* (4, 943) = 1.10, *p* = .357, nor avoidance *R2* = .004., Δ*F*(4, 943) =  1.116, *p* = .348 interacted with encounter type.

5. *Summary of Attachment, Encounter Type and Motives*

Individuals higher in attachment anxiety were more likely to say they had both committed sex and casual sex for relational purposes, (e.g., “To feel secure about my partner's feelings for me”), and had casual sex for ulterior motives (“To avoid my partner's complaints”) and individuals higher in attachment avoidance were less likely to say they had sex for relational purposes, and more likely to say they had sex for ulterior motives, but only in high intimacy encounters (committed relationships and Friends with Benefits relationships).

6. *Discussion of Attachment, Encounter Types and Motives.* A particularly interesting finding is that avoidant individuals did not report lower relational motivations in moderate/low intimacy encounters (Fuck Buddy, Booty Call and One Night Stands), suggesting that these encounters may not be intimate enough to activate avoidant individuals’ concerns about emotional closeness. The same logic may also apply to the association between avoidance and ulterior motives, which again does not emerge in moderate/low intimacy encounters. Many of the ulterior motives are similar to avoidance motivations for sex (having sex to avoid negative outcomes), which attachment avoidance is positively associated with in the context of relationships (Impett et al., 2008). Thus, it seems as though people high in avoidance do not need to engage in sex for ulterior motives in encounters that do not activate their fears of intimacy.

Supplemental Table 1.

*Factor Loadings for Sexual Motivation Scale*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Relational Motivation | Ulterior Motivation | Self Motivation | Pleasure Motivation |
| To feel emotionally close to my partner | **0.95** |  |  |  |
| To express love for my partner | **0.91** |  | -0.21 |  |
| To feel loved | **0.84** |  | 0.23 |  |
| To make my partner happy | **0.71** |  |  |  |
| To feel secure about my partner's feelings for me | **0.69** |  |  |  |
| To experience intimacy | **0.62** |  |  |  |
| To put my partner in a better mood | 0.39 | 0.27 |  |  |
| Because I was bored | -0.36 | 0.27 | 0.25 |  |
| To get attention from my partner | 0.33 | 0.27 | 0.26 |  |
| To avoid my partner's complaints |  | **0.85** |  |  |
| To make up after a fight |  | **0.81** |  |  |
| To get my partner to forget about something bad I did |  | **0.75** |  |  |
| Because others encouraged me to do it |  | **0.73** |  |  |
| To get other things I want from my partner |  | **0.59** |  |  |
| Unintentionally (i.e., due to drugs and/or alcohol) | -0.23 | **0.55** |  |  |
| To get my partner to love me | 0.29 | 0.53 |  |  |
| To initiate a relationship |  | **0.51** |  |  |
| To move on from past romantic relationship | -0.27 | 0.43 | 0.27 |  |
| To reassure myself about where the relationship stands | 0.36 | 0.38 | 0.26 |  |
| To feel good about myself |  | -0.21 | **0.89** |  |
| To heighten my selfesteem |  |  | **0.86** |  |
| To feel less lonely |  | 0.21 | **0.59** |  |
| To feel more masculine/feminine |  | 0.22 | 0.36 |  |
| To obtain relief from stress |  |  | 0.32 |  |
| To fulfill sexual fantasies/kinks |  |  |  | **0.62** |
| To “live it up” or have fun |  |  |  | **0.61** |
| To experience novelty |  |  |  | **0.57** |
| To improve my sexual technique |  |  |  | **0.54** |
| To get to know my partner | 0.41 |  |  | 0.51 |
| To experience physical pleasure/release or orgasm |  | -0.33 |  | 0.42 |

*Note.* Factor loadings below .2 are suppressed for ease of visualization

Supplemental Table 2

*Attachment avoidance and motivation for sex by encounter type.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Attachment Anxiety | | | | | | | | Attachment Avoidance | | | | | | | | | | | | | | | | | | |
|  | *b* | *SE* | *t* | *p* | *r* | 95% CI | | | | *b* | *SE* | | | *t* | | | *p* | | | *r* | | | | | 95% CI | | | |
|  |  |  |  |  |  | Lower | Upper | | |  | |  |  | | |  | | |  | | | | Lower | | | Upper |
| ***Relational Motivation*** |  | | | | | | | |  | |  | | | |  | | |  | | |  |  | | | |  |
| Committed Relationship | **-.47** | | **.06** | | | | **-7.33** | | | **< .001** | | |  | **-.59** | | | | **-.34** |
| Friends with Benefits | **-.33** | | **.09** | | | | **-3.63** | | | **< .001** | | |  | **-.51** | | | | **-.15** |
| Fuck Buddy | -.12 | | .11 | | | | -1.06 | | | .29 | | |  | -.34 | | | | .10 |
| Booty Call | .25 | | .14 | | | | 1.79 | | | .074 | | |  | -.024 | | | | .51 |
| One Night Stand | -.07 | | .10 | | | | -.64 | | | .521 | | |  | -.27 | | | | .14 |
| ***Ulterior Motivation*** |  |  |  |  |  |  |  |  | | |  | |  | | |  | | |  | | | | |  | |  |
| Committed Relationship | .01 | .04 | .30 | .762 | .01 | -.07 | .09 | **0.36** | | | **0.05** | | **7.138** | | | **< . 001** | | | **.22** | | | | | **0.26** | | **0.458** |
| Friends with Benefits | **.22** | **.06** | **3.77** | **<.001** | **.23** | **.11** | **.34** | **0.22** | | | **0.07** | | **3.07** | | | **.002** | | | **.26** | | | | | **0.08** | | **0.36** |
| Fuck Buddy | **.17** | **.07** | **2.44** | **.015** | **.08** | **.03** | **.31** | 0.06 | | | 0.09 | | 0.66 | | | .512 | | | .02 | | | | | -0.12 | | 0.23 |
| Booty Call | .15 | .09 | 1.70 | .09 | .06 | -.02 | .33 | 0.03 | | | 0.11 | | 0.31 | | | .757 | | | .01 | | | | | -0.18 | | 0.25 |
| One Night Stand | **.13** | **.06** | **2.15** | **.032** | **.07** | **.01** | **.25** | -0.002 | | | 0.08 | | -0.03 | | | .976 | | | -.001 | | | | | -0.16 | | 0.16 |

*Note.* Attachment anxiety did not interact with encounter type to predict sexual motives, and attachment avoidance did not interact with encounter type to predict self and pleasure motivations; hence these values are omitted from the table.

Supplemental References

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, *1*, 245-276.

Costello, A. B. & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation, 10*, 1-9.

Fabrigar, L. R., & Wegener, D. T.  (2012).  *Understanding statistics: Exploratory factor analysis.*  New York, NY: Oxford University Press.

O’Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer’s MAP test. *Behavior research methods, instruments, & computers*, *32*(3), 396-402.

Sakaluk, J. K., & Short, S. D. (2017). A methodological review of exploratory factor analysis in sexuality research: Used practices, best practices, and data analysis resources. *The Journal of Sex Research*, *54*(1), 1-9

1. Yet, consistent with our earlier mention that courtship behaviors may be declining, current era young adults were more likely to report having sex with a casual date, pickup or friend relative to a spouse or regular partner than those of the previous era (Monto & Carey, 2014). [↑](#footnote-ref-2)
2. For both studies, the two attention checks involved items embedded within the broader scale asking participants to select a particular answer; e.g., “I am paying attention (if so, select answer choice four)”. [↑](#footnote-ref-3)
3. We first wanted to establish our findings in the heterosexual context, as the definitions of casual sex types we used were predominately for heterosexual interactions (Wentland & Reissing, 2011), and there are unique considerations for casual sex encounters in same-sex attracted individuals (e.g., Licoppe, Rivière, & Morel, 2016; Mao et al., 2006). [↑](#footnote-ref-4)
4. The association between anxiety and participants’ perceptions their partner was trying to please them did not differ depending on encounter type (Δ*R2*= .005, ΔF(4, 943) = 1.22, *p*= .302), whereas there was a trend that the association between avoidance and perceptions depended on encounter type (Δ*R2*= .009, ΔF(4, 943) = 2.23, *p*= .064). Follow-up analyses indicated that the negative association between avoidance and participants’ perceptions a partner was trying to please them emerged in more intimate encounters: committed relationships (β = -.28, *p* < .001) and Friends With Benefits (avoidance: β = -.23, *p* = .009), but not in less intimate encounters: Fuck Buddies (β = .01, *p* = .896), Booty Call ( β = .04, *p* = .795), or One-Night Stand (β = -.13, *p* = .202). [↑](#footnote-ref-5)