



Published in final edited form as:

J Sex Res. 2021 October ; 58(8): 1069–1084. doi:10.1080/00224499.2020.1821163.

Emotional outcomes of casual sexual relationships and experiences: A systematic review

Rose Wesche¹, Shannon E. Claxton², Emily A. Waterman³

¹Department of Human Development and Family Science, Virginia Polytechnic Institute and State University, Blacksburg, VA

²Department of Psychology, Morningside College, Sioux City, Iowa

³Nebraska Center for Research on Children, Youth, Families and Schools, University of Nebraska-Lincoln, Lincoln, NE

Abstract

Casual sexual relationships and experiences (CSREs) are common and emotionally significant occurrences. Given the uncommitted, often emotionally complicated nature of CSREs, researchers have asked whether these experiences may have positive and/or negative emotional consequences. We reviewed 71 quantitative articles examining emotional outcomes of CSREs, including subjective emotional reactions (e.g., excitement, regret) and emotional health (e.g., depression, self-esteem). Overall, people evaluated their CSREs more positively than negatively. In contrast, CSREs were associated with short-term declines in emotional health in most studies examining changes in emotional health within a year of CSRE involvement. Emotional outcomes of CSREs differed across people and situations. Women and individuals with less permissive attitudes toward CSREs experienced worse emotional outcomes of CSREs. Alcohol use prior to CSREs, not being sexually satisfied, and not knowing a partner well were also associated with worse emotional outcomes. These findings suggest directions for prevention/intervention related to CSREs. For example, skill-building related to sexual decision-making may help individuals decide whether, and under what circumstances, CSREs are likely to result in positive or negative emotional outcomes. In addition, the limitations of extant research suggest directions for future inquiry (e.g., examining whether verbal and nonverbal consent practices predict emotional outcomes of CSREs).

Keywords

casual sex; mental health; hookups; well-being; depression

Casual sexual relationships and experiences (CSREs) are common and emotionally significant occurrences for adolescents and adults. CSREs are defined by sexual involvement without expectation of a future romantic relationship, although there is variability in the

Rose Wesche PhD, Mailing address: 313 Wallace Hall (0416), 295 West Campus Drive, Blacksburg, VA 24061, Phone: 540-231-5437, Fax: 540-231-7012, rwesche@vt.edu.

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

length of CSREs, the emotional closeness of CSRE partners, and the types of sexual behaviors CSRE partners engage in (Claxton & van Dulmen, 2013; Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012). By young adulthood (between ages 18–29), CSREs are common. Between 60–80% of college students have had a CSRE in their lifetime (Garcia & Reiber, 2012; Kuperberg & Padgett, 2016; Schneider & Katz, 2017). In samples of young adults that are diverse in educational status (Furman & Collibee, 2014; Lyons, Manning, Giordano, & Longmore, 2013), sexual identity (Barrios & Lundquist, 2012), and/or race/ethnicity (Kuperberg & Padgett, 2016), the majority (between 51–70% of aggregated samples) have had a CSRE, although there is variation across demographic groups, and not all young adults are represented in research. These experiences fall into various categories; one-night stands, booty calls, hookups, and friends with benefits are all common types of CSREs (Bisson & Levine, 2009; Owen & Fincham, 2011a; Wentland & Reissing, 2011). Scholars have questioned whether CSREs' frequent absence of commitment and emotional intimacy makes them emotionally unfulfilling or even detrimental to emotional health (Bachtel, 2013; Freitas, 2013). In order to address this question, a body of research has emerged examining emotional outcomes of CSREs. In the present article, we review the quantitative literature on this topic.

Several theories support the hypothesis that engaging in CSREs can lead to negative emotional consequences. For example, attachment theory proposes that people evolved to form lasting intimate relationships (Fraley & Shaver, 2000). Because CSREs are often fleeting and may not be characterized by emotional intimacy, they may not fulfill people's attachment needs. Sexual script theory proposes that sexual experiences often follow learned, predictable patterns called scripts (Frith & Kitzinger, 2001). CSRE scripts are characterized by a lack of communication between partners, which can also be found in new or unstable romantic relationships (e.g., Dailey, LeFebvre, Crook, & Brody, 2016; Reese-Weber, 2015); this lack of communication can lead to confusion and hurt feelings (Beres, 2010; Karlsen & Træen, 2013; Littleton, Tabernik, Canales, & Backstrom, 2009).

However, researchers have also noted reasons why CSREs may be neutral or positive experiences. Developmental researchers focusing on CSREs in adolescence and adulthood have noted that these sexual experiences may serve a developmental purpose by enabling individuals to engage in sexual behavior while balancing competing demands of school, work, and/or family commitments (Shulman & Connolly, 2013).

Other theories guide understanding of how characteristics of people and experiences may lead to different emotional outcomes of CSREs. Many of these theories relate to gender differences. Evolutionary psychologists suggest that CSREs may be less compatible with women's evolutionary mating strategies, which require long-term commitment from a sexual partner (Reiber & Garcia, 2010). Researchers adopting a feminist perspective argue that women are more likely to experience negative emotional outcomes of CSREs than men are due to the gendered context in which sex occurs (Allison & Risman, 2013; Kelly, 2012). CSREs take place in the context of a sexual double standard in which men are socially rewarded for sex and women are socially sanctioned (England & Bearak, 2014; Farvid & Braun, 2018). Script theory complements this perspective, noting that sexual scripts are gendered, and women are discouraged from communicating their sexual or relationship

needs with CSRE partners (Backstrom, Armstrong, & Puentes, 2012; Karlsen & Træen, 2013; Littleton et al., 2009). However, not all theorists propose that women experience worse emotional outcomes of CSREs than men. Some feminist scholars propose that CSREs can be positive experiences for women because they signify women asserting their sexuality and defying restrictive standards of women's sexual expression (Kalish & Kimmel, 2011).

Self-determination theory and sexual motivation theory may also explain variability in emotional outcomes of CSREs (Cooper, Shapiro, & Powers, 1998; Deci & Ryan, 2000). Both theories propose that people experience diverse motives for sex. CSREs are more likely to lead to positive outcomes for people with certain motives. According to self-determination theory, autonomous motives, in which people feel in control over their decision to engage in CSREs, may promote positive outcomes (Townsend, Jonason, & Wasserman, 2019; Vrangalova, 2015a). Controlled motives (in which people engage in CSREs due to external reasons) and amotivation ("it just happened") may promote negative outcomes. Some sexual experiences that may indicate controlled motives or amotivation are having sex due to peer pressure, having sex at a young age, having sex under the influence of alcohol or drugs, and having sex despite negative attitudes toward it. According to sexual motivation theory, individuals have sex for self-focused and other-focused reasons. CSREs are more likely to satisfy self-focused motives like pleasure, compared to other-focused motives like emotional intimacy (e.g., Uecker, Pearce, & Andercheck, 2015).

In order to determine whether CSREs are associated with positive and/or negative emotional outcomes, researchers have addressed a wide range of emotional outcomes of CSREs. A useful distinction is that some research addresses subjective emotional reactions, whereas other research addresses emotional health (Vasilenko, Lefkowitz, & Welsh, 2014). Subjective emotional reactions are the emotions that individuals report feeling as a result of their CSREs, such as excitement, satisfaction, regret, embarrassment, or feeling used. Emotional health includes indicators of overall emotional functioning, including psychological distress (i.e., depressive symptoms, loneliness), self-esteem, and general affect. Whereas subjective emotional reactions offer evidence of how individuals believe their CSREs affected them, emotional health is a broader indicator of well-being that does not directly measure perceptions of the effects of CSREs. Both subjective reactions and emotional health are important aspects of how CSREs may influence well-being.

A comprehensive review of research on emotional outcomes of CSREs can clarify whether, for whom, and under what circumstances CSREs are associated with positive or negative emotional outcomes. Scholars have noted that research on emotional outcomes of CSREs has produced mixed findings (Claxton & van Dulmen, 2013; Garcia, Seibold-Simpson, Massey, & Merriwether, 2015; Vrangalova, 2015a). This mixed evidence may not be surprising given that research is diverse in types of CSREs examined, sample composition, outcomes, and methodological techniques. Each of these factors may explain differences in research results regarding emotional outcomes of CSREs.

It is important to understand emotional outcomes of CSREs in order to facilitate healthy relationship choices and positive emotional outcomes of sexual behavior. Knowledge, attitudes, norms, and contextual constraints all shape behavior, and all these domains are

targets of interventions aimed to improve sexual health. For example, relationship education aims to build knowledge and skills for making healthy choices about relationships and sex (Hawkins, 2017; Simpson, Leonhardt, & Hawkins, 2018). Understanding whether, and under what circumstances, CSREs are related to positive and/or negative emotional outcomes will inform the inclusion of CSRE-specific material in relationship education programs. Knowledge of emotional outcomes of CSREs can also inform prevention programs, targeted primarily at college students, that aim to change norms and contextual factors (e.g., party environments) that contribute to physically and emotionally risky sexual experiences (e.g., Patrick, Lee, & Neighbors, 2014; Testa, Livingston, Wang, & Lewis, 2020). Understanding emotional outcomes of CSREs can also inform clinical practice, both for adolescent and adult patients, by helping clinicians learn how these experiences may contribute to patients' emotional health.

In this article, we systematically review quantitative research on the emotional outcomes of CSREs. Choosing to limit the review to quantitative articles allowed us to focus more clearly on methodological issues that are specific to quantitative studies, such as measurement and study design. A meta-synthesis of qualitative studies of CSREs has summarized many of the emotional issues that arise from CSREs (Rodrigue & Fernet, 2016). The purpose of our review is to better understand the associations between CSREs and emotional outcomes such as overall positive/negative evaluations (a subjective emotional reaction) and depressive symptoms (an example of emotional health). We addressed the following research questions:

1. What subjective emotional reactions do individuals experience following CSREs?
2. Is involvement in CSREs associated with emotional health?
3. To better understand interpersonal and situational variation in the emotional outcomes of CSREs, we had two questions. (3a) Among CSRE-experienced individuals, what characteristics of individuals and situations are associated with subjective emotional reactions? (3b) What characteristics of individuals and situations moderate associations between CSREs and emotional health?

Method

We systematically searched PsycINFO and Web of Science to identify articles that were published in English-language, peer-reviewed journals between 1997 and September 2019. In order to be included, articles had to measure CSREs, defined broadly as any type of sexual encounter with partners participants did not consider to be romantic partners. We excluded studies that focused on infidelity and extradyadic involvement because the emotional consequences of these CSREs may be shaped by participants' romantic relationships. We also excluded qualitative articles, given our aim was to review quantitative literature. To be included, articles also had to measure emotions related to CSREs. We defined these emotions broadly, including subjective emotional reactions (e.g., positive and negative evaluations of CSREs, regret, excitement) and emotional health (e.g., psychological well-being, self-esteem, and affect). Although this review focuses on emotional health as an outcome of CSREs, we included longitudinal studies in which emotional health predicted

later CSRE involvement because we were interested in understanding the quality of evidence regarding a causal association between CSREs and emotional health. Including these articles in our review helps to determine the temporal ordering between CSREs and emotional health. We searched for combinations of CSRE terms (*hook* up, hookup, casual sex, friends with benefits, booty call, one-night stand*) and emotional outcomes (*mental health, depress*, internalizing, self-esteem, emotion*, distress, consequences, anxiety, enjoy*, excite*, feel**). Following this search, we conducted forward searches (finding articles that cited identified articles) and backward searches (searching the reference lists of identified articles) to identify additional relevant research. We first screened the abstracts of articles for relevance (i.e., does this article appear to measure sexual behavior and/or emotional outcomes); we then assessed the full-text of relevant articles to determine eligibility. We followed PRISMA search guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009); Figure 1 describes the search results. In total, 71 articles met review criteria. A list of the articles identified is included in Table 1.

Results

The articles included in this review primarily sampled populations of adolescents ($n = 13$) and young adults, including college students ($n = 48$) and young adults mixed in educational status ($n = 3$). A minority ($n = 7$) included samples of adults with a wide range of ages. The analyses included cross-sectional ($n = 44$) and longitudinal ($n = 27$) approaches. Longitudinal studies ranged from two to 84 data collection occasions, covering periods of two months to seven years. Studies relied on retrospective reports of CSREs that included past day, month, college semester, year, or any CSRE within a participant's lifetime. Fifty-one articles explicitly noted one or more theories that guided research questions or interpretation of findings. Among the most commonly referenced were theories related to evolution (evolutionary theory, life history theory, sexual strategies theory; $n = 15$), social comparison (social learning theory, social role theory, and social comparison theory; $n = 8$), and cognitive constructions of the self (self-determination theory; $n = 5$).

Subjective emotional reactions

We identified 34 articles that assessed participants' subjective emotional reactions to their CSREs. This research included questions about a range of feelings about past CSREs, including general positive and negative feelings, emotional satisfaction, regret, embarrassment, and feelings of concern and vulnerability. In each study measuring positive and negative feelings, participants reported more positive than negative feelings about their most recent CSREs. Because of the diversity of measures of emotional reactions, this finding has different interpretations across studies. In each study where authors tested the difference between positive and negative feelings, participants reported significantly more positive than negative feelings (Campbell, 2008; Owen & Fincham, 2011a, 2011b). In each study that measured positive and negative feelings but did not statistically test for differences, the means of positive feelings were higher than means of negative feelings (Fielder & Carey, 201a; Owen et al., 2011; Snapp, Ryu, & Kerr, 2015; Wesche, Claxton, Lefkowitz, & van Dulmen, 2018; Wesche, Lefkowitz, & Vasilenko, 2017; Woerner & Abbey, 2017). Furthermore, in each study that assessed scale scores of subjective emotional reactions, the

average response was higher than the scale midpoint for positive reactions and lower than the scale midpoint for negative reactions (Eshbaugh & Gute, 2008; Fielder & Carey, 2010a; Gusarova, Fraser, & Alderson, 2012; Kennair, Bendixen, & Buss, 2016; Kennair et al., 2018; Lewis et al., 2012; Lyons, Manning, Longmore, & Giordano, 2014; Owen & Fincham, 2011a; Owen & Fincham, 2011b; Wesche et al., 2018).

Although individuals reported more positive feelings than negative feelings about their *most recent* CSREs, many individuals reported having *ever* felt negatively about a CSRE. Between 25–78% of participants had ever regretted a CSRE or had a negative CSRE (Bachtel, 2013; Eshbaugh & Gute, 2008; Fisher, Worth, Garcia, & Meredith, 2012; Gusarova et al., 2012), with most studies on this topic finding that over half of participants had ever regretted a CSRE (Bachtel, 2013; Eshbaugh & Gute, 2008; Fisher et al., 2012).

Despite positive subjective emotional reactions to CSREs, CSREs were associated with less positive emotional outcomes than sexual behavior in the context of romantic relationships. Individuals rated CSREs as less emotionally satisfying than romantic relationships (Mark, Garcia, & Fisher, 2015). Individuals felt less positively and more negatively about sexual behavior with casual partners, compared to sexual behavior with romantic partners, in studies of Australian (Zimmer-Gembeck, See, & O’Sullivan, 2015) and American college students (Victor, 2012). This finding was not simply due to between-person confounding factors—for example, that individuals who were predisposed to positive feelings were more likely to be in romantic relationships. In one study, individuals had less positive/more negative feelings about their sexual experiences at times when they had casual partners versus times when they had romantic partners (Vasilenko, Lefkowitz, & Maggs, 2012).

Emotional health

Feelings about past sexual encounters provide useful evidence of the emotional impact of CSREs. However, these feelings may or may not translate into emotional health outcomes such as psychological distress (including depressive symptoms, anxiety, and/or suicidal ideation), affect, and self-esteem. Studies examining associations between CSRE involvement and emotional health have used diverse methodological approaches, including cross-sectional, longitudinal, and sibling designs. These strategies answer different questions, each of which provides different evidence of an association between CSREs and emotional health.

We identified 12 studies that used cross-sectional approaches to compare the emotional health of individuals who engaged in CSREs to those who did not have CSREs. The results of these studies were mixed. Although some studies indicated that individuals who had CSREs were more psychologically distressed than individuals who had never had CSREs (Bersamin et al., 2014; Lin, Lee, & Yang, 2017; Mendle, Ferrero, Moore, & Harden, 2013), in the majority of studies there was no statistically significant main effect of having had a CSRE on psychological distress (Bancroft et al., 2003; Carrotte, Vella, Hellard, & Lim, 2016; Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009; Grello, Welsh, & Harper, 2006; Owen et al., 2011; Schwartz et al., 2011; Siebenbruner, 2015). Results for self-esteem were also mixed, with some studies showing that CSREs were associated with lower self-esteem (Bersamin et al., 2014; Manning, Longmore, & Giordano, 2005; Paul, McManus, &

Hayes, 2000) and other studies finding no statistically significant association (Eisenberg et al., 2009; Siebenbruner, 2015).

In addition to cross-sectional research, we identified 19 longitudinal studies that examined how CSREs were associated with changes in emotional health. Longitudinal studies improve on cross-sectional studies because they can establish the temporal ordering of associations between CSREs and emotional health. These studies indicated that there were pre-existing differences in emotional health between people who did and did not engage in CSREs, with people who engaged in CSREs reporting worse emotional health than people who did not engage in CSREs (Grello, Welsh, Harper, & Dickson, 2003; Monahan & Lee, 2008). However, it is unclear whether these pre-existing differences explain associations between CSRE involvement and emotional health. Depressive symptoms and/or self-esteem were associated with increased likelihood of future CSRE involvement in five studies (Dubé, Lavoie, Blais, & Hébert, 2017a; Fielder & Carey, 2010b; Fielder, Walsh, Carey, & Carey, 2013; Manthos, Owen, & Fincham, 2014; Sandberg-Thoma & Kamp Dush, 2014). However, not all evidence indicated that emotional health predicted future CSRE involvement (Furman & Collibee, 2014), and two studies indicated that anxiety (Vrangelova, 2015b) and emotional suppression (Shulman, Seiffge-Krenke, & Walsh, 2017) were associated with a lower likelihood of future CSRE involvement.

Pre-existing differences between CSRE-involved and non-CSRE-involved individuals do not preclude the possibility that CSRE involvement is associated with subsequent changes in emotional health. Overall, studies investigating this association indicated that CSRE involvement may be associated with declines in short-term, but not long-term, emotional health. Studies measuring changes in emotional health within a year of CSRE involvement typically found that individuals who had CSREs experienced subsequent declines in emotional health, either compared to peers who did not have CSREs (Dubé, Lavoie, Blais, & Hébert, 2017b; Fielder & Carey, 2010b; Vrangelova, 2015b) or compared to themselves at times when they did not have CSREs (Fielder, Walsh, Carey, & Carey, 2014; Furman & Collibee, 2014; Vasilenko & Lefkowitz, 2018; Wesche, Walsh, Shepardson, & Carey, 2019). In contrast, studies measuring changes over the course of one year or more found that CSRE involvement was not associated with declines in emotional health (Furman & Collibee, 2014; Gonçalves et al., 2017; Manning, Longmore, Copp, & Giordano, 2014; Monahan & Lee, 2008; Sandberg-Thoma & Kamp Dush, 2014). One exception was a study by Shulman, Scharf, Ziv, Norona, and Welsh (2019), who found that Israeli adolescents who engaged in CSREs had more negative affect four years later, compared to adolescents who did not have CSREs. Taken together, these findings suggest that CSREs may not be associated with long-term changes in emotional health. Furthermore, some evidence suggests that CSRE involvement is not associated with even short-term decreases in emotional health; two studies found that emotional health did not change during weeks or months following CSRE involvement (Vrangelova, 2015a; Vrangelova & Ong, 2014).

In addition to longitudinal research, twin and sibling studies have provided evidence of a link between CSRE involvement and emotional health. Such studies examined sibling or twin pairs who were discordant on CSRE involvement, thereby minimizing the likelihood that differences between CSRE-involved and non-CSRE-involved individuals were due to

genetic or familial differences. We identified two studies using such designs. Deutsch and Slutske (2015) found that CSRE involvement in adolescence was not associated with young adult emotional health in a sample of twins, whereas Mendle et al. (2013) found in a cross-sectional analysis that CSRE involvement was associated with worse emotional health in a sample of adolescent siblings. Together, these two studies are consistent with other findings that CSRE involvement is associated with short-term, but not long-term, declines in emotional health.

Predictors of emotional outcomes of CSREs

The mixed findings on main effects of CSRE involvement on subjective emotional reactions and emotional health suggest potential moderating factors. Researchers have examined how characteristics of individuals and sexual experiences are associated with emotional outcomes of CSREs. These predictors/moderators include demographic characteristics, psychosocial factors, sexual behavior type, safer sex, alcohol use, and relationship to partner.

Demographic factors—Gender was the most frequently explored predictor of emotional outcomes of CSREs, with researchers hypothesizing that women experience more negative emotional outcomes than men. We identified 38 studies that included gender, either as a predictor of subjective emotional reactions among CSRE-experienced individuals or as a moderator of associations between CSRE involvement and emotional health. Regarding subjective emotional reactions, the majority of studies indicated that women felt worse than men about their CSREs. Women reported more worry, disgust, and regret about their CSREs than men did (Bendixen, Asao, Wyckoff, Buss, & Kennair, 2017; Fisher et al., 2012; Galperin et al., 2013; Kennair et al., 2016, 2018; Lewis et al., 2012; Lyons et al., 2014; Paul & Hayes, 2002; Townsend, Wasserman, & Rosenthal, 2015; Townsend & Wasserman, 2011; Uecker & Martinez, 2017). Women also reported their CSREs as being more negative and less emotionally satisfying than men did (Campbell, 2008; Gusarova et al., 2012; Mark et al., 2015; Owen & Fincham 2011a; Owen & Fincham, 2011b; Owen, et al., 2010; Snapp et al., 2015; Strokoff, Owen, & Fincham, 2015; Wesche et al., 2018). Although the preponderance of evidence suggested that women experienced worse subjective emotional reactions to CSREs than men, some studies found that gender was not associated with regret (Uecker et al., 2015), negative evaluations (Napper, Montes, Kenney, & LaBrie, 2016), or satisfaction (DeLuca, Claxton, Baker, & van Dulmen, 2015) following CSREs. Additionally, in one study women were more likely than men to experience self-affirmation, a positive subjective emotional reaction, after a CSRE (Vasilenko et al., 2012).

Regarding emotional health, findings about gender differences were more mixed. Some studies indicated that CSREs were associated with more psychological distress for women, whereas men with CSREs had comparable (Dubé et al., 2017b) or lower levels of psychological distress (Fielder & Carey, 2010b; Grello et al., 2006; Strokoff et al., 2015) than men who had not engaged in CSREs. However, not all studies indicated that gender moderated associations between CSRE involvement and psychological distress; in some studies, engaging in CSREs was associated with more psychological distress for both men and women (Bersamin et al., 2014; Furman & Collibee, 2014). In other studies, men experienced more psychological distress following CSREs than women did (Schwartz et al.,

2011; Townsend et al., 2019; Vrangalova, 2015b). Furthermore, studies that found no main effect of CSRE involvement on psychological distress did not find moderation by gender (Deutsch & Slutske, 2015; Furman & Collibee, 2014; Sandberg-Thoma & Kamp Dush, 2014; Vrangalova & Ong, 2014). In contrast to research on psychological distress, which indicated that women involved in CSREs fare worse than men, studies in which CSREs were associated with lower self-esteem found that gender did not moderate this association (Manning et al., 2005; Paul et al., 2000).

Given that emotional health outcomes of sexual behavior differ by age (Meier, 2007; Vasilenko, Kugler, & Rice, 2016; Wesche, Kreager, Lefkowitz, & Siennick, 2017), the association of CSREs with emotional outcomes may also differ by age. Mendle et al. (2013) found that associations between CSREs and emotional health were stronger for younger adolescents; however, Manning et al. (2005) found that associations between CSREs and emotional health did not differ by age. In addition to these two studies that examined age as a predictor of emotional health, we were able to categorize articles examining associations between CSREs and emotional health based on the age of their samples. Based on this distinction, there were not clear patterns of age differences in associations between CSREs and emotional health.

Eight studies of adolescents measured whether CSRE involvement was associated with concurrent or subsequent emotional health. Of these, four found a significant main effect of CSRE involvement on emotional health (Dubé et al., 2017b; Manning et al., 2005; Mendle et al., 2013; Shulman et al., 2019) and four did not (Gonçalves et al., 2017; Manning et al., 2014; Monahan & Lee, 2008; Sandberg-Thoma & Kamp Dush, 2014). Of 17 studies using young adult samples (including college and non-college samples), eight found a main effect of CSRE involvement on emotional health (Bersamin et al., 2014; Fielder & Carey, 2010b; Fielder et al., 2014; Furman & Collibee, 2014; Paul et al., 2000; Vasilenko & Lefkowitz, 2018; Vrangalova, 2015b; Wesche et al., 2019) and nine did not (Carrotte et al., 2016; Deutsch & Slutsky, 2015; Eisenberg et al., 2009; Grello et al., 2006; Owen et al., 2011; Schwartz et al., 2011; Siebenbruner, 2015; Vrangalova & Ong, 2014; Vrangalova, 2015a). Of two studies using adult samples, one found a main effect of CSRE involvement on emotional health (Lin et al., 2017) and one did not (Carrotte et al., 2016). In summary, across all age groups the findings were evenly split between those that found an association and those that did not.

In addition to gender and age, other demographic characteristics may influence emotional outcomes of CSREs. Although most studies evaluating emotional outcomes of CSREs used samples of predominantly White, heterosexual college students, emotional outcomes of CSREs may differ for other groups. College students evaluated their CSREs more negatively than non-college-attending young adults (DeLuca et al., 2015; Wesche et al., 2018). Asian individuals were more likely to regret CSREs than White individuals (Uecker et al., 2015). Findings regarding sexual orientation were mixed. Mark et al. (2015) found that heterosexual and lesbian individuals were less emotionally satisfied with their CSREs than gay individuals. In contrast, Galperin et al. (2013) found that heterosexual women reported more regret of their CSREs than lesbian and bisexual women; however, there were not sexual orientation differences for men's regret of CSREs.

Psychosocial constructs—Seventeen articles explored various psychosocial constructs (e.g., attitudes, beliefs, and motives) as predictors of emotional outcomes of CSREs. Broadly, this research suggested that individuals with more positive attitudes toward sexuality generally, and CSREs specifically, tended to have better emotional outcomes. Individuals with more permissive attitudes about CSREs, and those who perceived their friends to have more permissive attitudes about CSREs, had more positive and less negative subjective emotional reactions than other individuals (de Jong, Adams, & Reis, 2018; Lewis et al., 2012; Montes, Blanco, & LaBrie, 2017; Owen, Rhoades, Stanley, & Fincham, 2010; Townsend & Wasserman, 2011; Woerner & Abbey, 2017). Similarly, individuals with more permissive sociosexuality (willingness to engage in sex outside of a committed relationship) were less likely to regret CSREs and had less depression and anxiety after CSREs than individuals with less permissive sociosexuality (Bendixen et al., 2017; Kennair et al., 2016; Vrangalova & Ong, 2014). More religious individuals were also more likely to regret having CSREs (Bendixen et al., 2017), which may be due to many religions' negative attitudes toward premarital sex.

Individuals tended to have better emotional outcomes of CSREs if their motives and expectations for CSREs aligned with the typical features of CSREs (i.e., sexually pleasurable, but not emotionally intimate). Self-focused approach motives such as pleasure, fun, and self-affirmation were linked to more positive and less negative subjective emotional reactions (de Jong et al., 2018; Montes et al., 2017; Snapp et al., 2015). Relationship-focused motives such as entering a CSRE with the goal of forming a romantic relationship were associated with more negative emotional reactions in studies of both Canadian and American college students (Gusarova et al., 2012; Montes et al., 2016). Individuals with avoidant motives such as coping or conformity also tended to experience more negative subjective emotional reactions (Montes et al., 2016, 2017), and individuals with non-autonomous motives tended to have lower self-esteem (Vrangalova, 2015a).

In addition to attitudes and motivations, it may be that subjective emotional reactions to CSREs contribute to subsequent emotional health. One study found that individuals with less negative hook-up reactions and individuals who ruminated less about their CRSE had less anxiety at follow-up two months later (Black, Kaminsky, Hudson, Owen, & Fincham, 2019).

Relationship to partner—The relationships that individuals have with their CSRE partners may influence the emotional outcomes of CSREs. We identified 10 articles that examined how characteristics of one's relationship with a CSRE partner were associated with emotional outcomes. Overall, this research indicated that greater partner familiarity was associated with more positive emotional outcomes of CSREs. Individuals whose CSRE partners were first-time partners, strangers, or one-time partners reported more negative evaluations of their experiences, compared with individuals with familiar partners in relationships characterized by multiple sexual experiences with their partner (LaBrie et al., 2014; Lewis et al., 2012; Snapp et al., 2015; Uecker & Martinez, 2017; Vrangalova, 2015b; Wesche et al., 2018).

As discussed in the section on psychosocial constructs, romantic motives sometimes underlie the decision to enter a CSRE. CSREs are unlikely to transition to romantic relationships (Owen & Fincham, 2012), which may explain why entering a CSRE with the goal of forming a romantic relationship may lead to negative emotions. However, it appears that transitioning to a romantic relationship may lead to positive emotions. Individuals who hoped for a romantic relationship at any point during their CSRE, or who discussed the possibility of a romantic relationship with their CSRE partner, may have more positive subjective emotional reactions, compared to individuals who did not believe their CSRE would transition into a romantic relationship (Owen & Fincham, 2011b). Developing unreciprocated romantic feelings was associated with negative subjective emotional reactions in one study (Gusarova et al., 2012). In another study, feeling constrained within one's CSRE, such as waiting to see if a partner wants a romantic relationship, was also associated with negative subjective emotional reactions (Owen & Fincham, 2011a).

Once a CSRE ends, the subsequent relationship between former partners may be associated with emotional outcomes. Owen, Fincham, and Manthos (2013) found that young adults who were no longer friends with their most recent friends with benefits partner reported more depressive symptoms and feelings of loneliness than peers who maintained some level of friendship with their former friends with benefits partner.

Sexual behavior type—We found ten articles that evaluated how sexual behavior type moderated the association between CSRE engagement and emotional outcomes. Much of the research in this area focused on the difference between penetrative (oral, vaginal, and/or anal penetration) and non-penetrative contact (kissing and touching). Penetrative contact with CSRE partners was associated with more negative outcomes than non-penetrative contact, both in cross-sectional (Owen et al., 2011; Strokoff et al., 2015; Wesche et al., 2017; although see Siebenbruner, 2015 for an exception) and longitudinal studies (Fielder & Carey, 2010b). Additionally, Lewis et al. (2012) found that having oral sex was associated with higher levels of positive affect after one's most recent hookup, whereas vaginal sex was associated with higher levels of negative affect. Thus, negative emotional outcomes may be particularly prominent after more intimate sexual contact.

Condom use—In CSREs that involve penetrative sex, failure to use a condom may be associated with worse emotional outcomes. We identified five studies that evaluated how condom use was associated with emotional outcomes of CSREs. Not using condoms with CSRE partners was associated with worse emotional outcomes in samples of men who have sex with men (Lin et al., 2017; Parsons, Halkitis, Wolitski, & Gomez, 2003). The findings for predominantly heterosexual samples were mixed, possibly due to the diversity of samples and research strategies in these studies. In a sample of male and female college students who had engaged in a CSRE in the past three months, researchers found that having unprotected sex was associated with greater negative experiences of hooking up (Napper et al., 2016). However, the authors did not evaluate gender differences in this association. Owen and Fincham (2011b) found that the association between condom use and subjective emotional reactions differed for men and women. For women, condom

use was associated with fewer positive and more negative emotional reactions; for men, condom use was associated with fewer negative emotional reactions. Zimmer-Gembeck et al. (2015) found that, among young Australian women, condom use was not associated with subjective emotional reactions to most recent sexual experience, and this association was not moderated by relationship status.

Sexual satisfaction—Another characteristic of sexual experiences that may affect emotional responses to CSREs is sexual satisfaction. Three studies red this topic. More sexual satisfaction corresponded to more positive and less negative subjective emotional reactions, as well as more positive and less negative affect, in studies of Norwegian and American college students (Kennair et al., 2016, 2018; Woerner & Abbey, 2017).

Alcohol use—Six articles explored how alcohol use moderated the association between CSRE engagement and subjective emotional reactions. Although general alcohol use may not be related to emotional responses to CSREs (Owen et al., 2010), alcohol use immediately prior to a sexual encounter with a CSRE partner may increase the likelihood of negative subjective emotional reactions. For example, in a sample of college students who had engaged in a CSRE within the past year, women who reported consuming alcohol before the CSRE were more likely to feel discontent with the experience (LaBrie et al., 2014). Other studies identified that both men and women felt more regret, more negative affect, and less positive affect after a CSRE if they drank alcohol prior to the experience (Fisher et al., 2012; Lewis et al., 2012; Owen & Fincham, 2011a). Higher levels of intoxication during a CSRE were associated with more subsequent anxiety (Black et al., 2019).

Discussion

On average, individuals evaluate their CSREs as positive experiences. However, many people have experienced regret, negative affect, and embarrassment after CSREs. Based on findings of longitudinal studies, engaging in CSREs is associated with short-term declines in emotional health (within a year of having a CSRE) for some individuals; however, the evidence of long-term detriments to emotional health is sparse. Characteristics of individuals (being a woman, having negative attitudes about CSREs) and situations (not using condoms, drinking alcohol, not being sexually satisfied, and not knowing a partner well) increase the likelihood and severity of negative emotional outcomes associated with CSREs. The findings of this review suggest directions for incorporating information on CSREs into prevention and intervention. Results also highlight limitations of past research on CSREs, suggesting directions for future research.

Explaining contradictory findings regarding positive evaluations and negative emotional health outcomes

People rate their CSREs positively, reporting more positive than negative subjective emotional reactions to their CSREs. Yet, despite overall positive feelings related to CSREs, some CSREs are associated with short-term declines in emotional health. One possible explanation for these contradictory findings is that people's feelings about their CSREs change during the time between when a CSRE occurs and the time when it is reported

on a survey. Although individuals experience decreases in emotional health in the weeks or months following a CSRE, these feelings may fade over time and even transform into generally positive memories of the experience. Many studies assessing subjective emotional reactions to CSREs, such as regret and emotional satisfaction, ask about lifetime occurrences, most recent occurrences, or occurrences within the past year. Given that CSREs are relatively infrequent (in one study, the median number of past year hookups was three for men and one for women [Owen & Fincham, 2011b]), it is possible that time and intervening events such as relationship changes color participants' recollections of their past CSREs.

It is important to acknowledge that associations between CSRE involvement and emotional health are not necessarily due to a causal association. If unmeasured confounding factors, such as a co-occurring romantic breakup, accompany CSRE involvement, we may see spurious associations between CSRE involvement and emotional health. Therefore, another potential explanation for different findings is that CSREs are positive experiences, as reflected by subjective emotional outcomes. Studies measuring emotional health do not capture this positivity because they do not assess feelings about CSREs, only general emotional health problems.

Predicting emotional outcomes of CSREs

The results of this review indicate that CSREs may be associated with different outcomes for some people and under certain circumstances. Alcohol use, not knowing a partner well, engaging in penetrative sex, and not using condoms (particularly for men who have sex with men; Lin et al., 2017; Parsons et al., 2003) are all factors that are associated with worse outcomes when engaging in a CSRE. In contrast, permissive sexual attitudes and being sexually satisfied are associated with better emotional outcomes (e.g., Montes et al., 2017; Woerner & Abbey, 2017). Women are more likely to report negative subjective emotional reactions to their CSREs; research findings are mixed, however, regarding whether women who have had CSREs experience more psychological distress than men do.

Multiple theoretical perspectives can explain variability in emotional outcomes of CSREs. Self-determination theory proposes that individuals feel better about their experiences when they have an intrinsic motivation—one that they control. Not knowing a partner well, drinking heavily before a CSRE, or engaging in a CSRE when doing so is inconsistent with one's beliefs may be signs that a sexual experience is not intrinsically motivated. Instead, these experiences may have controlled motives like peer or partner pressure, or they may have “just happened” without the participant intentionally and enthusiastically making the decision.

Regarding gender differences in emotional outcomes of CSREs, sexual script theory proposes that the scripts of CSREs, which are often characterized by little communication about sexual behaviors and may involve women as sexual gatekeepers, leave women feeling unsatisfied or disrespected (Backstrom et al., 2012; Littleton et al., 2009). A feminist perspective complements script theory, proposing that CSREs privilege men's sexual pleasure over women's; this phenomenon, in combination with the sexual double standard, means that women tend to feel worse after their CSREs than men do (Heldman

& Wade, 2010; Kelly, 2012). Data support each of these explanations. Quantitative research on mediators of associations between gender and emotional outcomes of CSREs has found that sexual enjoyment, feelings of losing a partners' respect, loss of self-respect, partner initiating most sexual activity, and being forced or pressured into sex explained gender differences in sexual regret (Uecker & Martinez, 2017).

However, it is important to challenge the idea that women always experience negative outcomes of CSREs and men always experience positive outcomes. Women may experience more self-affirmation after CSREs than men do (Vasilenko et al., 2012), which aligns with the feminist idea that having CSREs allows women to subvert the sexual double standard. In several studies, men experienced regret or decreases in emotional health following CSREs, suggesting that CSREs are not universally positive experiences for men. In addition, qualitative studies have revealed that some men express discomfort with the non-relational, no-strings-attached script of CSREs (Epstein, Calzo, Smiler, & Ward, 2009; Farvid & Braun, 2017).

When researchers ask about the emotional outcomes of CSREs, they may explicitly or implicitly compare CSREs to traditional romantic relationships. Although there are distinctions between these relationship types, our results indicate some important similarities between CSREs and romantic relationships. There are positive aspects of CSREs, such as sexual satisfaction, that are also found in romantic relationships (Peck, Shaffer, & Williamson, 2005). Factors that predict negative emotions in CSREs, such as relationship uncertainty, are similar to the factors that would predict negative emotions in romantic relationships (Knobloch & Knobloch-Fedders, 2020). It is important to acknowledge that romantic relationships are not free of emotional difficulty simply due to their relative length, commitment, or emotional intimacy in comparison to CSREs.

Prevention and education implications

The results of this review have implications for educators, counselors and program designers who seek to help individuals navigate CSREs in a healthy manner. Given the high prevalence of CSREs, the positive evaluations of them, and the safer sex precautions that many people take, CSREs are a normative and minimally risky component of sexuality for many. However, negative subjective emotional reactions to CSREs are common, and some individuals report short-term declines in emotional health following CSREs. In order to increase the positive emotions associated with CSREs while minimizing emotional risks, it may help to take a skills-based approach that focuses on when/for whom CSREs are emotionally/physically risky.

Because CSREs carry more emotional and physical risks when alcohol is involved, focusing on preventing alcohol use, generally or before CSREs, may improve outcomes associated with them. Alcohol use makes it more likely that people will have a CSRE (Fairlie, Garcia, Lee, & Lewis, 2018; Grello et al., 2006), increases the likelihood of penetrative contact (Abbey et al., 2002; LaBrie et al., 2014), and lowers the likelihood of condom use (Brown & Venable, 2007; Cooper, 2002; Kiene, Barta, Tennen, & Armeli, 2009; LaBrie, Earleywine, Schiffman, Pedersen, & Marriott, 2005). Preventing alcohol use prior to CSREs

may therefore increase condom use and reduce the likelihood of penetrative contact with unfamiliar partners, both of which are also associated with emotional outcomes.

People's subjective emotional reactions to CSREs are better if their attitudes and motives are consistent with their behavior—for example, when they have more permissive attitudes about CSREs and when they are motivated by fun and pleasure, rather than forming long-term relationships. Teaching decision-making skills related to relationship transitions (e.g., Braithwaite & Fincham, 2007) may encourage individuals to engage in CSREs only when doing so is consistent with their goals. Personalized normative feedback interventions may also help individuals feel less pressure to engage in CSREs when doing so is inconsistent with their goals (e.g., Chernoff & Davison, 2005). People tend to overestimate the prevalence and acceptability of CSREs (Lambert, Kahn, & Apple, 2003). They may be less likely to engage in attitude-inconsistent behaviors if they perceive less favorable attitudes among their peers. At least one intervention has used this approach to address sexual assault in the context of CSREs, finding that college women who received a personalized normative feedback intervention reported fewer subsequent CSREs (Testa et al., 2020).

Factors associated with negative emotional outcomes of CSREs, such as not knowing a partner well, drinking heavily, having negative attitudes about CSREs, or feeling unmotivated—like the experience “just happened”—may indicate a lack of agency in decision-making. Interventions designed to increase sexual agency exist, primarily with the goal of decreasing sexual risk behavior. For example, interventions based on the theory of planned behavior aim to improve behavioral control over condom use (Tyson, Covey, & Rosenthal, 2016). Similar interventions to address behavioral control over sexual experiences may also improve the emotional outcomes of CSREs.

Findings on gender differences in CSRE outcomes have implications for sexual and relationship education. Practitioners can use empirical knowledge to improve women's CSRE experiences. Emphasis on aligning women's behaviors with their goals, increasing focus on women's pleasure, and continuing to address the sexual double standard may be useful in improving both women's and men's decision-making surrounding CSREs and their interactions with CSRE partners.

Limitations and strengths

Other authors have noted limitations of the CSRE literature more broadly, such as the exploratory nature of this research and the reliance on heterosexual, predominantly White college samples (Claxton & van Dulmen, 2013; Watson, Snapp, & Wang, 2017). The studies included in this review are characterized by similar limitations. For example, regarding sampling, 45 of the 71 studies included in this review used exclusively college samples. The studies also relied on predominantly heterosexual samples; only three articles addressed emotional outcomes for men who have sex with men (Bancroft et al., 2003; Lin et al., 2017; Parsons et al., 2003), and two studies reported on sexual minority women and men (Galperin et al., 2013; Mark et al., 2015). Because the majority of studies focused on American samples, it is unclear how sociocultural norms related to gender and sexuality may affect expectations of CSREs, interactions within CSREs, and emotional outcomes of CSREs.

Broad and inconsistent definitions of CSREs limit understanding of emotional outcomes. Many definitions of CSREs (e.g., a sexual encounter with someone you weren't in a romantic relationship with) allow for substantial variation in participants' interpretation. These definitions may obscure differences in emotional outcomes of CSREs according to individuals' interpretation of what constitutes a CSRE (Wesche et al., 2018).

Another methodological limitation of the majority of studies included in this review is a reliance on retrospective data. These research designs provide an incomplete understanding of how emotional outcomes unfold over time. Recent longitudinal studies have provided useful information, for example, documenting that declines in emotional health following CSREs may fade within a year. However, longitudinal research with more frequent measurement occasions is needed to understand how emotional outcomes of CSREs change within shorter time periods.

This review is limited in that it only included information from published studies. There is a publication bias in scientific research, such that studies finding no statistically significant results are less likely to be published (Dwan et al., 2008; Dwan, Gamble, Williamson, & Kirkham, 2013). Thus, our results may overestimate associations between CSRE involvement and emotional outcomes. Furthermore, research cannot demonstrate a causal association between CSREs and emotional health. Although there is evidence that individuals tend to experience increases in psychological distress following CSRE involvement, these longitudinal associations are not sufficient for determining causality. For example, CSREs may also occur shortly following romantic breakups, which are associated with increases in psychological distress (Monroe, Rohde, Seeley, & Lewinsohn, 1999). Another non-causal explanation is that peers' negative judgments about people who engage in CSREs could cause increases in psychological distress (DeLuca et al., 2015).

Although this review contains limitations, it also has strengths. By focusing on the emotional outcomes of CSREs, we expand understanding of the health implications of diverse sexual experiences, contributing to a holistic understanding of sexual health that includes emotions. By including articles examining multiple types of emotional outcomes, we contribute to an integrated understanding of the diverse ways that CSREs are associated with emotional well-being. By examining studies with diverse predictors/moderators, sample compositions, and methodological techniques, we improve understanding of why studies have resulted in disparate findings about the emotional outcomes of CSREs.

Future directions

The results of this review are shaped by the variables examined in past research. Future research should examine other variables that may explain emotional outcomes of CSREs. For example, future research should explore the roles of sexual communication, verbal and nonverbal consent practices, and coercion in explaining emotional outcomes of CSREs. The studies included in this review typically did not specify that they were studying wanted sexual relationships and experiences. Given that the majority of unwanted oral/penetrative sexual incidents among young adults occur with a casual sexual partner (Flack et al., 2007), and that young women identify coercion as a risky aspect of CSREs (Farvid & Braun, 2018),

it is likely that some variation in emotional outcomes of CSREs is due to unwanted sexual experiences.

Because it is unclear how emotional outcomes of CSREs unfold over time, additional research is needed to understand how the dynamic nature of CSREs contributes to changes in emotional outcomes. Do subjective emotional reactions fade, stay level, or grow over time, and do these reactions contribute to changes in emotional health? Similarly, what factors predict changes in emotional outcomes of CSREs? For example, women may experience delayed social consequences of CSREs due to the sexual double standard as they disclose their sexual experiences to others, which could influence their feelings about their experiences. In addition, transitions between relationship states—CSREs, romantic partners, friends/acquaintances—influence perceptions of past CSREs. Having romantic feelings toward a CSRE partner is associated with positive subjective emotional reactions (Owen & Fincham, 2011a, 2011b), but the majority of CSREs do not develop into romantic relationships (Eisenberg et al., 2009; Owen & Fincham, 2011b, 2012; Paul et al., 2000), and individuals report that unrequited romantic feelings are a source of stress in CSREs (e.g., Gusarova et al., 2012). It is possible that emotional reactions change depending on whether a CSRE is maintained, ends, or transitions to a romantic relationship, and whether these outcomes are consistent with both partners' desires.

Longitudinal research is also needed to understand the complex temporal relation between CSREs and emotional health. Our review findings suggest that poor emotional health may predict an increased likelihood of future CSREs, and CSREs have complex associations with future mental health. Additionally, there is evidence that emotional health may predict CSRE engagement. Research with repeated measurement occasions, such as cross-lagged studies, can uncover the extent to which emotional health is a predictor, versus an outcome, of CSREs.

Research on romantic relationships has utilized a dyadic perspective, allowing researchers to understand how interpersonal processes contribute to emotional outcomes (e.g., Pietromonaco, Uchino, & Dunkel Schetter, 2013; Randall, Post, Reed, & Butler, 2013). Focusing on interpersonal processes within CSREs may also be useful, although the transitory and private nature of these experiences poses challenges to collecting data from dyads in CSREs. Understanding, even from one partner's perspective, how relationship processes like power imbalances, relationship satisfaction, and relationship commitment are associated with emotional outcomes of CSREs will improve understanding of CSREs.

Conclusion

The results of this review highlight the complex emotional outcomes of CSRE involvement. Whereas many individuals feel positively about their CSREs, these feelings differ across people and across CSREs. Women, individuals with less positive attitudes toward CSREs, and individuals who drink heavily before CSREs are at increased risk of experiencing negative emotional outcomes. The results of this review do not support the idea that CSREs are inherently negative and emotionally harmful experiences. Rather than counseling individuals to avoid casual sex due to potential negative emotional outcomes, education and prevention approaches should educate individuals about when and for whom CSREs are

more emotionally risky in order to improve healthy sexual decision-making surrounding CSREs.

Funding:

This study was funded by the National Institute of Mental Health (grant numbers T32MH019985 and P30MH052776).

References

*Included in review of articles

- Allison R, & Risman BJ (2013). A double standard for “hooking up”: How far have we come toward gender equality? *Social Science Research*, 42, 1191–1206. 10.1016/j.ssresearch.2013.04.006 [PubMed: 23859725]
- *Bachtel MK (2013). Do hookups hurt? Exploring college students’ experiences and perceptions. *Journal of Midwifery & Women’s Health*, 58, 41–48. 10.1111/j.1542-2011.2012.00266.x
- Backstrom L, Armstrong EA, & Puentes J (2012). Women’s negotiation of cunnilingus in college hookups and relationships. *Journal of Sex Research*, 49, 1–12. 10.1080/00224499.2011.585523 [PubMed: 22010825]
- *Bancroft J, Janssen E, Strong D, Carnes L, Vukadinovic Z, & Long JS (2003). Sexual risk-taking in gay men: The relevance of sexual arousability, mood, and sensation seeking. *Archives of Sexual Behavior*, 32, 555–572. 10.1023/A:1026041628364 [PubMed: 14574099]
- Barrios RJ, & Lundquist JH (2012). Boys just want to have fun? Masculinity, sexual behaviors, and romantic intentions of gay and straight males in college. *Journal of LGBT Youth*, 9, 271–296. 10.1080/19361653.2012.716749
- *Bendixen M, Asao K, Wyckoff JP, Buss DM, & Kennair LEO (2017). Sexual regret in US and Norway: Effects of culture and individual differences in religiosity and mating strategy. *Personality and Individual Differences*, 116, 246–251. 10.1016/j.paid.2017.04.054
- Beres M (2010). Sexual miscommunication? Untangling assumptions about sexual communication between casual sex partners. *Culture, Health & Sexuality*, 12, 1–14. 10.1080/13691050903075226
- *Bersamin MM, Zamboanga BL, Schwartz SJ, Donnellan MB, Hudson M, Weisskirch RS, ... & Caraway SJ (2014). Risky business: Is there an association between casual sex and mental health among emerging adults? *Journal of Sex Research*, 51, 43–51. 10.1080/00224499.2013.772088 [PubMed: 23742031]
- Bisson MA, & Levine TR (2009). Negotiating a friends with benefits relationship. *Archives of Sexual Behavior*, 38, 66–73. 10.1007/s10508-007-9211-2 [PubMed: 17851750]
- *Black SW, Kaminsky G, Hudson A, Owen J, & Fincham F (2019). A short-term longitudinal investigation of hookups and holistic outcomes among college students. *Archives of Sexual Behavior*, 48, 1829–1845. 10.1007/s10508-018-1330-4 [PubMed: 30874976]
- Braithwaite SR, & Fincham FD (2007). ePREP: Computer based prevention of relationship dysfunction, depression and anxiety. *Journal of Social and Clinical Psychology*, 26, 609–622. 10.1521/jscp.2007.26.5.609
- Brown JL, & Venable PA (2007). Alcohol use, partner type, and risky sexual behavior among college students: Findings from an event-level study. *Addictive Behaviors*, 32, 2940–2952. 10.1016/j.addbeh.2007.06.011 [PubMed: 17611038]
- *Campbell A (2008). The morning after the night before. *Human Nature*, 19, 157–173. 10.1007/s12110-008-9036-2 [PubMed: 26181462]
- *Carrotte ER, Vella AM, Hellard ME, & Lim MS (2016). Mental health and associated sexual health behaviours in a sample of young people attending a music festival in Melbourne, Victoria. *Community Mental Health Journal*, 52, 1082–1088. 10.1007/s10597-015-9981-2 [PubMed: 26738496]

- Chernoff RA, & Davison GC (2005). An evaluation of a brief HIV/AIDS prevention intervention for college students using normative feedback and goal setting. *AIDS Education & Prevention*, 17, 91–104. 10.1521/aeap.17.3.91.62902 [PubMed: 15899748]
- Claxton SE, & van Dulmen MH (2013). Casual sexual relationships and experiences in emerging adulthood. *Emerging Adulthood*, 1, 138–150. 10.1177/2167696813487181
- Cooper ML (2002). Alcohol use and risky sexual behavior among college students and youth: evaluating the evidence. *Journal of Studies on Alcohol*, supplement 14, 101–117. 10.15288/jsas.2002.s14.101
- Cooper ML, Shapiro CM, & Powers AM (1998). Motivations for sex and risky sexual behavior among adolescents and young adults: A functional perspective. *Journal of Personality and Social Psychology*, 75, 1528–1558. 10.1037/0022-3514.75.6.1528 [PubMed: 9914665]
- Dailey RM, LeFebvre L, Crook B, & Brody N (2016). Relational uncertainty and communication in on-again/off-again romantic relationships: Assessing changes and patterns across recalled turning points. *Western Journal of Communication*, 80, 239–263. 10.1080/10570314.2015.1094123
- Deci EL, & Ryan RM (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268. 10.1207/S15327965PLI1104_01.
- *de Jong DC, Adams KN, & Reis HT (2018). Predicting women’s emotional responses to hooking up: Do motives matter? *Journal of Social and Personal Relationships*, 35, 532–556. 10.1177/0265407517743077
- *DeLuca HK, Claxton SE, Baker EA, & van Dulmen MH (2015). I get by with a little help from my friends: Examining the peer context of satisfaction with casual sexual relationships and experiences. *European Journal of Developmental Psychology*, 12, 565–578. 10.1080/17405629.2015.1044964
- *Deutsch AR, & Slutské WS (2015). A noncausal relation between casual sex in adolescence and early adult depression and suicidal ideation: A longitudinal discordant twin study. *Journal of Sex Research*, 52, 770–780. 10.1080/00224499.2014.942413 [PubMed: 25140765]
- *Dubé S, Lavoie F, Blais M, & Hébert M (2017a). Psychological well-being as a predictor of casual sex relationships and experiences among adolescents: A short-term prospective study. *Archives of Sexual Behavior*, 46, 1807–1818. 10.1007/s10508-016-0914-0 [PubMed: 28229246]
- *Dubé S, Lavoie F, Blais M, & Hébert M (2017b). Consequences of casual sex relationships and experiences on adolescents’ psychological well-being: A prospective study. *Journal of Sex Research*, 54, 1006–1017. 10.1080/00224499.2016.1255874 [PubMed: 28010123]
- Dwan K, Altman DG, Arnaiz JA, Bloom J, Chan AW, Cronin E, ... & Ghersi D (2008). Systematic review of the empirical evidence of study publication bias and outcome reporting bias. *PloS one*, 3, e3081. 10.1371/journal.pone.0003081 [PubMed: 18769481]
- Dwan K, Gamble C, Williamson PR, & Kirkham JJ (2013). Systematic review of the empirical evidence of study publication bias and outcome reporting bias—an updated review. *PloS one*, 8, e66844. 10.1371/journal.pone.0066844 [PubMed: 23861749]
- *Eisenberg ME, Ackard DM, Resnick MD, & Neumark-Sztainer D (2009). Casual sex and psychological health among young adults: Is having “friends with benefits” emotionally damaging? *Perspectives on Sexual and Reproductive Health*, 41, 231–237. 10.1363/4123109 [PubMed: 20444178]
- England P, & Bearak J (2014). The sexual double standard and gender differences in attitudes toward casual sex among US university students. *Demographic Research*, 30, 1327–1338. <https://doi.org/10.4054.DemRes.2014.30.46>
- Epstein M, Calzo JP, Smiler AP, & Ward LM (2009). “Anything from making out to having sex”: Men’s negotiations of hooking up and friends with benefits scripts. *Journal of Sex Research*, 46, 414–424. 10.1080/00224490902775801 [PubMed: 19253134]
- *Eshbaugh EM, & Gute G (2008). Hookups and sexual regret among college women. *Journal of Social Psychology*, 148, 77–90. 10.3200/SOCP.148.1.77-90
- Fairlie AM, Garcia TA, Lee CM, & Lewis MA (2018). Alcohol use and alcohol/marijuana use during the most recent sexual experience differentially predict characteristics of the sexual experience among sexually active young adult drinkers. *Addictive Behaviors*, 82, 105–108. 10.1016/j.addbeh.2018.02.027 [PubMed: 29510295]

- Farvid P & Braun V (2017). Unpacking the ‘pleasures’ and ‘pains’ of heterosexual casual sex: Beyond singular understandings. *Journal of Sex Research* 54, 73–90. 10.1080/00224499.2016.1143442 [PubMed: 27049595]
- Farvid P, & Braun V (2018). “You worry, ‘cause you want to give a reasonable account of yourself”: Gender, identity management, and the discursive positioning of “risk” in men’s and women’s talk about heterosexual casual sex. *Archives of Sexual Behavior*, 47, 1405–1421. 10.1007/s10508-017-1124-0 [PubMed: 29600396]
- *Fielder RL, & Carey MP (2010a). Prevalence and characteristics of sexual hookups among first-semester female college students. *Journal of Sex & Marital Therapy*, 36, 346–359. 10.1080/0092623X.2010.488118 [PubMed: 20574889]
- *Fielder RL, & Carey MP (2010b). Predictors and consequences of sexual “hookups” among college students: A short-term prospective study. *Archives of Sexual Behavior*, 39, 1105–1119. 10.1007/s10508-008-9448-4 [PubMed: 19130207]
- *Fielder RL, Walsh JL, Carey KB, & Carey MP (2013). Predictors of sexual hookups: A theory-based, prospective study of first-year college women. *Archives of Sexual Behavior*, 42, 1425–1441. 10.1007/s10508-013-0106-0 [PubMed: 23657811]
- *Fielder RL, Walsh JL, Carey KB, & Carey MP (2014). Sexual hookups and adverse health outcomes: A longitudinal study of first-year college women. *Journal of Sex Research*, 51, 131–144. 10.1080/00224499.2013.848255 [PubMed: 24350600]
- *Fisher ML, Worth K, Garcia JR, & Meredith T (2012). Feelings of regret following uncommitted sexual encounters in Canadian university students. *Culture, Health & Sexuality*, 14, 45–57. 10.1080/13691058.2011.619579
- Flack WF Jr, Daubman KA, Caron ML, Asadorian JA, D’Aureli NR, Gigliotti SN, ... & Stine ER (2007). Risk factors and consequences of unwanted sex among university students: Hooking up, alcohol, and stress response. *Journal of Interpersonal Violence*, 22, 139–157. 10.1177/0886260506295354 [PubMed: 17202573]
- Fraley RC, & Shaver PR (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, 4, 132–154. 10.1037/1089-2680.4.2.132
- Freitas D (2013). *The end of sex: How hookup culture is leaving a generation unhappy, sexually unfulfilled, and confused about intimacy*. New York, NY: Basic Books.
- Frith H, & Kitinger C (2001). Reformulating sexual script theory: Developing a discursive psychology of sexual negotiation. *Theory & Psychology*, 11, 209–232. 10.1177/0959354301112004
- *Furman W, & Collibee C (2014). Sexual activity with romantic and nonromantic partners and psychosocial adjustment in young adults. *Archives of Sexual Behavior*, 43, 1327–1341. 10.1007/s10508-014-0293-3 [PubMed: 24789049]
- *Galperin A, Haselton MG, Frederick DA, Poore J, von Hippel W, Buss DM, & Gonzaga GC (2013). Sexual regret: Evidence for evolved sex differences. *Archives of Sexual Behavior*, 42, 1145–1161. 10.1007/s10508-012-0019-3 [PubMed: 23179233]
- Garcia JR, Seibold-Simpson SM, Massey SG, & Merriwether AM (2015). Casual sex: Integrating social, behavioral, and sexual health research. In DeLamater J & Plante RF (Eds.), *Handbook of the Sociology of Sexualities* (pp. 203–222). New York, NY: Springer.
- *Gonçalves H, Soares ALG, Bierhals IO, Machado AK, Fernandes MP, Hirschmann R, ... & Menezes AM (2017). Age of sexual initiation and depression in adolescents: Data from the 1993 Pelotas (Brazil) Birth Cohort. *Journal of Affective Disorders*, 221, 259–266. 10.1016/j.jad.2017.06.033 [PubMed: 28662457]
- *Grello CM, Welsh DP, & Harper MS (2006). No strings attached: The nature of casual sex in college students. *Journal of Sex Research*, 43, 255–267. 10.1080/00224490609552324 [PubMed: 17599248]
- *Grello CM, Welsh DP, Harper MS, & Dickson JW (2003). Dating and sexual relationship trajectories and adolescent functioning. *Adolescent & Family Health*, 3, 103–112.
- *Gusarova I, Fraser V, & Alderson KG (2012). A quantitative study of “friends with benefits” relationships. *The Canadian Journal of Human Sexuality*, 21, 41–59.

- Hawkins AJ (2017). Shifting the relationship education field to prioritize youth relationship education. *Journal of Couple & Relationship Therapy*, 17(3), 165–180. 10.1080/15332691.2017.1341355
- Heldman C, & Wade L (2010). Hook-up culture: Setting a new research agenda. *Sexuality Research and Social Policy*, 7, 323–333. 10.1007/s13178-010-0024-z
- Kalish R, & Kimmel M (2011). Hooking up: Hot hetero sex or the new numb normative? *Australian Feminist Studies*, 26, 137–151. 10.1080/08164649.2011.546333
- Karlsen M, & Træen B (2013). Identifying ‘friends with benefits’ scripts among young adults in the Norwegian cultural context. *Sexuality & Culture*, 17, 83–99. 10.1007/s12119-012-9140-7
- Kelly C (2012). Sexism in practice: Feminist ethics evaluating the hookup culture. *Journal of Feminist Studies in Religion*, 28, 27–48. 10.2979/jfemistudreli.28.2.27
- *Kennair LEO, Bendixen M, & Buss DM (2016). Sexual regret: Tests of competing explanations of sex differences. *Evolutionary Psychology*, 14, 1–9. 10.1177/1474704916682903
- *Kennair LEO, Wyckoff JP, Asao K, Buss DM, & Bendixen M (2018). Why do women regret casual sex more than men do? *Personality and Individual Differences*, 127, 61–67. 10.1016/j.paid.2018.01.044
- Kiene SM, Barta WD, Tennen H, & Armeli S (2009). Alcohol, helping young adults to have unprotected sex with casual partners: Findings from a daily diary study of alcohol use and sexual behavior. *Journal of Adolescent Health*, 44, 73–80. 10.1016/j.jadohealth.2008.05.008
- Knobloch LK, & Knobloch-Fedders LM (2010). The role of relational uncertainty in depressive symptoms and relationship quality: An actor—partner interdependence model. *Journal of Social and Personal Relationships*, 27, 137–159. 10.1177/0265407509348809
- Kuperberg A, & Padgett JE (2016). The role of culture in explaining college students’ selection into hookups, dates, and long-term romantic relationships. *Journal of Social and Personal Relationships*, 33, 1070–1096. 10.1177/0265407515616876
- LaBrie J, Earleywine M, Schiffman J, Pedersen E, & Marriot C (2005). Effects of alcohol, expectancies, and partner type on condom use in college males: Event-level analyses. *Journal of Sex Research*, 42, 259–266. 10.1080/00224490509552280 [PubMed: 19817039]
- *LaBrie JW, Hummer JF, Ghaidarov TM, Lac A, & Kenney SR (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. 10.1080/00224499.2012.714010 [PubMed: 23127230]
- Lambert TA, Kahn AS, & Apple KJ (2003). Pluralistic ignorance and hooking up. *Journal of Sex Research*, 40, 129–133. 10.1080/00224490309552174 [PubMed: 12908120]
- *Lewis MA, Granato H, Blayney JA, Lostutter TW, & Kilmer JR (2012). Predictors of hooking up sexual behaviors and emotional reactions among US college students. *Archives of Sexual Behavior*, 41, 1219–1229. 10.1007/s10508-011-9817-2 [PubMed: 21796484]
- *Lin CC, Lee YT, & Yang HJ (2017). Risky sexual behaviors as correlates of depression and suicidal ideation among male HIV test-seekers at a voluntary counseling and testing facility in Taiwan. *Asia Pacific Journal of Public Health*, 29, 219–228. 10.1177/1010539517697790 [PubMed: 28434253]
- Littleton H, Tabernik H, Canales EJ, & Backstrom T (2009). Risky situation or harmless fun? A qualitative examination of college women’s bad hook-up and rape scripts. *Sex Roles*, 60, 793–804. 10.1007/s11199-009-9586-8
- Lyons H, Manning W, Giordano P, & Longmore M (2013). Predictors of heterosexual casual sex among young adults. *Archives of Sexual Behavior*, 42, 585–593. 10.1007/s10508-012-0051-3 [PubMed: 23297151]
- *Lyons HA, Manning WD, Longmore MA, & Giordano PC (2014). Young adult casual sexual behavior: Life-course-specific motivations and consequences. *Sociological Perspectives*, 57, 79–101. 10.1177/0731121413517557 [PubMed: 25013267]
- *Manning WD, Longmore MA, Copp J, & Giordano PC (2014). The complexities of adolescent dating and sexual relationships: Fluidity, meaning(s), and implications for young adults’ well-being. In Lefkowitz ES & Vasilenko SA (Eds.), *New directions for child and adolescent development: Positive and negative outcomes of sexual behavior* (pp. 53–69). San Francisco, CA: Jossey-Bass.

- *Manning WD, Longmore MA, & Giordano PC (2005). Adolescents' involvement in non-romantic sexual activity. *Social Science Research*, 34, 384–407. 10.1016/j.ssresearch.2004.03.001
- *Manthos M, Owen J, & Fincham FD (2014). A new perspective on hooking up among college students: Sexual behavior as a function of distinct groups. *Journal of Social and Personal Relationships*, 31, 815–829. 10.1177/0265407513505932
- *Mark KP, Garcia JR, & Fisher HE (2015). Perceived emotional and sexual satisfaction across sexual relationship contexts: Gender and sexual orientation differences and similarities. *The Canadian Journal of Human Sexuality*, 24, 120–130. 10.3138/cjhs.242-A8
- Meier AM (2007). Adolescent first sex and subsequent mental health. *American Journal of Sociology*, 112, 1811–1847. 10.1086/512708
- *Mendle J, Ferrero J, Moore SR, & Harden KP (2013). Depression and adolescent sexual activity in romantic and nonromantic relational contexts: A genetically-informative sibling comparison. *Journal of Abnormal Psychology*, 122, 51–63. 10.1037/a0029816 [PubMed: 22985011]
- Moher D, Liberati A, Tetzlaff J, & Altman DG (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, 151, 264–269. 10.1371/journal.pmed1000097 [PubMed: 19622511]
- *Monahan KC, & Lee JM (2008). Adolescent sexual activity: Links between relational context and depressive symptoms. *Journal of Youth and Adolescence*, 37, 917–927. 10.1007/s10964-007-9256-5
- Monroe SM, Rohde P, Seeley JR, & Lewinsohn PM (1999). Life events and depression in adolescence: Relationship loss as a prospective risk factor for first onset of major depressive disorder. *Journal of Abnormal Psychology*, 108, 606–614. 10.1037/0021-843X.108.4.606 [PubMed: 10609425]
- *Montes KS, Blanco L, & LaBrie JW (2017). The relationship between perceived hookup attitudes and negative hookup consequences: Do perceived attitudes of close friends matter? *Journal of Sex Research*, 54, 1128–1140. 10.1080/00224499.2016.1258535 [PubMed: 28026987]
- *Montes KS, Napper LE, Froidevaux NM, Kenney S, & LaBrie JW (2016). Negative affect as a moderator of the relationship between hookup motives and hookup consequences. *Journal of American College Health*, 64, 668–672. 10.1080/07448481.2016.1213732 [PubMed: 27455409]
- *Napper LE, Montes KS, Kenney SR, & LaBrie JW (2016). Assessing the personal negative impacts of hooking up experienced by college students: Gender differences and mental health. *Journal of Sex Research*, 53, 766–775. 10.1080/00224499.2015.1065951 [PubMed: 26445346]
- *Owen J, & Fincham FD (2011a). Effects of gender and psychosocial factors on “friends with benefits” relationships among young adults. *Archives of Sexual Behavior*, 40, 311–320. 10.1007/s10508-010-9611-6 [PubMed: 20349207]
- *Owen J, & Fincham FD (2011b). Young adults' emotional reactions after hooking up encounters. *Archives of Sexual Behavior*, 40, 321–330. 10.1007/s10508-010-9652-x [PubMed: 20809375]
- Owen J, & Fincham FD (2012). Friends with benefits relationships as a start to exclusive romantic relationships. *Journal of Social and Personal Relationships*, 29, 982–996. 10.1177/0265407512448275
- *Owen J, Fincham FD, & Manthos M (2013). Friendship after a friends with benefits relationship: Deception, psychological functioning, and social connectedness. *Archives of Sexual Behavior*, 42, 1443–1449. 10.1007/s10508-013-0160-7 [PubMed: 23979784]
- *Owen J, Fincham FD, & Moore J (2011). Short-term prospective study of hooking up among college students. *Archives of Sexual Behavior*, 40, 331–341. 10.1007/s10508-010-9697-x [PubMed: 21203816]
- *Owen JJ, Rhoades GK, Stanley SM, & Fincham FD (2010). “Hooking up” among college students: Demographic and psychosocial correlates. *Archives of Sexual Behavior*, 39, 653–663. 10.1007/s10508-008-9414-1 [PubMed: 18839300]
- *Parsons JT, Halkitis PN, Wolitski RJ, & Gomez CA (2003). Correlates of sexual risk behaviors among HIV-positive men who have sex with men. *AIDS Education and Prevention*, 15, 383–400. 10.1521/aeap.15.6.383.24043 [PubMed: 14626462]
- Patrick ME, Lee CM, & Neighbors C (2014). Web-based intervention to change perceived norms of college student alcohol use and sexual behavior on spring break. *Addictive Behaviors*, 39, 600–606. 10.1016/j.addbeh.2013.11.014 [PubMed: 24333038]

- *Paul EL, & Hayes KA (2002). The casualties of “casual” sex: A qualitative exploration of the phenomenology of college students’ hookups. *Journal of Social and Personal Relationships*, 19, 639–661. 10.1177/0265407502195006
- *Paul EL, McManus B, & Hayes A (2000). “Hookups”: Characteristics and correlates of college students’ spontaneous and anonymous sexual experiences. *Journal of Sex Research*, 37, 76–88. 10.1080/00224490009552023
- Peck SR, Shaffer DR, & Williamson GM (2005). Sexual satisfaction and relationship satisfaction in dating couples: The contributions of relationship communality and favorability of sexual exchanges. *Journal of Psychology & Human Sexuality*, 16, 17–37. 10.1300/J056v16n04_02
- Pietromonaco PR, Uchino B, & Dunkel Schetter C (2013). Close relationship processes and health: Implications of attachment theory for health and disease. *Health Psychology*, 32, 499–513. 10.1037/a0029349 [PubMed: 23646833]
- Randall AK, Post JH, Reed RG, & Butler EA (2013). Cooperating with your romantic partner: Associations with interpersonal emotion coordination. *Journal of Social and Personal Relationships*, 30, 1072–1095. 10.1177/0265407513481864
- Reese-Weber M (2015). Intimacy, communication, and aggressive behaviors: Variations by phases of romantic relationship development. *Personal Relationships*, 22, 204–215. 10.1111/per.12074
- Reiber C, & Garcia JR (2010). Hooking up: Gender differences, evolution, and pluralistic ignorance. *Evolutionary Psychology*, 8, 390–404. 10.1177/147470491000800307 [PubMed: 22947808]
- Rodrigue C, & Fernet M (2016). A metasynthesis of qualitative studies on casual sexual relationships and experiences. *The Canadian Journal of Human Sexuality*, 25, 225–242. 10.3138/cjhs.253-A6
- *Sandberg-Thoma SE, & Kamp Dush CM (2014). Casual sexual relationships and mental health in adolescence and emerging adulthood. *Journal of Sex Research*, 51, 121–130. 10.1080/00224499.2013.821440 [PubMed: 24168063]
- *Schwartz SJ, Waterman AS, Vazsonyi AT, Zamboanga BL, Whitbourne SK, Weisskirch RS, ... & Donnellan MB (2011). The association of well-being with health risk behaviors in college-attending young adults. *Applied Developmental Science*, 15, 20–36. 10.1080/10888691.2011.538617 [PubMed: 33707936]
- Shulman S, & Connolly J (2013). The challenge of romantic relationships in emerging adulthood: Reconceptualization of the field. *Emerging Adulthood*, 1, 27–39. 10.1177/2167696812467330
- *Shulman S, Scharf M, Ziv I, Norona J, & Welsh DP (2019). Adolescents’ sexual encounters with either romantic or casual partners and the quality of their romantic relationships four years later. *Journal of Sex Research*. Advance online publication. 10.1080/00224499.2018.1560387
- *Shulman S, Seiffge-Krenke I, & Walsh SD (2017). Is sexual activity during adolescence good for future romantic relationships? *Journal of Youth and Adolescence*, 46, 1867–1877. 10.1007/s10964-017-0699-z [PubMed: 28612207]
- *Siebenbruner J (2015). Dating to hooking up: The emotional and behavioral health of college women. *College Student Affairs Journal*, 33, 28–47. 10.1353/csj.2015.0006
- Simpson DM, Leonhardt ND, & Hawkins AJ (2018). Learning about love: A meta-analytic study of individually-oriented relationship education programs for adolescents and emerging adults. *Journal of Youth and Adolescence*, 47, 477–489. 10.1007/s10964-017-0725-1 [PubMed: 28815427]
- *Snapp S, Ryu E, & Kerr J (2015). The upside to hooking up: College students’ positive hookup experiences. *International Journal of Sexual Health*, 27, 43–56. 10.1080/19317611.2014.939247
- *Strokoff J, Owen J, & Fincham FD (2015). Diverse reactions to hooking up among US university students. *Archives of Sexual Behavior*, 44, 935–943. 10.1007/s10508-014-0299-x [PubMed: 24872187]
- Testa M, Livingston JA, Wang W, & Lewis MA (2020). Preventing college sexual victimization by reducing hookups: A randomized controlled trial of a personalized normative feedback intervention. *Prevention Science*, 21, 388–397. 10.1007/s11121-020-01098-3 [PubMed: 32060880]
- *Townsend JM, Jonason PK, & Wasserman TH (2019). Associations between motives for casual sex, depression, self-esteem, and sexual victimization. *Archives of Sexual Behavior*. Advance online publication. 10.1007/s10508-019-01482-3

- *Townsend JM, & Wasserman TH (2011). Sexual hookups among college students: Sex differences in emotional reactions. *Archives of Sexual Behavior*, 40, 1173–1181. 10.1007/s10508-011-9841-2 [PubMed: 21975920]
- *Townsend JM, Wasserman TH, & Rosenthal A (2015). Gender differences in emotional reactions and sexual coercion in casual sexual relations: An evolutionary perspective. *Personality and Individual Differences*, 85, 41–40. 10.1016/j.paid.2015.04.031
- Tyson M, Covey J, & Rosenthal HE (2014). Theory of planned behavior interventions for reducing heterosexual risk behaviors: A meta-analysis. *Health Psychology*, 33, 1454–1467. 10.1037/hea0000047 [PubMed: 24707843]
- *Uecker JE, & Martinez BC (2017). When and why women regret sex in hookups more than men do: An analysis of the Online College Social Life Survey. *Sociological Quarterly*, 58, 470–494. 10.1080/00380253.2017.1331716
- *Uecker JE, Pearce LD, & Andercheck B (2015). The four U's: Latent classes of hookup motivations among college students. *Social Currents*, 2, 163–181. 10.1177/2329496515579761 [PubMed: 27066516]
- *Vasilenko SA, & Lefkowitz ES (2018). Sexual behavior and daily affect in emerging adulthood. *Emerging Adulthood*, 46, 1807–1818. 10.1177/2167696818767503
- *Vasilenko SA, Lefkowitz ES, & Maggs JL (2012). Short-term positive and negative consequences of sex based on daily reports among college students. *Journal of Sex Research*, 49, 558–569. 10.1080/00224499.2011.589101 [PubMed: 21707408]
- Vasilenko SA, Lefkowitz ES, & Welsh DP (2014). Is sexual behavior healthy for adolescents? A conceptual framework for research on adolescent sexual behavior and physical, mental, and social health. In Lefkowitz ES & Vasilenko SA (Eds.), *New directions for child and adolescent development: Positive and negative outcomes of sexual behavior* (pp. 53–69). San Francisco, CA: Jossey-Bass.
- Vasilenko SA, Kugler KC, & Rice CE (2016). Timing of first sexual intercourse and young adult health outcomes. *Journal of Adolescent Health*, 59, 291–297. 10.1016/j.jadohealth.2016.04.019
- *Victor E (2012). Mental health and hooking up: A self-discrepancy perspective. *The New School Psychology Bulletin*, 9, 24–34.
- *Vrangelova Z (2015a). Does casual sex harm college students' well-being? A longitudinal investigation of the role of motivation. *Archives of Sexual Behavior*, 44, 945–959. 10.1007/s10508-013-0255-1 [PubMed: 24496788]
- *Vrangelova Z (2015b). Hooking up and psychological well-being in college students: Short-term prospective links across different hookup definitions. *Journal of Sex Research*, 52, 485–498. 10.1080/00224499.2014.910745 [PubMed: 25073476]
- *Vrangelova Z, & Ong AD (2014). Who benefits from casual sex? The moderating role of sociosexuality. *Social Psychological and Personality Science*, 5, 883–891. 10.1177/1948550614537308
- Watson RJ, Snapp S, & Wang S (2017). What we know and where we go from here: A review of lesbian, gay, and bisexual youth hookup literature. *Sex Roles*, 77, 801–811. 10.1007/s11199-017-0831-2
- Wentland JJ, & Reissing ED (2011). Taking casual sex not too casually: Exploring definitions of casual sexual relationships. *The Canadian Journal of Human Sexuality*, 20, 75–91.
- *Wesche R, Claxton SE, Lefkowitz ES, & van Dulmen MHM (2018). Evaluations and future plans after casual sexual experiences: Differences across partner type. *Journal of Sex Research*, 55, 1180–1191. 10.1080/00224499.2017.1298714 [PubMed: 28339298]
- *Wesche R, Lefkowitz ES, & Vasilenko SA (2017). Latent classes of sexual behaviors: Prevalence, predictors and consequences. *Sexuality Research and Social Policy*, 14, 100–111. 10.1007/s13178-016-0228-y [PubMed: 28163800]
- *Wesche R, Walsh JL, Shepardson RL, Carey KB, & Carey MP (2019). The association between sexual behavior and affect: Moderating factors in young women. *Journal of Sex Research*, 56, 1058–1069. 10.1080/00224499.2018.1542657 [PubMed: 30507324]

- Wesche R, Kreager DA, Lefkowitz ES, & Siennick SE (2017). Early sexual initiation and mental health: A fleeting association or enduring change? *Journal of Research on Adolescence*, 27, 611–627. 10.1111/jora.12303 [PubMed: 28776829]
- *Woerner J, & Abbey A (2017). Positive feelings after casual sex: The role of gender and traditional gender-role beliefs. *Journal of Sex Research*, 54, 717–727. 10.1080/00224499.2016.1208801 [PubMed: 27485260]
- *Zimmer-Gembeck MJ, See L, & O'Sullivan L (2015). Young women's satisfaction with sex and romance, and emotional reactions to sex: Associations with sexual entitlement, efficacy, and situational factors. *Emerging Adulthood*, 3, 113–122. 10.1177/2167696814548060

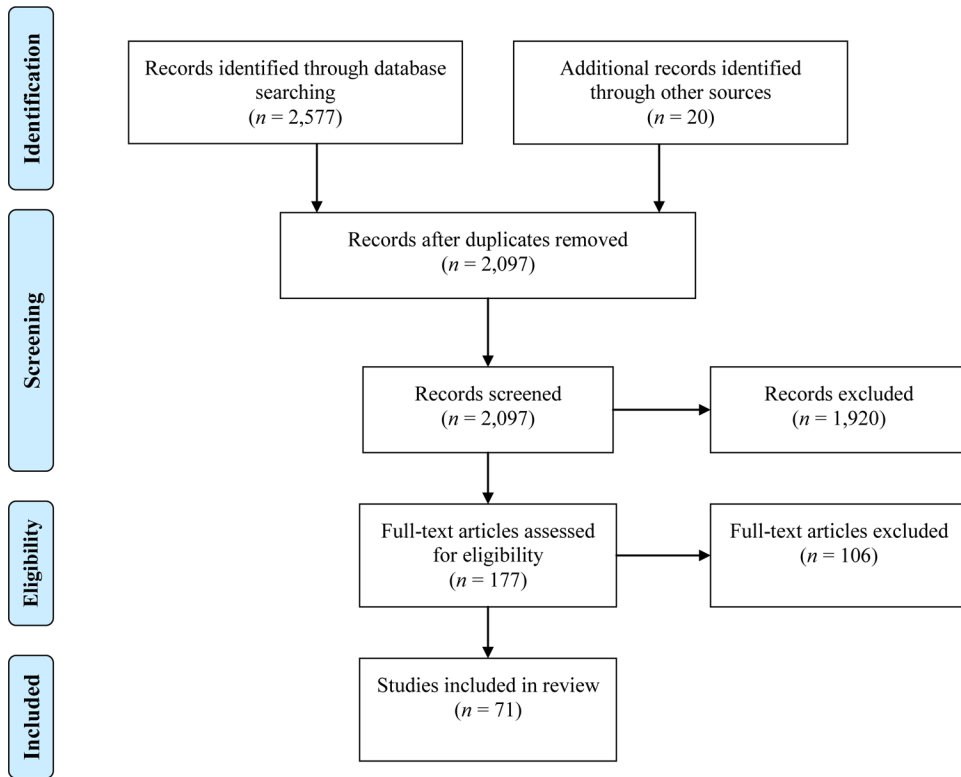


Figure 1.
PRISMA Flow Diagram

Table 1

Articles Examining Emotional Outcomes of CSREs

Citation	Sample	Emotional variable(s) assessed	Cross-sectional or longitudinal	Moderators/predictors explored
SUBJECTIVE EMOTIONAL REACTIONS				
Bachtel, 2013	US college students ($N=210$)	Regret, negative emotional reactions	Cross-sectional	
Bendixen, Asao, Wyckoff, Buss, & Kennair, 2017	US and Norwegian college students ($N=466$)	Regret	Cross-sectional	Gender, religiosity, sociosexuality
Campbell, 2008	British television viewers ($N=1,743$)	Positive and negative "morning after" emotions	Cross-sectional	Gender
de Jong, Adams, & Reis, 2018	Female US college students ($N=203$)	Satisfaction with CSRE, positive and negative emotions	Longitudinal 5 weekly surveys	Motives
DeLuca, Claxton, Baker, & van Dulmen, 2015	College-attending and non-college-attending US young adults ($N=246$)	Satisfaction with CSRE	Longitudinal 5 daily surveys; 1-month follow-up	Gender, college status, peer approval, peer communication
Eshbaugh & Gute, 2008	Female US college students ($N=152$)	Regret	Cross-sectional	
Fielder & Carey, 2010a	Female US college students ($N=118$)	Enjoyment, regret	Cross-sectional	
Fisher, Worth, Garcia, & Meredith, 2012	Canadian college students ($N=200$)	Sexual regret	Cross-sectional	Gender, alcohol use
Galperin et al., 2013	Heterosexual and homosexual men and women (N s from 200 – 24,230 in three studies)	Regret	Cross-sectional	Gender, sexual orientation
Gusarova, Fraser, & Alderson, 2012	Canadian college students ($N=281$)	Perception that CSRE was positive or negative experience	Cross-sectional	Gender, reasons for entering a friends with benefits relationship
Kennair, Bendixen, & Buss, 2016	Heterosexual Norwegian college students ($N=263$)	Regret	Cross-sectional	Gender, sociosexuality, worry, physical gratification
Kennair, Wyckoff, Asao, Buss, & Bendixen, 2018	US and Norwegian college students ($N=218$)	Regret	Cross-sectional	Gender, worry, disgust, sexual competence, sexual pressure, sexual initiative, physical gratification
LaBrie, Hummer, Ghaidarov, Lac, & Kenney, 2014	US college students ($N=828$)	Contentment/satisfaction	Cross-sectional	Partner familiarity, alcohol use
Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012	US college students ($N=1,468$)	Positive and negative emotional reactions	Cross-sectional	Gender, hooking up attitudes, partner type, sexual behavior type, alcohol use
Lyons, Manning, Longmore, & Giordano, 2014	US adolescents ($N=239$)	Regret	Longitudinal Four waves with 12–24-month follow-ups	Gender
Mark, Garcia, & Fisher, 2015	US adults ($N=6,955$)	Sexual and emotional satisfaction	Cross-sectional	Gender, sexual orientation
Montes, Blanco, & LaBrie, 2017	US college students ($N=589$)	Negative consequences of CSREs	Cross-sectional	Friends' attitudes, own attitudes, motives
Montes, Napper, Froidevaux, Kenney, & LaBrie, 2016 ^a	US college students ($N=271$)	Negative consequences of CSREs, negative affect	Cross-sectional	Motives

Citation	Sample	Emotional variable(s) assessed	Cross-sectional or longitudinal	Moderators/predictors explored
Napper, Montes, Kenney, & LaBrie, 2016 ^a	US college students (<i>N</i> = 607)	Negative consequences of CSREs, psychological distress	Cross-sectional	Gender, unprotected sex
Owen & Fincham, 2011a ^a	US college students (<i>N</i> = 500)	Positive and negative emotional reactions, psychological distress	Cross-sectional	Gender, hope for future relationship, sexual behavior type, condom use, alcohol use
Owen & Fincham, 2011b ^a	US college students (<i>N</i> = 889)	Positive and negative emotional reactions, psychological distress	Cross-sectional	Gender, hope for future relationship
Owen, Rhoades, Stanley, & Fincham, 2010 ^a	US college students (<i>N</i> = 832)	Positive and negative emotional reactions, psychological well-being	Cross-sectional	Gender, attitudes toward hooking up, alcohol use
Paul & Hayes, 2002	US college students (<i>N</i> = 187)	Feelings during a typical hookup (e.g., proud, regretful)	Cross-sectional	Gender
Snapp, Ryu, & Kerr, 2015	US college students (<i>N</i> = 250)	Positive and negative emotional reactions, overall satisfaction with the hookup	Cross-sectional	Gender, motives, sexual self-concept, relationship with partner
Strokoff, Owen, & Fincham, 2015 ^a	US college students (<i>N</i> = 879)	Positive and negative emotional reactions, depressive symptoms, loneliness	Cross-sectional	Gender, sexual behavior type
Townsend & Wasserman, 2011	US college students (<i>N</i> = 696)	Worry-vulnerability	Cross-sectional	Gender
Townsend, Wasserman, & Rosenthal, 2015	US college students (<i>N</i> = 194)	Worry-vulnerability	Cross-sectional	Gender, sexual attitudes
Uecker & Martinez, 2017	College students (<i>N</i> = 13,028)	Regret	Cross-sectional	Gender, relationship with partner, sexual behavior type
Uecker, Pearce, & Andercheck, 2015	US college students (<i>N</i> = 1,219)	Regret	Cross-sectional	Gender, race/ethnicity
Vasilenko, Lefkowitz, & Maggs, 2012	US college students (<i>N</i> = 209)	Positive and negative short-term emotional reactions	Longitudinal 14 daily surveys	Gender
Victor, 2012	US college students (<i>N</i> = 172)	Positive and negative emotional reactions	Cross-sectional	Actual/ideal self-discrepancy, actual/ought self-discrepancy
Wesche, Claxton, Lefkowitz, & van Dulmen, 2018	College-attending and non-college-attending US young adults (<i>N</i> = 192)	Positive and negative emotional reactions	Cross-sectional	Gender, relationship with partner, sexual behavior type, college status
Wesche, Lefkowitz, & Vasilenko, 2017	US college students (<i>N</i> = 269)	Positive and negative short-term emotional reactions	Cross-sectional	Relationship with partner, sexual behavior type
Zimmer-Gembeck, See, & O'Sullivan, 2015	Australian women recruited through university (<i>N</i> = 364)	Positive and negative emotional reactions	Cross-sectional	Sexual subjectivity, romantic satisfaction, perceived negative influence of alcohol/drugs on sex, condom use
EMOTIONAL HEALTH				
Bancroft et al., 2003	Gay-identified men who have sex with men (<i>N</i> = 589)	Depression proneness, anxiety	Cross-sectional	

Citation	Sample	Emotional variable(s) assessed	Cross-sectional or longitudinal	Moderators/predictors explored
Bersamin et al., 2014	US college students ($N=3,907$)	Psychological well-being, psychological distress	Cross-sectional	Gender
Black, Kaminsky, Hudson, Owen, & Fincham, 2019 ^a	College students ($N=377$)	Anxiety	Longitudinal 2-month follow-up	Post-event processing, positive and negative reactions, level of intoxication
Carrotte, Vella, Hellard, & Lim, 2016	Australian music festival attendees ($N=1,345$)	Poor mental health	Cross-sectional	
Deutsch & Slutske, 2015	Mono- and dizygotic twins in the US ($N=357$ twin pairs)	Depressive symptoms, suicidal ideation	Longitudinal 6-year follow-up	Gender
Dubé, Lavoie, Blais, & Hébert, 2017a	Canadian high school students ($N=2,601$)	Psychological distress, self-esteem, suicidal ideation	Longitudinal 6-month follow-up	Gender
Dubé, Lavoie, Blais, & Hébert, 2017b	Canadian high school students ($N=2,304$)	Psychological distress, self-esteem, suicidal ideation	Longitudinal 6-month follow-up	Gender, sexual behavior type
Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009	Young adults ($N=1,311$)	Self-esteem, depressive symptoms, suicidal ideation	Cross-sectional	
Fielder & Carey, 2010b	US college students ($N=140$)	Self-esteem, depressive symptoms	Longitudinal 10-week follow-up	Gender, sexual behavior type
Fielder, Walsh, Carey, & Carey, 2013	Female US college students ($N=483$)	Self-esteem, depressive symptoms	Longitudinal 9 monthly surveys	
Fielder, Walsh, Carey, & Carey, 2014	Female US college students ($N=483$)	Depressive symptoms	Longitudinal 13 monthly surveys	
Furman & Collibee, 2014	US young adults ($N=185$)	Internalizing symptoms, self-esteem	Longitudinal Follow-ups at 2.5, 4, and 5.5 years	Gender
Gonçalves et al., 2017	Brazilian adolescents ($N=737$)	Depressive symptoms	Longitudinal Follow-ups at 4 and 7 years	
Grello, Welsh, & Harper, 2006	US college students ($N=382$)	Depressive symptoms	Cross-sectional	Gender
Grello, Welsh, Harper, & Dickson, 2003	US adolescents ($N=2,344$)	Depressive symptoms	Longitudinal 1-year follow-up	
Lin, Lee, & Yang, 2017	Men seeking HIV test in Taiwan ($N=850$)	Depressive symptoms, suicidal ideation	Cross-sectional	Condom use
Manning, Longmore, & Giordano, 2005	US high school students ($N=7,470$)	Self-esteem	Cross-sectional/longitudinal ^b 1.5-year follow-up	Gender, age
Manning, Longmore, Copp, & Giordano, 2014	US adolescents ($N=324$)	Depressive symptoms, self-esteem	Longitudinal 6-year follow-up	
Manthos, Owen, & Fincham, 2014	College students ($N=339$)	Depressive symptoms, loneliness	Longitudinal 10-week follow-up	Reasons for CSREs
Mendle, Ferrero, Moore, & Harden, 2013	US adolescent sibling pairs ($N=1,551$ pairs)	Depressive symptoms, clinical depression	Cross-sectional	Age
Monahan & Lee, 2008	US adolescents ($N=6,602$)	Depressive symptoms	Longitudinal Follow-ups at 1–2 years and 6 years	
Owen, Fincham, & Manthos, 2013	US college students ($N=308$)	Loneliness, depressive symptoms	Cross-sectional	Relationship with partner
Owen, Fincham, & Moore, 2011	US college students ($N=394$)	Depressive symptoms, loneliness	Longitudinal 4-month follow-up	Initial depressive symptoms, loneliness, sexual behavior type

Citation	Sample	Emotional variable(s) assessed	Cross-sectional or longitudinal	Moderators/predictors explored
Parsons, Halkitis, Wolitski, & Gomez, 2003	HIV+ men who have sex with men ($N = 367$)	Anxiety, depressive symptoms, loneliness	Cross-sectional	Sex without a condom, sexual behavior type
Paul, McManus, & Hayes, 2000	US college students ($N = 555$)	Self-esteem	Cross-sectional	Gender
Sandberg-Thoma & Kamp Dush, 2014	US adolescents and young adults ($N = 12,401$)	Suicidal ideation, depressive symptoms	Longitudinal 6-year follow-up	Gender
Schwartz et al., 2011	US college students ($N = 9,515$)	Well-being	Cross-sectional	Gender
Siebenbruner, 2015	Female US college students ($N = 255$)	Depressive symptoms, anxiety, self-esteem	Cross-sectional	Sexual behavior type
Shulman, Scharf, Ziv, Norona, & Welsh, 2019	Israeli adolescents ($N = 144$)	Positive and negative affect	Longitudinal 4-year follow-up	
Shulman, Seiffge-Krenke, & Walsh, 2017	Israeli high school students ($N = 144$)	Tendency to suppress emotions	Longitudinal 7-year follow-up	
Townsend, Jonason, & Wasserman, 2019	US college students ($N = 284$)	Depressive symptoms, self-esteem	Cross-sectional	Gender, motives
Vasilenko & Lefkowitz, 2018	US college students ($N = 364$)	Positive and negative affect	Longitudinal 6 periods of 14 daily surveys	Perceived short-term consequences of sex
Vrangelova, 2015 ^a	US college students ($N = 528$)	Depressive symptoms, anxiety, self-esteem	Longitudinal 9-month follow-up	Motives
Vrangelova, 2015 ^b	US college students ($N = 666$)	Depressive symptoms, anxiety, self-esteem, life satisfaction	Longitudinal 3-month follow-up	Gender, relationship length, sexual behavior type
Vrangelova & Ong, 2014	US college students ($N = 371$)	Depressive symptoms, anxiety, self-esteem, life satisfaction	Longitudinal Weekly surveys across one college semester; 9-month follow up	Gender, sociosexuality
Wesche, Walsh, Shepardson, Carey, & Carey, 2019	Female US college students ($N = 477$)	Positive and negative affect	Longitudinal 12 monthly surveys	
Woerner & Abbey, 2017	US college students ($N = 585$)	Positive and negative affect	Cross-sectional	Gender role beliefs, peer approval, sexual assertiveness, sexual pleasure, negative perceptions of others who engage in casual sex

Note.

^aThese articles also examined emotional health outcomes.

^bAlthough this paper used data from a longitudinal study, it does not measure change in self-esteem.