

**CASUAL SEX AMONG EMERGING ADULTS: A NEW MEASURE OF CASUAL SEX
AND ITS RELATION TO WELL-BEING**

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Statement of Co-Authorship

I am the major contributing author of this dissertation and led the study planning, application for ethics' review, data collection, and writing of the manuscripts. My thesis supervisor, Dave Miranda, served as a thesis supervisor throughout the completion of the doctoral dissertation. He contributed by helping me with the confirmatory factor analyses (CFAs) on Mplus and the writing of the results pertaining to the CFAs. My supervisor also provided me with feedback that was incorporated in the manuscripts of the two studies, the general introduction, and the general discussion.

Summary

Casual sexual relationships and experiences (CSREs) are a common phenomenon experienced by the majority of emerging adults attending college and university. Despite researchers' increased interest towards the topic of casual sex in recent years, there is a lack of validated psychometric measures that operationalize different types of CSREs and an absence of uniformity in the definitions of casual sex. Few studies distinguish clearly between different types of CSREs and few studies include a balanced approach when considering well-being outcomes (i.e., negative and positive markers). The first study of this dissertation aimed to bridge the research gap through the development and validation of the Casual Sex Experiences Scale (CASEX), which measures frequency of four types of CSREs (one-night stands, booty calls, fuck buddies, and friends with benefits). The CASEX's validity (factorial, convergent, divergent) and reliability (internal consistency) were tested in two independent samples. The results indicated that the CASEX can indeed measure the four aforementioned types of CSREs. In the second study, we examined how those four types of CSREs were related to well-being in consensual sexual interactions in a cross-sectional study. We included positive and negative markers of well-being. Moreover, we tested whether the relation between CSREs and well-being was moderated by sociosexual attitudes. We derived hypotheses from the theory of cognitive dissonance related to the potential moderating effect of sociosexual attitudes. Participants reported a coexistence of negative and positive well-being outcomes related to CSREs (e.g., positive and negative emotions during and following casual sex). In most cases, sociosexual attitudes did not moderate the relationships between CSREs and well-being outcomes. However, a notable exception was that sociosexual attitudes moderated relationships between CSREs and emotions experienced during and following casual sex, which was expected from the theory of cognitive dissonance. As hypothesized, the relationship between casual sex and negative emotions during and

following casual sex was stronger in those participants with less sociosexual attitudes. Nonetheless, some results refuted our hypotheses, for instance, some relationships between casual sex and positive emotions during and following casual sex were stronger in those participants with less sociosexual attitudes. In other words, casual sex seemed to have been less of an emotional experience (positive or negative) in those with more sociosexual attitudes. Overall, this dissertation provides initial evidence in favour of the validity and reliability of the CASEX, which can enable to understand more nuanced relationships between experiences of casual sex and well-being among emerging adults. Findings deepened the understanding of the role of sociosexual attitudes in the relations between different types of CSREs and well-being markers.

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CHAPTER 1
General Introduction

Casual sexual relationships and experiences (CSREs, Claxton & van Dulmen, 2013) are a common phenomenon among emerging adults (18-25 years of age; Armstrong et al., 2009; Arnett & Tanner, 2006; Claxton, 2021; Garcia & Reiber, 2008). Researchers have reported that the majority of emerging adults, in particular those who attend college/university, have experienced a CSRE (Allison & Risman, 2014; Garcia et al., 2012). CSREs - also commonly referred to as hookups or casual sex, are sexual encounters that are not part of a committed romantic relationship (Paul & Hayes, 2002), meaning that partners are not calling each other boyfriend or girlfriend. Partners have an understanding that they are seeing each other for the sexual experience, be it on a shorter-term (one-night stand) or a longer-term basis (fuck buddies, friends with benefits). Levels of emotional intimacy may vary between CSREs (lower in one-night stands and higher among friends with benefits). The degree of familiarity of CSRE partners can also vary, such as that they might not know each other at all (e.g., during a one-night stand) or may have been friends before becoming sexual partners (friends with benefits), or developed some friendship through sex (fuck buddies).

Researchers and society alike have been concerned as to whether CSREs impact emerging adults' well-being (e.g., Uecker & Martinez, 2017, Vrangalova & Ong, 2014; Heldman & Wade, 2010; Bogle, 2008). Notably, researchers have investigated depression and anxiety symptoms, feelings of regret following CSREs, and physical health-related risks, such as contraction of sexually transmitted infections (STIs, van Empelen & Kok, 2006; Downing-Matibag & Geisinger, 2009). CSREs have also been often discussed in the media, be it in newspapers reflecting societal concerns (e.g., "Casual Sex: Everyone is Doing It" in *The New Yorker*, by Konikova, 2016; "Where's the love?" in an article in the *Globe and Mail* by Bielski, 2013) or informing the public about the hookup landscape (e.g., "Health Agencies Offer Tips on

Sex During the Pandemic” by Gross & Moses, 2020 in *The New York Times*; and “New research reveals a dramatic shift in how Canadians have changed their approach to sex this year” by DeMontis, 2021, in the *Toronto Sun*).

Research on casual sex among emerging adults is important, because the majority of that population engages in casual sex. Psychosocial factors such as societal norms and values about sexuality can influence health behavior (Ogden, 2012). Sex can be taboo (Jonason et al., 2011). This might contribute to avoidance coping and hesitancy to seek information about CSREs; and diminish proactive coping, such as asking for information from reliable sources. Emerging adults may benefit from information about diverse types of casual sex and whether perhaps some are more or less beneficial to people who engage in them, so that they can take more informed decisions about the types of experiences they want to seek out and relationships they develop (e.g., increasing sense of autonomy and personal efficacy; Rosenstock et al., 1988). In the bigger picture, this could be linked to improvement of the emerging adult’s population mental health, if they are provided with information to minimize potential negative outcomes and maximize positive ones.

Four Distinct Types of Casual Sexual Relationships and Experiences

There is evidence that there might be four kinds of casual sexual relationships that are most prevalent among university students: ‘one-night stands’, ‘booty calls’, ‘fuck buddies’, and ‘friends with benefits’ (Wentland & Reissing, 2014). Below, the four types are described, as drawing from literature. While various studies have their own definitions, these four types are the ones that have been identified with some specific characteristics, which can serve as a conceptual canvas on which one can draw factorial structure and content validity to develop a psychometric (self-report) measure of CSREs. Thus far, much of the evidence for the definition of those four

types of CSREs come from qualitative studies. Notably, those four types of CSREs have not yet been assessed conjointly through psychometrics in the same study.

A one-night stand consists of a casual sexual encounter that is spontaneous, unplanned, and without commitment of reconnecting with the other person (Campbell, 2008). There is no future commitment from the part of the partners involved. Typically, the partners know each other very little or not at all (e.g., a friend of a friend or a stranger; Wentland & Reissing, 2011). For example, two people meet while on a trip and have sex at a convenient location. They do not know their full names, nor plan to see each other again.

A booty call is characterized by the use of technology for communicating between casual sex partners for sexual encounters that occur within a short time following the communication. The casual sex partners make themselves available for sexual encounters between each other and contact each other when they feel a strong need for sex (Jonason et al., 2011), often the day of or the night of the encounter. For example, they communicate that they want to have sex by calling, texting, or messaging the other person (Wentland & Reissing, 2014). Booty calls restrict communication to sex. For example, while being at a baseball game with her friends, a woman texts her booty call to meet her after the game to have sex.

Fuck buddies gradually develop some friendship due to the fact that they started and continue to have sex together. Fuck buddies are not in a romantic relationship. When they hang out, they do so mostly for sex (Wentland & Reissing, 2014). For example, two people who did not know each other at the beginning started meeting only for sex. On their fourth sexual encounter, they decided to play a board game together. On their following encounters, they spent most of the time on sexual activities and occasionally did another pleasant activity together.

Friends with benefits are friends who trust each other and engage in casual sexual activities. They were friends before starting to have sex together. Their friendship has “the extra benefit” of sexual activity (Jonason, 2013). Friends with benefits do not exclusively see each other for sex. As an example, two old friends decide, after meeting for coffee, to have sex at one of their homes. They do not refer to each other as girlfriend or boyfriend and have the understanding that they do not form a couple (they are not in a committed romantic relationship with each other).

The History and Context of Casual Sex

Historically, several events appear to have contributed to the popularity of casual sex. Reay (2014) argues that although the term “casual sex” was not necessarily employed prior to the 1960s to describe casual sex, individuals most likely still engaged in it. It is thought that the availability of contraceptive methods such as the pill in the 1960s, combined with co-ed dormitories, and with the freedom that comes with the lack of parental supervision on campus were all favorable conditions for casual sex (Bogle, 2008; Garcia et al., 2012).

Nevertheless, Netting and Reynolds (2018) noted that casual sex has not yet become the most prevalent sexual relationship since the 1980s. They found that the trend from 1980 to 2010 for male students was, in fact, that committed relationships have become the most prevalent relationship in which sex occurs. For female students, however, there was an increase of 8 % for the *friends with benefits* CSRE type between 1980 and 2010. Although there was a drop in the percentage of women in committed relationships, it still remained the most prevalent type of relationship in 2010 (Netting & Reynolds, 2018).

Moreover, there appears to be a general trend of lower frequency of sex overall among emerging adults (Twenge et al., 2017) between the year 2000 and 2014. Similar drops were

observed by Ueda and colleagues (2020) between the years 2000 and 2018. South and Lei (2021) propose in their review of data provided by 2810 emerging adults (aged 18-23) that there appears to be a relationship between lower frequency of casual sex and the reduction of alcohol consumption (for both males and females); and increase in video gaming for males. Living with one's parents also seems to be a contributing factor for the decline of casual sex among males (South & Lei, 2021). Although there seems to be a decline of CSREs in recent years, CSREs remain a common experience for emerging adults (Claxton, 2021).

Emerging adulthood is the period of development between the ages of 18 and 25 (Arnett, 2007) during which emerging adults are in a transition period between adolescence and adulthood. Given that they may not be entirely financially stable or have completed their education, they are not "settled down" in most areas of life, which also include sexual relationships (Claxton & van Dulmen, 2013). As they are considered as adults, their sexuality is no longer considered as a risky behaviour, as compared to how it is defined for adolescents. The emerging adult population is also the main one in the context of university campuses. Therefore, casual sex was *de facto* primarily researched in emerging adults, even if emerging adulthood is not always stated explicitly by authors as a developmental period of prime interest.

Indeed, Halpern and Kaestle (2014) noted that the emerging adulthood framework has not been employed much in sexuality research. During this developmental period, emerging adults may have the opportunity to try different sexual experiences before making longer term commitments seen as more characteristic of middle adulthood (Halpern & Kaestle, 2014). Therefore, casual sex appears to be part of that general tendency towards exploration. For example, Ravert (2009) found that, among other things, emerging adults consider casual sex as an experience that college students want to have during college before "it is too late".

Additionally, Owen and colleagues (2013) noted that the experience of casual sex may provide valuable information to the person engaging in it, especially for developing their sense of sexual preferences and areas that may be a challenge in sexual encounters and relationships (e.g., communication and comfort about sexual behaviours).

The campus environment is part of the context in which casual sex occurs for emerging adults, as they experience CSREs during their years at university. Up to 80% of university students report having had casual sex during their higher education (Garcia et al., 2012). The most popular venues for CSREs are parties, dorms or fraternity houses, and lastly, any convenient, available place (Paul & Hayes, 2002). A typical scenario of a hookup is two people meeting at a party either on campus or close to campus and deciding to have some kind of sexual experience together (Garcia et al., 2012).

CSREs are also present in the media and given that emerging adults spend a significant amount of time per day using or being exposed to media, it has been suggested that media portrayal of CSREs might influence engagement in CSREs (Claxton & van Dulmen, 2013). Scripts shown in the media are often thought to influence the ones in real life (Heldman & Wade, 2010). For example, Timmermans and Van den Bulck (2018) did a qualitative analysis of popular shows such as *Sex and the City* and *Gossip Girl* and found that 49% of sex-related scenes occurred within a casual sex context.

Moreover, such media portrayal might shape perceived social norms by influencing the extent to which a young adult thinks that their peers are engaging in CSREs. Through the theory of reasoned action (TRA; Ajzen & Fishbein, 1980), it can be hypothesized that an individual is more likely to engage in CSREs if they perceive that their social environment (friends, fellow students, society) accepts and values casual sex. Additionally, a psychological bias, being the

concept of pluralistic ignorance, is thought to contribute to the social norm of casual sex. College students tend to somewhat overestimate their peer's experience with casual sex (Paul & Hayes, 2002) and their peer's comfort with casual sex (e.g., Chia & Lee, 2008; Reiber & Garcia, 2010).

Motivations for Casual Sex

In a recent study by McKeen and colleagues (2022), the five motives for casual sex that participants were the most in agreement with for men were: sexual pleasure, sexual satisfaction, enjoyment, fun, and sexual gratification; and for women: enjoyment, fun, sexual pleasure, physical attraction, and sexual satisfaction. This was a sample of diverse adult ages, however, and not specific to emerging adults.

Armstrong and Reissing's (2015) sample of women comprised of mainly university students described their top 5 motivations for casual sex to be being turned on by physique, casual sex feeling good, feeling 'horny', experiencing physical pleasure, and the desirable physical appearance of the casual sex partner. In a sample of emerging adults, Vrangalova (2015) noted that autonomous motivations for engaging in casual sex (such as pleasure, learning opportunity, and importance of having the experience) were significantly higher than non-autonomous ones (e.g., feel better or avoid negative emotions, for somebody else's benefit, or for an unrelated-to-sex personal benefit) for both men and women. Overall, it appears that intrinsic motivation for casual sex is the most common among emerging adults. They choose to engage in casual sex for the pleasure of the experience of casual sex itself, in alignment with their values (Wongsomboon et al., 2022).

Motivations and Well-being

Research findings appear to support the Self-Determination Theory (SDT; Ng et al., 2012), which posits that outcomes vary in function of whether one's motivation is autonomous,

controlled, or absent (amotivation). There appears to be a trend in which nonautonomous motivations tend to be associated with negative outcomes (McKeen et al., 2022; Vrangalova, 2015; Wongsomboon et al., 2022). For example, Vrangalova (2015) found that non-autonomous motivation for casual sex for men was associated with lower self-esteem, symptoms of depression, and anxiety. In her sample, however, this was not statistically significant for women. In fact, there was also an increase in self-esteem for participants who had casual sex.

A more recent article by Wongsomboon and colleagues (2022) was also in line with the SDT. Women who had autonomous motivation about casual sex reported more orgasms, whereas women with nonautonomous motivation reported fewer orgasms. In terms of negative emotional outcomes, when the motivation for engaging in casual sex was to cope with difficult negative emotions; there was a relation with negative emotions felt after casual sex (e.g., loneliness, unhappiness; McKeen et al., 2022). However, participants who endorsed having casual sex as a coping strategy for dealing with negative emotions possibly did not feel a resolution to the source of the negative emotion (i.e., using sex as avoidance coping).

Sociosexuality

Sociosexuality is a concept coined by Simpson and Gangestad in 1991, and more recently revisited by Penke and Asendorpf in 2008, who revised a measure of sociosexuality which assesses one's sociosexual orientation (Sociosexual Orientation Inventory - Revised, SOI-R; Penke & Asendorpf, 2008). Sociosexual orientation combines an individual's attitudes about uncommitted sex, past behaviour related to casual sex (one-time sexual encounters, number of different partners), and desire for uncommitted sex (fantasies and arousal; Penke & Asendorpf, 2008). Sociosexual orientation is thought to be on a continuum between unrestricted (liberal attitudes towards casual sex, desire for, and experience with casual sex) and restricted

sociosexuality (conservative view on casual sex, few or no casual sex partners, and low desire to engage in casual sex; Penke & Asendorpf, 2008).

There is evidence of unrestricted sociosexuality being related to casual sex behaviours. For example, sociosexuality and the motivation to use Tinder for casual sex were found to be significantly ($p < .01$) and strongly correlated in both men ($r = .50$) and women ($r = .48$; Sevi et al., 2018). Individuals with permissive sociosexuality tended to use mobile casual dating applications more (Botnen et al., 2018), and there was higher condom use for more sociosexually unrestricted persons (Gana & Arshakyan, 2023). Moreover, levels of sociosexuality were moderating testosterone levels among men and women who were either in a romantic relationship, or single (Edelstein et al., 2011). Sociosexually unrestricted men who were in a committed relationship but had high levels of desire for uncommitted casual sex had testosterone levels similar to those of single men. Women who were in a committed relationship and had more experience with casual sex behaviour had testosterone levels similar to those of single women (Edelstein et al., 2011).

Researchers have also explored the relationship between sociosexuality and well-being. Vrangalova and Ong (2014) tested a model in which sociosexuality was hypothesized to moderate the relationship between the experience of casual sex and well-being. Indeed, participants who had casual sex and scored high on the SOI-R seemed to experience some benefits (i.e., higher self-esteem, lower anxiety and depressive symptoms), but those who scored low on the SOI-R did not experience change in life satisfaction and self-esteem. Additionally, there was no significant difference between participants who did not engage in CSREs and participants with restrictive sociosexuality who engaged in CSREs (Vrangalova & Ong, 2014). However, men with a restrictive view of sexuality experienced more anxiety on weeks that they

had casual sex. This was not the case for women, for whom the link was not significant. In another study, individuals with anxious attachment who experienced parental rejection as children experienced less guilt about casual sex if they had a more unrestricted sociosexual orientation (Hackathorn & Malm, 2021). In sum, it appears that sociosexuality is a predictor of casual sex, but perhaps also a moderator of the links between casual sex and well-being.

Cognitive Dissonance and Sociosexuality

Sociosexuality, in particular the attitudes domain, has rarely been explicitly studied as a variable that could be theoretically related to the theory of cognitive dissonance. According to the theory of cognitive dissonance, when there is a discrepancy between a person's beliefs and a person's behaviour, and when this discrepancy is in the person's awareness, it should lead to psychological discomfort or so-called dissonance (Festinger, 1957). The felt dissonance can serve as a motivator to make psychological changes to re-equilibrate to consonance. Harmon-Jones and Mills (2019) noted that this can be achieved through avoidance of dissonance (e.g., distraction), addition of consonant elements (e.g., "Sex without love is ok, because I was not cheating."), reduction of importance of dissonant cognitions (e.g., "I had *only one* one-night stand, it is not so bad."), and increase of the importance of consonant cognitions (e.g., "It is important for me to explore new things and learn more about my sexuality.").

One's awareness of the event (behaviour) that triggered the dissonance (e.g., having a one-night stand while having restricted sociosexual attitudes) tends to be associated with more dissonance (Harmon-Jones & Harmon-Jones, 2012). Hence, the more recent the event, the more dissonance individuals might experience. Another variable that can increase dissonance is when a decision is considered difficult to make (Brehm, 2007). This can be the case when there is a perceived cost to the options (e.g., "If I do not engage in casual sex, my friends will think less of

me.”; “If I engage in casual sex, I might feel bad because I think sex without love is not ok.”).

When researching effects of cognitive dissonance, it may be pertinent to contextualize questions in the frame of the event that may have been a cause for dissonance and to consider if the event may be enough of importance to the individual.

When the theory of cognitive dissonance was published, it was put to the test in different paradigms. The theory was general enough that it inspired researchers of various fields of psychology to use and test it in their studies. Since its creation, the theory of cognitive dissonance has been applied and experimented many times in diverse contexts, and well-supported (Brehm, 2007).

Based on the theory of cognitive dissonance, it is possible to posit that individuals with restrictive sociosexual orientation who experience a CSRE might feel such dissonance (cognitive and emotional discomfort) because engaging in CSRE would be contrary to their beliefs, which may lead to negative emotional (e.g., shame, guilt) and cognitive (e.g., “I should not be doing this. I failed at upholding my beliefs.”) experiences. Conversely, those who are sociosexually unrestricted might not feel such dissonance because their attitude would be aligned with their sexual behaviour, which in turn would leave more space for the experience of positive emotion. For example, participants in Hackathorn and Malm’s (2021) study felt less guilt about casual sex if their sociosexual orientation was permissive. Of note is that Hackathorn and Malm’s (2021) sample was very specific (anxiously attached adults who experienced rejection from parents as children) and it is possible that it may not generalize to most emerging adults.

Impact of Casual Sex on Well-being

The common prevalence of casual sexual relationships and experiences among emerging adults has stirred heated debates about whether their well-being is affected or not by casual sex

(Petersen & Hyde, 2010; Vrangalova, 2014). Well-being can be defined, for instance, as the absence of psychological distress and the presence of happiness (Diener et al., 1999). According to Diener and colleagues (2018), subjective well-being is the judgment that a person makes of lived experiences as overall more positive and less negative. Those interpretations can be cognitive (e.g., life satisfaction) and emotional (i.e., felt affect, Diener et al., 2018).

Some researchers found that casual sex experiences had a significant influence on well-being, whereas others did not. In a recent systematic review by Wesche and colleagues (2021) on the topic of outcomes of casual sex, the authors noted that overall, people subjectively perceived CSREs as being more positive than negative experiences. Researchers have studied various outcomes of CSREs on emerging adults' well-being, some positive (e.g., feeling desirable, being excited, having fun; Owen & Fincham, 2011), and some negative (e.g., depressive symptoms, regret, risk of STIs; Deutsch & Slutske, 2014, Downing-Matibag & Geisinger, 2009; Fielder & Carey, 2010b). This nuanced perspective contrasts with early articles on casual sex, which tended to focus on negative outcomes, in particular for women (e.g., Campbell, 2008; Paul & Hayes, 2002; Townsend & Wasserman, 2011). Overall, research findings on well-being and casual sex are mixed and thus appear to be complex. However, it appears important to study both positive and negative well-being markers because research findings to date point to the presence of both.

Research on Negative Outcomes

Deutsch and Slutske (2014) made an important contribution to the literature by studying if there was a link between casual sex and depressive symptoms among twins from adolescence to young adulthood ($n = 714$). They did not find a link in their genetically-informed analyses between the experience of casual sex in adolescence and depressive symptoms (including

suicidal ideation) in emerging adulthood. Fielder and Carey (2010a) studied, among others, depressive symptoms and casual sex through a semester. It appears that female students who had casual sex *prior* to college experienced more psychological distress than those who did not have any experience or compared to those who had their first casual sex experience since the beginning of the semester. On the other hand, experiencing distress did not predict casual sex behaviour. This could mean that early casual sex history may predispose to psychological distress; but psychological distress does not necessarily contribute to engagement in casual sex.

Another group of researchers (Owen et al., 2011) found a difference between emerging adults with depressive symptoms who felt lonely and had casual sex versus emerging adults who had depressive symptoms but did not engage in casual sex. Those who engaged in casual sex felt less lonely and less depressed than those who had not had casual sex. However, emerging adults with less depressive symptoms and loneliness at the beginning of the semester (at baseline) and who then hooked up during the semester, experienced more depressive symptoms and loneliness at follow-up (Owen et al., 2011).

Fisher and colleagues (2012), in their investigation of feelings of regret following an uncommitted sexual encounter, noted that the majority of participants who had an uncommitted sexual encounter experienced regret afterwards. Participants also disclosed that if they did not experience physical pleasure, they were more likely to say that they regretted the uncommitted sexual encounter. Participants had to pick reasons for regretting from two categories, being emotional and physical reasons. An interesting finding was that if the quality of the sexual encounter was highly satisfactory, participants rarely reported regret. A more recent study on regret conducted by Alpert (2022) reported that the majority of women in their sample (68% out

of 191 women) tended to experience more regret following a “one-time experience with a sex partner”. However, their study focused on women, therefore no data on men were provided.

Alcohol consumption prior to casual sex was found to be related to discontent following casual sex among women (LaBrie et al., 2014). Unfamiliarity with sex partners was also related to discontent following CSREs (LaBrie et al., 2014), where sex with unfamiliar partners led to feelings of regret for female participants. Unfortunately, whether the casual sex encounters reported by participants were consensual or not was not assessed in this study. The authors raised it as a limitation, in particular for the contexts that were related to negative experience (i.e., alcohol consumption and unfamiliarity of sex partner).

A major health concern is the inconsistent use of protection against STIs during casual sex. For example, Downing-Matibag and colleagues (2009) found that protection during oral sex was almost never used. As for vaginal intercourse, they found that participants did not always have protection on hand as the casual sexual encounters were not always planned (e.g., one-night stands). Indeed, emerging adults classified as ‘casual sex risk takers’ (i.e., having three or more casual sex partners; having one-time partners, having debuted casual sex before age 18) are more likely to have a diagnosed STI (Lyons, 2017). However, Lyons (2017) noted that when other factors are controlled (e.g., binge drinking), the emerging adults who engaged in “low risk” casual sex were not more likely to have an STI than those who did not engage in casual sex. Moreover, Lehmler and colleagues (2014) found that friends with benefits partners had safer sex practices and more communication about sex outside of the friends with benefits relationship, as compared to partners in committed romantic relationships.

Positive outcomes of casual sex did not appear to be as widely examined in studies on casual sex as were negative outcomes. It is more recently that researchers have started to look at

both ends of the well-being spectrum, not solely focusing on the negative aspects but also on the positive ones (Vrangalova, 2015). Moreover, Vrangalova (2015) has criticized the way well-being has been assessed in studies of casual sex until now, underlining that important positive aspects of well-being have not been included.

Research on Positive Outcomes

Emerging adults rated their CSREs as being more positive than negative of an experience in some samples (Snapp et al., 2015; Owen & Fincham, 2011), and reported that casual sex was an experience that they wanted to have (Lewis et al., 2012). In a study comparing emerging adults who had sex with a committed partner versus a casual partner, Eisenberg and colleagues (2009) did not find a difference in well-being (having assessed body satisfaction, self-esteem, depressive symptoms, and suicidal ideation).

Vrangalova (2015) included measures of life satisfaction and self-esteem to evaluate positive outcomes of casual sex among emerging adults. She found that engaging in casual sex led to higher life satisfaction among women, and higher self-esteem for both genders. Owen and colleagues (2013) developed a questionnaire for quantifying both positive and negative reactions to casual sex within a sample of female emerging adults. In their study, participants (all women) experienced more positive than negative reactions in terms of developing their sexual identity and feeling more engaged socially and even academically.

It has been suggested that different types of casual sexual relationships may have different influences on well-being (Claxton & van Dulmen, 2013; Vrangalova, 2015). For example, the sexual satisfaction of a CSRE might depend on the level of knowledge of a given partner. A more prolonged relationship with the sexual partner (e.g., friends with benefits, fuck buddies) may provide more sexual pleasure to the partners due to better communication, and

maybe stronger emotional connection between partners (Wentland & Reissing, 2011). On the other hand, shorter casual sexual relationships, such as one-night stands, are characterized by less emotional intimacy. Indeed, in a more recent study, Alpert (2022) reported that the majority of women in their sample tended to experience more regret following a “one-time experience with a sex partner”, which resembles the definition of one-night stand CSRE.

Moreover, communication - more specifically the degree of clarity of the nature of the relationship - is thought to be important to the well-being of emerging adults. The clearer the expectations are between the casual sex partners (e.g., not expecting to be monogamous or that the relationship will evolve to a romantically committed one), the less disappointment (and subsequent feelings of sadness) they may experience (Wentland & Reissing, 2014).

Segovia and colleagues (2019) studied the link between attachment styles and outcomes related to the last sexual experience that participants had. Although their sample was specific to the adult population and this dissertation pertains to emerging adults, Segovia and colleagues’ study is one of the few that considers all four types of CSREs identified by Wentland and Reissing (2011). Segovia and colleagues (2019) studied whether CSRE types moderated the association between attachment and well-being outcomes. They ordered sexual experiences into a commitment continuum from less to more commitment, with sex within committed romantic relationships as the highest commitment point of the continuum. The study revealed that individuals with anxious attachment tended to have an overall negative experience of CSREs. On the other hand, low anxiety and low avoidance attachment styles were associated to more physical pleasure and positive emotions. For individuals with avoidant attachment, the type of relationship moderated well-being outcomes where the more intimate the relationship, the more

negative emotions were experienced. However, participants with avoidant attachment reported high levels of sexual pleasure with fuck buddies.

Gender Considerations

Overall, there seems to be an agreement that young adult men tend to report more casual sex experience than women (Petersen & Hyde, 2010; Eisenberg et al., 2011; Owen & Fincham, 2011; Schwartz et al., 2011). This discrepancy may be possibly attributed to the presence of the sexual double standard, which may incite women to report less casual sex experience. Another explanation for that discrepancy between men and women could be that women who have casual sex may engage in casual sex with several casual sex partners. Petersen and Hyde (2011) note that males are more inclined towards a permissive sexual attitude, thus being more accepting of casual sex than females. On the other hand, in the media, Timmermans and Van den Bulck (2018) found that female characters were the ones who initiated casual sex more often on screen (on popular TV shows) than male characters.

A sexual double standard is sometimes discussed in the casual sex literature. It refers to the difference between how casual sex experience affects a man's versus a woman's social reputation. For men, casual sex experience tends to be seen as socially reinforcing (e.g., higher status among friends), whereas for women, it tends to be the opposite - peers shame for it and a woman's status may be threatened (Crawford & Popp, 2003). Allison and Risman (2013) found that 12% of their undergraduate student sample endorsed the traditional double standard (as explained above), and 13% upheld a reversed double standard (shamed men but not women for 'excessive' casual sex). The majority (almost half) viewed having a lot of casual sex as equally shameful for both genders, and about a quarter were permissive towards both genders. These perceptions of casual sex are thought to have an impact on those who engage in casual sex by

hindering their well-being (Armstrong, England, & Fogarty, 2012). Although the sexual double standard appears to be less present over recent years, it is still existent and upheld by some (Allison & Risman, 2013; Wongsomboon et al., 2022).

Overall, findings are mixed between studies in regard to the impact of gender on well-being following casual sex. Some studies have focused on women, taking for an assumption that overall, there are more costs associated to short-term mating for women than for men (e.g., pregnancy and child-rearing, if unwanted; Baumeister & Twenge, 2002; Wade & Heldman, 2012). Grello and colleagues (2006) have found that women with casual sex experience were more likely to have depressive symptoms, whereas men with casual sex experience had the least depressive symptoms. Similarly, in the Fisher and colleagues' study (2012), women reported more feelings of regret than men following casual sex, although the reasons given for that regret did not differ between genders. According to the systematic review conducted by Wesche and colleagues (2021), women tended to report negative emotional outcomes as related to casual sex, such as feelings of regret (e.g., Bendixen et al., 2017), and lesser emotional and sexual satisfaction than men (e.g., Mark et al., 2015).

On the other hand, Vrangalova's (2015) results indicated few impacts of casual sex on well-being and, when they occurred, greater well-being in women and lower well-being in men was found. The author theorizes that this might be explained by the fact that the majority of the sample's political ideology was liberal (as per the demographic data provided) and that women had access to contraception. Vrangalova suggested that there may be a generational effect, in which among more recent generations, CSREs may be viewed as more acceptable and even empowering (Moran & Lee, 2014) for women. Further, Napper and colleagues (2016) did not find any gender differences as to negative mental health consequences of casual sex. Likewise,

Lewis and colleagues (2012) did not find gender differences among emotional reactions (including positive and negative affect) to casual sex experience.

Gaps in the Research about CSREs

A first important but understated complication to the issue of studying the impact of casual sex on well-being is that, when reviewing the literature, no measure of different types of CSREs has been empirically validated. Bible and colleagues (2022) have recently published a review of hookup definitions used in research and noted that few studies about casual sexual behaviour acknowledge and address that there are different possible types of CSREs. This is in contradiction with the fact that emerging adults can report a wide variety of casual sexual relationships (Wentland & Reissing, 2014). This is very problematic given that the absence of a valid, reliable, and multidimensional CSREs' measure casts doubts on the accuracy of research findings to date. In other words, we have to make sure that we are really measuring CSREs with sufficient pertinence, breadth, and precision. In fact, the absence of standard measures in research often leads to results and conclusions that are difficult to rely on and to compare across studies (Schwarz, 1999).

A second tendency that may provide a bias in the portrayal of CSREs is the smaller quantity of studies that examine both positive and negative consequences on emerging adults' well-being. Oftentimes, studies have focused on possible negative consequences (e.g., Tholander & Tour, 2022; Uecker & Martinez, 2017; Deutch & Slutzke, 2014) but seldom have considered potential positive outcomes (e.g., Mark et al., 2015; Vrangalova, 2015). This imbalance may lead to believe there are more negative than positive effects on well-being; whereas in fact there is not as much data present on the potential positive effects (Shepardson et al., 2016). Given that an important portion of emerging adults tend to report a positive experience of CSREs (Claxton,

2021), it is important to study CSREs within a model that considers both positive and negative consequences on well-being.

A third crucial shortcoming of research on casual sex is that there is seldom a specification of the consensual nature, or absence thereof, of the CSREs. Of course, it is an important matter when studying well-being outcomes. Indeed, women who felt pressured to have sex in a CSRE reported experiencing more negative outcomes (McKeen et al., 2022) and women who have experienced sexual assault in adulthood have higher prevalence of psychiatric disorders compared to those who have not (Mullen et al., 1988). Moreover, men and women were found to be more likely to meet criteria for a major depressive disorder, anxiety disorders, and substance use disorders (Burnam et al., 1988) following an instance of sexual assault as adults.

Terminology Problem

The more specific concepts of one-night stands, booty calls, fuck buddies, and friends with benefits have relatively recently emerged in research, meaning that past studies have not taken much into account the differences and subtleties of the variety of casual sex experiences (Bible et al., 2022, Wentland & Reissing, 2014). Indeed, comparison between studies is difficult given the different meanings attributed by researchers to the variety of casual sex terms (Vrangalova, 2015). For example, some employ the term “hookup” interchangeably with “one-night stand” (Paul et al., 2000) while others use “hookup” as an all-encompassing term (Olmstead et al., 2013). In parallel, student participants may themselves have their own understanding of the terms used by researchers, especially if they have not been defined in the questionnaire (e.g., Van der Drift et al., 2012). Banker and colleagues (2010) noted that college students had a variety of understandings of sexual relationships, sometimes qualified by the

absence of a certain characteristic (e.g., without love, no attachment, no commitment) to somewhat of a continuum (e.g., seeing someone twice or thrice to have sex). Ensuring a clear and consistent use of casual sex terminology, as well as providing operational definitions to participants, is a central goal of the present dissertation.

The Present Dissertation

This dissertation consists of two studies striving to help bridge the aforementioned research gaps. The first study, *Initial Validation of the Casual Sex Experiences Scale (CASEX): A New Measure of Casual Sexual Experiences in Emerging Adulthood*, responds to the gap that, to our knowledge, there is *no validated measure* of CSREs that operationalizes different types of CSREs. In the first study, we described the development and validation of a new measure of different types of casual sex that we created, called the Casual Sex Experiences Scale (CASEX). Results of confirmatory factor analyses are reported from two independent samples, as well as indices of reliability and construct validity.

The second study, *Consensual casual sex and well-being among emerging adults*, is in response to the above-mentioned shortcomings of past research, which are 1) the small amount of studies that include a balanced approach when measuring well-being, i.e., including negative and positive markers of well-being; 2) few studies that distinguish clearly between different types of CSREs, and 3) scarcity of indicating whether questions about casual sex pertain to consensual CSREs. In the second study, we examined how diverse types of consensual CSREs are related to well-being (including positive and negative markers), but more specifically how this relation may be moderated by sociosexual attitudes. Additionally, in the second study, more examination of the validity of the CASEX was performed.

Lastly, overall findings, limitations, implications, and future research directions are presented in the general discussion; within a developmental perspective of emerging adulthood and a nuanced approach to sexuality and well-being.

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CHAPTER 2

Initial Validation of the Casual Sex Experiences Scale (CASEX): A New Measure of Casual Sexual Experiences and Relationships in Emerging Adulthood

Abstract

Previous qualitative studies have suggested the existence of at least four types of casual sexual relationships and experiences (CSREs) reported by emerging adults, namely one-night stands, booty calls, fuck buddies, and friends with benefits (Wentland & Reissing, 2011, 2014). However, no self-report scale has to date been created that permits to quantitatively measure the aforementioned CSRE types. The main aim of this study was to quantitatively test the multidimensionality of CSREs and to provide researchers with a valid and reliable tool for measuring casual sex through the creation and validation of a measure of CSREs, the *Casual Sex Experiences Scale – the CASEX*. Two independent samples of emerging adults attending university were collected ($n=429$ and $n=224$). We performed confirmatory factor analyses (CFAs) across two independent samples and tested internal reliability, and convergent and divergent validity of the scale. The results indicated that casual sex behaviour among emerging adults can indeed be quantitatively distinguished into four types: one-night stands, booty calls, friends with benefits, and fuck buddies. The CASEX demonstrated encouraging psychometric properties as it showed acceptable and close to replicable factorial, convergent, and divergent validity across both samples. The internal consistency of the CASEX was also good in our two independent samples. The CASEX may help researchers to clarify and nuance findings related to CSREs types in future studies.

Casual sexual relationships and experiences (CSREs, Claxton & van Dulmen, 2013) - also commonly referred to as 'hookups' - are sexual encounters that are not part of a committed romantic relationship such as boyfriend/girlfriend/life partner (Paul & Hayes, 2002). Sexual partners involved in CSREs have an understanding that they are seeing each other for the sexual experience, be it on a short-term (one-night stand) or a longer-term basis (friends with benefits). They might not know each other at all (e.g., during a one-night stand) or may have been friends before becoming sexual partners (e.g., friends with benefits). CSREs appear to be an important aspect of relationships among emerging adults (18-25 years of age; Armstrong et al., 2009; Arnett & Tanner, 2006; Garcia & Reiber, 2008). For instance, approximately three out of four university students would engage in casual sexual relationship experiences, although such estimates differ across studies (Grello et al., 2006). Casual sex is not a new concept, but in recent years, more attention seems to have been drawn on it in research and the media (Bible, 2022; Fielder & Carey, 2010).

An important question that researchers have been aiming to answer is whether CSREs impact well-being (e.g., Hehman & Salmon, 2020; Bendixen et al., 2017; Mark et al., 2015; Vrangalova & Ong, 2014). Researchers have investigated several outcomes of casual sex, such as depressive symptoms, feelings of regret following CSREs, and contraction of STIs (Alpert, 2023; van Empelen & Kok, 2006; Downing-Matibag & Geisinger, 2009). However, there has been a pervasive problem in the field of research on casual sex: the absence of a standardized measure and a unified definition used by researchers for different types of CSREs (Bible et al., 2022).

This is problematic because the absence of a valid, reliable, and multidimensional CSREs' measure puts into question the precision of research findings to date. The absence of

standard measures in research can lead to unreliability of results and to conclusions that are difficult to compare across studies and to generalize to the population (Schwarz, 1999). It would be important to measure CSREs with sufficient precision and reliability.

Thus far, few studies about casual sexual behaviour acknowledge and address that there are different types of CSREs (Bible et al., 2022). Yet, emerging adults have reported a variety of casual sexual relationships (Wentland & Reissing, 2011 & 2014). Unfortunately, the diverse nature of CSREs is seldom distinguished in studies. Operational definitions for different types of casual sex are oftentimes omitted from questionnaires. And when there are definitions, they can greatly differ across studies. For instance, Gute and Eshbaugh (2008) used the definition of a hookup provided by a previous study (Paul et al., 2000). On the other hand, Eisenberg and colleagues (2009) asked participants to pick a category that best describes their last partner type (e.g., stranger, exclusive dating partner, spouse). Also, Shepardson and colleagues (2016) asked participants to think of “physical intimacy with a casual partner, defined as “someone whom you were not dating or in a romantic relationship with at the time of the sexual interaction, and there was no mutual expectation of a romantic commitment”, (p. 217). This absence of both valid and diversified questions describing different casual sexual behaviours may heighten interpretational bias from the results. This was highlighted by Bible and colleagues (2022) in a recent review of hookup definitions used in research.

Different types of CSREs (e.g., one-night stands vs. friends with benefits) may contribute differently to the well-being of emerging adults. For instance, in shorter-term CSREs, such as one-night stands, it is possible that a person who engages more frequently in that behaviour encounters several different individuals and may be exposed to physical and mental health risks (e.g., viruses, regret) and yet also potentially positive outcomes (e.g., boost of self-esteem,

excitement). In longer-term CSREs, such as friends with benefits, the positive and negative outcomes may differ from those of shorter-term CSREs. Possibly, some perceived benefits may be the convenience and trust between sexual partners; whereas some costs may be increased worry (e.g., about the nature of the relationship, potential changes to the friendship chemistry or to peer group dynamics).

Four Kinds of Casual Sexual Relationships and Experiences

Wentland and Reissing (2014) identified four kinds of casual sexual relationships that university students defined and distinguished: one-night stands, booty calls, fuck buddies, and friends with benefits. Below, the four types are described, as drawing from the literature. While various studies have their own definitions, these four types are the ones that have been identified with some specific characteristics, which can serve as a canvas on which one can draw a psychometric model (factorial structure and construct validity) for a new self-report measure of CSREs. However, the empirical evidence for those four types of CSREs comes from qualitative studies and has not yet been tested quantitatively through psychometrics.

A *one-night stand* consists of an unplanned occasion where two people engage in casual sex without the intention of seeing each other again (Campbell, 2008). No commitment from the part of the partners is involved. It can be described as spontaneous and typically, the partners know each other very little or not at all (e.g., a friend of a friend or a stranger; Wentland & Reissing, 2011). For example, two people meet for the first time at a large party and decide to have sex at a nearby convenient location. They do not plan to see each other again and they may not know each other's names.

A *booty call* is when two persons make themselves available for sexual encounters between each other and typically communicate via technology. They contact their booty call

when they feel a strong need for sex (Jonason et al., 2011), often the day of or the night of the encounter. For example, they communicate that they desire sex via calling, texting, or messaging the other person (Wentland & Reissing, 2014). The booty callers only communicate about and meet for sex. For example, while having supper with her friends, a woman texts her booty call to meet her after supper to have sex.

Fuck buddies are persons who started to have sex together, then gradually developed some form of friendship after their sexual encounter(s). However, fuck buddies are not in a romantic relationship. When they hang out, it is mostly for sex (Wentland & Reissing, 2014). For example, two people who did not know each other at the beginning started meeting only for sex. On their fourth sexual encounter, they decided to watch a movie together. Following that, they mostly met for sex but occasionally did other activities.

Friends with benefits are characterized by a pre-existing friendship and an established trust. That friendship has an added component of sexual activity (Jonason, 2013), which has advantages of convenience and consistency (VanderDrift et al., 2012). Friends with benefits' expectations about levels of commitment and emotional availability are lower than in a romantic relationship (Machia et al., 2019). Friends can still see each other for purposes other than sex and maintain a friendship. For example, two good friends decide, among other activities, to also meet to have sex. They both understand that it is not a committed romantic relationship and do not call each other boyfriend or girlfriend.

Terminology Problem

Wentland and Reissing (2011, 2014) made an important contribution to the field of study of casual sex by clearly defining specific types of CSREs (one-night stands, booty calls, fuck buddies, and friends with benefits). However, not many researchers have integrated the variety of

CSREs in their studies, and studies prior to Wentland and Reissing's did not make many distinctions either. Terminology referring to casual sex employed by researchers varies in between studies, such as using the term "hookup" to mean "one-night stand" in some studies (e.g., Paul et al., 2000) or "any CSRE" in other studies (e.g., Olmstead et al., 2013). Moreover, emerging adults participating in studies could interpret those terms in their own way without a clear definition (e.g., Van der Drift et al., 2012). As Bible and colleagues (2022) noted, it is clear that there needs to be better consistency of casual sex definitions across studies.

The Present Study: Towards a New Measure of Casual Sex

This study focuses on an initial validation of a new measure of casual sex that was developed by the present authors, called the Casual Sex Experiences Scale (CASEX, see Appendix A). We aimed to respond to the need of a validated measure of CSREs that represents a repertoire of at least four different casual sex behaviours. Thus, we developed items pertaining to one-night stands, booty calls, friends with benefits, and fuck buddies, which is inspired by the four main categories that young adults have reported in qualitative research (Wentland & Reissing, 2014). We hope that this measure will help researchers to clarify and nuance conclusions brought by research on casual sex, differentiate outcomes depending on the type of casual sexual behaviour, and enable participants to better understand their engagement in different types of casual sex.

Scale Development

The content validity of the items for the Casual Sex Experiences Scale (CASEX) was drawn from a theoretical framework identified in previous research, which included four distinct CSREs identified in the literature. The four types of CSREs were inspired by readings of the literature of casual sex, more specifically influenced by Wentland and Reissing's (2011, 2014)

qualitative observations of four types of casual sexual relationships and experiences. It was also inspired by Claxton and van Dulmen's (2013) review of CSREs in emerging adulthood, which highlighted three CSREs that have been differentiated from the umbrella term 'hook up' (i.e., friends with benefits, booty calls, and one-night stands). For the one-night stands category, the main elements that we wanted to highlight were the brevity, element of unknown, and lack of expectations for a future contact. For the booty calls category, the core ideas we wanted to reflect in the items were the spontaneous use of technology as a means of communication between the casual sex partners, the immediacy, and availability of booty calls. For the fuck buddies' category, we made stand out the development of friendship through casual sex interactions, and the laid-back and fun aspect contributing to repetition of encounters between fuck buddies. Lastly, for the friends with benefits category, the main characteristics we wanted to vehicle through the items were a pre-existing friendship, as well as the element of trust and safety between friends with benefits. For all items, participants are instructed to answer in terms of frequency of the behavior over the last 6 months, on a scale from 1 (not at all), 2 (1 time), 3 (2 times), 4 (3-6 times), 5 (7-10 times), 6 (11-15 times), and 7 (16+ times). These response options offer more precision as compared to descriptive frequency options of a typical Likert-type scale (e.g., very often, often, sometimes, never).

The items of the CASEX were written by the first author. They were then presented at lab meetings and lab members' feedback (including that of the co-author, four graduate and two undergraduate students) was incorporated in the wording of items. At the time of the lab consultation, four of the lab members were emerging adults themselves and helped with re-wording items to have better face validity. Thereafter, authors sought feedback from three researchers in psychology who have expertise in research on sexuality.

Validity Testing and Hypotheses

Convergent Validity. The American Psychological Association's dictionary of psychology defined convergent validity as: "the extent to which responses on a test or instrument exhibit a strong relationship with responses on conceptually similar tests or instruments" (American Psychological Association, 2023). We chose measures with theoretical construct similar to the CASEX to test the convergent validity of the CASEX. Further descriptions of the psychometric properties of the chosen measures can be found in the measures section. The Behavior subscale of the Socio-sexual Orientation Inventory-Revised (SOI-R; Penke & Asendorpf, 2008) was chosen because it comprises three behavioural items about casual sex, and the CASEX is a behavioural measure. We expect the CASEX to be positively correlated with the behavioural subscale of the SOI-R, in which higher scores indicate higher engagement in casual sex. We also chose the Sexual Abstinence Behavior Scale (SABS; Norris et al., 2003), which we hypothesized would negatively correlate with the CASEX.

Due to a lack of behavioural measures of casual sex, we chose to add measures of attitudes that are theoretically related to the CASEX, namely the Permissiveness subscale of the Brief Sexual Attitudes Scale (BSAS; Hendrick, Hendrick & Reich, 2006) and the Sexual Attitude Scale (SAS; Hudson, Murphy, & Nurius, 1983). We hypothesize that the CASEX will be negatively correlated with the BSAS' Permissiveness subscale and the SAS because the lower the scores, the more permissive the attitudes (for both scales).

We also used measures of personality traits to measure convergent validity of the CASEX. A few personality traits were shown to be correlated with casual sex behaviour (Gute & Eshbaugh, 2008). We used the conscientiousness and extraversion sub-scales from the Big Five Inventory (BFI-2; Soto & John, 2017) and we expect conscientiousness to be negatively

correlated with the CASEX and extraversion to be positively correlated with the CASEX as was found by Gute and Eshbaugh (2008).

Discriminant Validity. The American Psychological Association defines discriminant validity as: “the degree to which a test or measure diverges from (i.e., does not correlate with) another measure whose underlying construct is conceptually unrelated to it” (American Psychological Association, 2023). We chose two scales that should be conceptually unrelated to the CASEX to test its discriminant validity: the Social desirability Scale (Marlowe-Crowne Social Desirability Scale; SDS; Crowne & Marlowe, 1960) and the Pro-Environmental Behavior Scale (PEBS; Markle, 2013). The social desirability scale was chosen as it is a common measure used for discriminant validity testing in social psychology (e.g., Crowell et al., 1996; Bäckström & Björklund, 2020). The pro-environmental behavior scale was chosen because it was a behavioural scale as well, that, to our knowledge, has no theoretical link to casual sex behaviour. For example, an emerging adult might use public transportation and decrease their meat intake independently of their casual sexual behaviour. For the CASEX to have a good discriminant validity, it should not have a significant correlation with the above-listed scales.

Method

Samples and Procedure

This study was conducted with English-speaking or bilingual (French and English) participants because the available research from which the content validity of the scale was developed was conducted mostly with anglophone samples. Data for the first sample of our study was collected during the winter semester of 2020 (January-April), whereas data for the second sample was collected in the fall semester of 2020 (September-December).

Both samples consisted of undergraduate university students who were recruited online through their university's integrated system for participation in research, from which undergraduate students from first-year level courses are eligible to participate in a study of their choice or complete an alternative activity. Participants provided informed consent prior to filling out the questionnaires. They received the compensation of one percent towards their overall grade in their course after completing our online survey, which they could complete at any time online from their preferred location on their own device. This study received ethical approval from the research ethic's board of the University of Ottawa. Participants' answers were automatically anonymized through the online recruitment system prior to data collection, as they participated with a research numeric code.

We excluded participants from the samples if they did not respond correctly or did not respond at all to one of the three validation questions verifying whether they were paying attention to the survey ($n=8$ in sample 1, $n=19$ in sample 2). Validation checks permit to distinguish between participants who may want to get the compensation but do not respond attentively to the questionnaires; or who simply may have been distracted while responding (Kung, Kwok, & Brown, 2018). Kung and colleagues (2018) also tested whether attention items influence validity of scales, and they noted that it was not the case.

Participants who did not report their age were removed from the samples ($n=43$ in sample 1, and $n=23$ in sample 2). Participants who reported an age outside of the age limits for our study (i.e., outside of the ages of 18 to 25) were also removed ($n=1$ in sample 1, and $n=75$ in sample 2). Participants who responded inconsistently (i.e., if they reported no casual sexual partners in the last 6 months but then endorsed items on the CASEX questionnaire) about their casual sexual experiences ($n=39$ in sample 1, $n=22$ in sample 2) were not included in the analyses. Participants

who had not responded to at least one item per scale were removed ($n=31$ in sample 1, $n=2$ in sample 2). In sum, our final sample size was $n=429$ for sample 1 and $n=224$ for sample 2. After the aforementioned steps, there were 0.1 % of missing data in sample 1 and 0.1 % of missing data in sample 2. We replaced missing values for each item with the mode.

Demographics

Sample 1. Participants included in our analyses were emerging adult students aged between 18 to 25 years old. In our first sample ($n=429$, winter 2020), the majority of students were in the faculty of social sciences (38%), followed by the faculty of health science (26.6 %), science (18.2 %), arts (9.8 %), management (4.2 %), engineering (2.1 %), and education (0.5 %). However, 0.7 % of participants did not respond to the question about their field of study.

Overall, 336 participants identified as women, 91 as men, and 2 as trans men. In terms of sexual orientation, 344 participants reported being heterosexual, 47 mostly heterosexual, 12 homosexual, 6 mostly homosexual, 11 bisexual, 7 pansexual, 1 questioning, and 1 asexual. Participants had diverse ethnic backgrounds. Some identified as being either White/Caucasian or European ($n=253$), East Asian ($n=42$), Black/Caribbean or African ($n=32$), a member of a mix of ethnic groups ($n=24$), Middle Eastern (Arab) ($n=18$), South Asian ($n=17$), Latino ($n=8$), North-African ($n=8$), Aboriginal ($n=5$), or as belonging to another ethnic group ($n=22$). In total, 271 participants were first-year students, 112 second-year, 23 third-year, and 23 fourth-year students. The age distribution of participants can be found in Table 1. The average age was 19.1 years ($SD=1.36$).

The majority of participants had engaged in casual sex over the last 6 months (71%). The average number of different casual sex partners was 1.74 ($SD=2.81$). However, 17 participants did not disclose the amount of different casual sex partners they had over the last 6 months. The

most frequent CSRE was friends with benefits with a mean of 6.37 on the CASEX ($SD=4.59$), whereas the least frequent CSRE was fuck buddies ($\bar{x}=4.90$, $SD=3.05$). One-night stands had a mean of 5.73 ($SD=3.05$) and booty calls had a mean of 5.38 ($SD=3.73$).

Sample 2. In our second sample ($n=224$, fall 2020), the majority of students were in the faculty of social sciences (36.2 %), followed by the faculty of health science (30.4 %), science (17 %), arts (5.4 %), engineering (2.7 %), education (2.7 %), and lastly, the faculty of management (1.3 %). Nonetheless, 4.5 % of participants did not provide an answer as to their program of study. Overall, 183 participants identified as women, 37 as men, and 4 as gender-fluid/queer. In terms of sexual orientation, 170 participants reported being heterosexual, 30 mostly heterosexual, 8 as homosexual, 4 mostly homosexual, 7 bisexual, 2 pansexual, and 3 asexual. A total of 137 participants reported being White/Caucasian or European, 16 Middle Eastern, 15 Black/Caribbean or African, 14 South Asian, 13 East Asian, 12 of mixed ethnicities, 7 Latino, 3 North-African, 2 Aboriginal, and 5 participants identified as belonging to a different ethnic group. In total, 162 participants were first-year students, 43 second-year students, 12 third-year students, and 7 fourth-year students. The age distribution of participants can be found in Table 2. The average age was 19 years ($SD=1.51$).

The majority of participants had engaged in casual sex over the last 6 months (60%). The average number of different casual sex partners was 1.19 ($SD=2.15$). Nonetheless, 14 participants did not disclose the amount of different casual sex partners they had over the last 6 months. The most frequent CSRE was friends with benefits with a mean of 5.88 on the CASEX ($SD=4.41$), whereas the least frequent CSRE was fuck buddies ($\bar{x}=4.17$, $SD=2.14$). One-night stands had a mean of 5.73 ($SD=3.12$) and booty calls had a mean of 5.38 ($SD=2.91$).

Measures

Casual Sex Behavior. Casual sex behavior was measured with the Casual Sex Experiences Scale (CASEX), which is a 22-item original measure developed by the authors. The CASEX measures four types of casual sexual experiences, namely: One-night stands (7 items), booty calls (5 items), friends with benefits (5 items), and fuck buddies (5 items). Participants are instructed to indicate, for each item, the total number of times that they had casual sex over the last 6 months, with the same person and/or with different people. They are asked to indicate their answer on a seven-point scale that represents the frequency of casual sex experiences (Never, 1 time, 2 times, 3-6 times, 7-10 times, 11-15 times, 16+ times). In our study, it was specified that we refer to consensual sexual encounters.

Given the purpose of validation of the questionnaire and the testing of the hypothesis of a four-factorial structure of the CASEX, we presented items of the CASEX to participants in a randomized order. The order of item presentation for the online survey was decided by using a random number generator (*random.org*). The CASEX measure, with items in order of the hypothesized casual sexual behaviour category, can be found in Appendix A.

In both samples, participants have provided answers to the CASEX thinking retrospectively about how frequently they engaged in CSREs over the last 6 months. In the first sample, participants filled the survey during the winter semester of 2020, between the months of January and April. In the second sample, participants answered the survey between the months of September and December 2020 (i.e., during the Covid-19 pandemic).

Convergent Validity.

Sociosexual behaviour. The Behavior subscale of the Socio-sexual Orientation Inventory-Revised (SOI-R; Penke & Asendorpf, 2008) was used to measure sociosexual behaviors. It is comprised of three items referring to past sexual behaviour (e.g., “With how

many different partners have you had sexual intercourse on one and only one occasion?”). Participants responded by selecting the corresponding number of partners they have had on a 9-point scale ranging from 0 to 20 or more. Higher scores are indicative of more sociosexual behaviour. Previous studies have reported good internal consistency (Cronbach’s α of .84) and test-retest reliability (Penke, 2011). In our study, the internal consistency was of a McDonald’s ω =.87 in the first sample and of ω =.90 in the second sample.

Permissive Sexual Attitudes. The Permissiveness subscale of the Brief Sexual Attitudes Scale (BSAS; Hendrick et al., 2006) was used to measure permissive sexual attitudes. The subscale consists of ten items (e.g., “The best sex is with no strings attached”) that are rated from A (Strongly agree with statement) to E (Strongly disagree with the statement). Higher scores indicate more conservative sexual attitudes. The internal consistency of the Permissiveness subscale was of α =.93 in Hendrick and his colleagues’ study (2006). In our first sample, the internal consistency was ω =.87, and in our second sample - ω =.89.

Sexual Abstinence. The Sexual Abstinence Behavior Scale (SABS; Norris et al., 2003) measures a person’s frequency of abstinence cognitions and behaviors. It has four items framed in a question fashion (e.g., “How often in the past 6 months did you say no to sex?”). Participants answer in terms of frequency, from “never” to “more than once a week”. Higher scores indicate more frequent abstinence cognitions and behavior. Norris and colleagues (2003) reported an internal consistency of α =.73. In our study, the Macdonald’s omega was .70 and .66 in the first and second sample, respectively.

Sexual Liberalism/Conservatism. The Sexual Attitude Scale (SAS; Hudson et al., 1983) is a measure of the level of conservative/liberal attitudes towards sexuality. There are 25 statements, such as “Extramarital sex is never excusable” and “I think people indulge in sex too

much”. Items are rated by participants on a five-point Likert scale, going from “1-Strongly disagree” to “5 Strongly agree”. Total scores vary on a continuum from 0 to 100, 0 representing complete liberal attitudes and 100 representing high conservative attitudes. The Cronbach alpha reported in Hudson and colleagues’ study (1982) was of .92. In our study, the internal consistency was of $\omega=.92$ and of $\omega=.91$ in the first and second sample, respectively.

Personality Traits. The Conscientiousness and the Extraversion subscales from the Big Five Inventory (BFI-2; Soto & John, 2017) were used. Both subscales contained 12 items rated from 1 (disagree strongly) to 5 (agree strongly). An example of an item from the Conscientiousness subscale is “I am someone who is dependable, steady”. An example of an item from the Extraversion subscale is “I am someone who is outgoing, sociable”. The internal consistency of the Conscientiousness subscale was of $\alpha=.85$ in Soto and John’s study (2017). The internal consistency of the Extraversion subscale that was reported by Soto and John (2017) was of $\alpha=.88$. In our study, the internal consistency of the Conscientiousness subscale was $\omega=.84$ in the first sample and $\omega=.79$ in the second sample. The internal consistency of the Extraversion subscale was $\omega=.84$ in the first sample, and $\omega=.83$ in the second sample.

Discriminant Validity.

Social Desirability. The Marlowe-Crowne social desirability scale (SDS; Crowne & Marlowe, 1960) measures to what extent participants present themselves in a positive light in social situations. The scale has 33 items, such as “I never hesitate to go out of my way to help someone in trouble”, that participants rate as true or false. Higher scores indicate higher social desirability. The internal consistency that Loo and Thorpe (2000) reported of the scale was $\alpha=.72$. In our study, in the first sample, the internal consistency was found to be $\omega=.73$, and in our second sample, it was $\omega=.72$.

Pro-Environmental Behavior. The Pro-Environmental Behavior Scale (Markle, 2013) is a self-report measure inquiring about actions that have an impact on the environment. It consists of 19 items (e.g., During the past year how often have you walked or cycled instead of driving?) that are rated on a combination of Likert scales and “yes” and “no” dichotomous answers. Higher scores indicate more pro-environmental behaviours. Markle reported a Cronbach’s alpha of .76. In our study, the Macdonald’s omega was .70 and .69 in the first and second sample, respectively.

Analyses

Confirmatory factor analyses (CFAs) with MLR were performed using Mplus. Pearson correlations and Cronbach alphas were computed with Jamovi 2.3.18. A four-factor model was tested in the CFAs because it derived from theory based on qualitative research, in which Wentland and Reissing (2014) highlighted four main types of CSREs. Confirmatory factor analysis can serve to confirm that previously theorized four-factor structure. Throughout the CFAs, we aimed to retain at least 3 items per factor. The criteria for an adequate model fit were a value of less than .08 for the root mean square error of approximation (RMSEA) and a Comparative Fit Index (CFI) of values equal to or above .95 (Hooper et al., 2008; Hu & Bentler, 1995). Item selection was informed by modification indices as suggested by Mplus and were also theory-driven to respect content validity.

Results

Descriptive Statistics

Detailed descriptive statistics per CASEX items can be found in Tables 3 to 10. The majority of the items had a response range between 1 (never) to 7 (16+ times). All items across both samples had the same mode and median, being 1 (never). The item with the highest mean in the first sample was item 22 with a mean of 2.44 (“I had sex with someone I have had sex with

before because we have a lot of fun in bed together.”), followed by item 15 with a mean of 2.41 (“I had sex with a friend and it felt safe.”) and then by item 16 with a mean of 2.32 (“I had sex with a friend and I knew we could trust each other.”). The item with the highest mean in the second sample was item 15 with a mean of 2.20 (“I had sex with a friend and it felt safe.”), followed by item 16 with a mean of 2.10 (“I had sex with a friend and I knew we could trust each other.”), and then by item 22 with a mean of 1.93 (“I had sex with someone I have had sex with before because we have a lot of fun in bed together.”).

The least endorsed item in the first and second sample was item 12 (“I had sex with a casual sex partner whom I contact when I ‘do not succeed’ to have sex with somebody else.”) with a mean of 1.24 and 1.12, respectively. It was followed by item 2 (I had sex with someone and I did not intend to contact this person) with a mean of 1.32 and 1.25, in sample 1 and 2 respectively. Then followed item 3 from the first sample with a mean of 1.41 (I had sex with someone and I did not expect that this person will contact me.) and item 18 from the second sample (“I had sex with a friend whom I got to know through casual sex.”) with a mean of 1.33.

Confirmatory Factor Analysis (CFA) of the CASEX in Sample 1

A flow chart summarizing item selection during CFAs can be found on page 95. First, we performed a CFA with the entire CASEX, including all of its 22 items. All standardized factor loadings, detailed for each step of the analysis, can be found in Table 12. At first, the expected four-factor model did not indicate a good fit to the data when using all 22 items: $\chi^2 = 760.663$, $df = 203$, $p < .0001$; CFI = .827; and RMSEA = .080; 90% CI [.074; .086], $p < .001$. Still, all factor loadings were significant for each of the 22 items ($p < .001$). Nonetheless, to improve the model fit, we decided to discard items 13 and 17 because each had at least two of the highest modification index scores in terms of cross-loadings.

Second, we conducted another CFA with the remaining 20 items of the CASEX. The expected four-factor model did not indicate a satisfying fit to the data with these 20 items: $\chi^2 = 517.698$, $df = 164$, $p < .0001$; CFI = .877; and RMSEA = .071; 90% CI [.064; .078], $p < .001$. However, all factor loadings were significant for each of the 20 items ($p < .001$). Nevertheless, we decided to further discard item 1 because by itself it yielded the three highest modification index scores in terms of cross-loadings.

Third, we performed another CFA with the remaining 19 items from the CASEX. The anticipated four-factor model did not indicate an acceptable fit to the data with these 19 items: $\chi^2 = 445.466$, $df = 146$, $p < .0001$; CFI = .891; and RMSEA = .069; 90% CI [.062; .077], $p < .001$. Yet, all factor loadings were significant for each of the 19 items ($p < .001$). Then, we decided to further discard items 6, 7, 12, 21, and 22 because they were too general or could have been somewhat ambiguous to interpret. Item 6, initially created under factor 1 – one-night stands, was removed due to the ambiguity of the wording which could make it difficult for participants to interpret a precise meaning. More specifically, knowing someone “very little” does not exclude that one may have frequent contact with the person. This frequency of contact could fall into the category of fuck buddies rather than one-night stands (e.g., sex with a co-worker one occasionally sees in the hallways would be a fuck buddy CSRE). Additionally, item 7 was removed from factor 1, as its meaning was redundant with items 5 and 6.

Item 12 was removed from factor 2 - booty calls, because it was theoretically different from the other items under this factor. The underlying motivation of the sexual experience (“when I do not succeed to have sex with somebody else”) was worded in the absence of another sexual contact, whereas the other items are positively worded (for presence of behavior or need).

Items 21 and 22 were removed from factor 4 – fuck buddies because their meaning was less specific to fuck buddies compared to the other items. Hanging out and having sex, from item 21, could apply to other casual sexual relationships. Having experienced previous sexual fun, from item 22, could also apply to booty calls or friends with benefits.

Fourth, we conducted another CFA with the remaining 14 items from the CASEX. The predicted four-factor model almost had an acceptable fit to the data with these 14 items: $\chi^2 = 164.839$, $df = 71$, $p < .0001$; CFI = .942; and RMSEA = .056; 90% CI [.044; .067], $p = .197$. All factor loadings were significant for each of the 14 items ($p < .001$). Subsequently, we decided to discard item 10 from factor 2 – booty calls, because the item's meaning (available anytime I need them for sex) could be comprised into item 11 (to satisfy my sudden urge/need to have sex).

Fifth, we conducted another CFA with the remaining 13 items of the CASEX. The theorized four-factor model indicated an acceptable fit to the data with these 13 items: $\chi^2 = 135.279$, $df = 59$, $p < .0001$; CFI = .946; and RMSEA = .055; 90% CI [.043; .067], $p = .242$. All factor loadings were significant for each of the 13 items ($p < .001$). Finally, the intercorrelations among the four factors of the CASEX ranged from medium to large in terms of effect size. More specifically, the strongest intercorrelation observed was between factor 2 – Booty calls, and factor 4 - fuck buddies. Factor intercorrelations can be found in Table 11.

Confirmatory Factor Analysis (CFA) for the CASEX in Sample 2

A flow chart of CFA steps taken during the analyses of the second sample can be found on page 96. First, we conducted a CFA with the 13-item version of the CASEX with Sample 2 given that these 13 items were found to have an acceptable fit to the data in Sample 1. All standardized factor loadings, detailed for each step of the analysis, can be found in Table 13. However, the expected four-factor model could not be tested with confidence as results yielded a

residual covariance matrix that was not positive definite. This statistical issue was likely due to item 15 because it had a negative residual variance, though it was not significant ($p > .05$). Item 15 also had a standardized factor loading that was slightly greater than 1 ($p < .001$).

Consequently, despite that we already used Maximum Likelihood Robust (MLR) estimates when performing CFA with Mplus, we postulated that this issue of negative residual variance might be resolved by further improving the normal distribution of the skewed data through a square root transformation for all 13 items.

Second, we conducted another CFA with the 13-item version of the CASEX with a square root transformation for all 13 items. Nonetheless, the anticipated four-factor model could not be tested with confidence as results still yielded a residual covariance matrix that was not positive definite. Again, item 15 maintained a non-significant negative residual variance ($p > .05$). Item 15 still had a standardized factor loading with factor 3 – friends with benefits that was slightly greater than 1 ($p < .001$). Therefore, we decided to proceed with the model estimation by fixing at zero the residual variance for item 15. We did not delete the item because we wanted to keep three items per factor as initially planned.

Third, we conducted a subsequent CFA with the 13-item version of the CASEX, with a square root transformation for all 13 items, but by fixing at zero the residual variance for item 15. The predicted four-factor model did not have an acceptable fit to the data: $\chi^2 = 118.824$, $df = 60$, $p < .0000$; CFI = .903; and RMSEA = .066; 90% CI [.049; .084], $p = .065$. All factor loadings were significant for each of the 12 items that were estimated in this CFA ($p < .01$). We opted to focus on modification index scores specific to cross-loadings, which indicated only one potential cross-loading as item 9 also seem to load on factor 4 – fuck buddies.

Fourth, we conducted another CFA with the 13-item version of the CASEX, with a square root transformation for all 13 items, by fixing at zero the residual variance for item 15, and by including a cross-loading for item 9 on factor 4 – fuck buddies. The theorized four-factor model did not have an acceptable fit to the data: $\chi^2 = 106.019$, $df = 59$, $p = .0002$; CFI = .923; and RMSEA = .060; 90% CI [.041; .078], $p = .185$. Factor loadings were significant for each of 11 items loading on their respective factors ($p < .001$), whereas item 9 no longer loaded significantly on factor 2 – booty calls ($p = .095$) but rather loaded significantly on factor 4 – fuck buddies ($p = .004$). The final 13 items kept were items 2, 3, 4, 5, 8, 9, 11, 14, 15, 16, 18, 19, and 20. Factor intercorrelations can be found in Table 11.

Convergent Validity

Sample 1. As predicted, the CASEX positively correlated with the Behavior subscale of the Socio-sexual Orientation Inventory-Revised ($r = .65$, $p < .001$); and negatively correlated with the Sexual Attitude Scale ($r = -.25$, $p < .001$) in which lower scores represented more liberal attitudes, the Permissiveness subscale of the Brief Sexual Attitudes Scale ($r = -.45$, $p < .001$) in which lower scores represented more permissive attitudes, and the Conscientiousness sub-scale from the BFI ($r = -.16$, $p < .001$), where we expected a negative correlation (lower levels of consciousness to be more related to casual sex behaviours). However, the Extraversion sub-scale did not significantly correlate with scores on the CASEX ($r = .09$, $p = .06$). The Sexual Abstinence Behavior Scale did not significantly correlate with the CASEX ($r = .09$, $p = .05$).

Sample 2. As predicted, the CASEX positively correlated with the Behavior subscale of the Socio-sexual Orientation Inventory-Revised ($r = .73$, $p < .001$); and negatively correlated with the Sexual Attitude Scale ($r = -.25$, $p < .001$), the Permissiveness subscale of the Brief Sexual Attitudes Scale ($r = -.42$, $p < .001$), and the Conscientiousness sub-scale from the BFI ($r =$

-.14, $p = .04$). The Extraversion sub-scale did not significantly correlate with scores on the CASEX ($r = .12$, $p = .08$). The Sexual Abstinence Behavior Scale did not significantly correlate with the CASEX ($r = .06$, $p = .35$).

Discriminant Validity

Sample 1. The CASEX negatively correlated with the Marlowe-Crowne social desirability scale ($r = -.19$, $p < .001$), and did not significantly correlate with the Pro-Environmental Behavior Scale ($r = -.03$, $p = .54$).

Sample 2. In this sample, the CASEX did not significantly correlate with the Marlowe-Crowne social desirability scale ($r = -.05$, $p = .45$), and with the Pro-Environmental Behavior Scale ($r = .10$, $p = .14$).

Reliability

The McDonald's omega was chosen as a measure of internal reliability. The CASEX had an internal consistency of $\omega = .91$ and $\omega = .88$ in the first and second samples of the study, respectively. The internal consistency of the One-night stand subscale is $\omega = .88$ (sample 1 and 2). The internal consistency of the Booty calls subscale is $\omega = .86$ (sample 1) and $\omega = .83$ (sample 2). The internal consistency of the Friends with benefits subscale is $\omega = .87$ (sample 1 and 2). The internal consistency of the Fuck buddies' subscale is $\omega = .74$ (sample 1) and $\omega = .66$ (sample 2).

Discussion

Factorial Validity

The main objective of this study was to create and validate a measure of casual sex behaviour that represents the diversity of casual sexual experiences. One of the main findings was that there indeed appeared to be a diversity of casual sexual experiences that stands out in a psychometric analysis of CSREs. An initial validation of the CASEX was conducted with two

independent samples. A confirmatory factor analysis that included all 22 items from the initial version of the CASEX revealed that all factor loadings were significant for each of the 22 items; however, the fit of the model was not satisfactory as per the known criterion of $CFI > .95$. Items that performed less well and that we deemed redundant or theoretically less strong were eliminated, for a final version of 13 items distributed between four factors; with a minimum of three items per factor. With this 13-item version, the theorized four-factorial model that included a range of CSREs (one-night stands, booty calls, friends with benefits, and fuck buddies) indicated a satisfactory fit, and all factor loadings were significant for each of the 13 items in our first sample.

The preceding finding was not replicated in the second sample of this study where the fit was above $CFI > .90$ (Bentler, 1990) but not as good as in the first sample or as recommended ($CFI > .95$) by Hu and Bentler (1999). Moreover, the residual variance for item 15 was set to zero for the final fit estimation of the model. Item 9 also unexpectedly loaded on factor 4 (fuck buddies) instead of factor 2 (booty calls). Item 9, “I had sex with a casual sex partner that I knew was likely to be immediately available for sex ‘on call’”, supposes availability of casual sex partner. Wentland and Reissing (2011) found that in general, definitions of booty call partners implied that they see each other somewhat less frequently than fuck buddies. However, the notion of quick availability in item 9 might render it close in meaning to frequency of contact between fuck buddies.

CFI calculations are supposed to account for sample size; however, the sample size in our second sample was about half of the size of the first sample. There is also an assumption that latent variables are not too strongly correlated when calculating CFI; however, factors in our study have some strong intercorrelations amongst them. Also, in the second sample, the

distribution of the data was not normal and much kurtosis was present, thus we employed a square root transformation of the data to conduct analyses.

Conceptual Validity

All measures used for convergent validity verification correlated in the expected directions in both of our samples, except for the extraversion personality trait and the sexual abstinence, which did not significantly correlate with casual sex. The behavioral subscale of the SOI-R had a strong significant correlation with the CASEX, indicative of a good conceptual validity of our scale, as the SOI-R also measures sexual frequency. Liberal sexual attitude scales (SAS, Permissiveness subscale from the BSAS) were also correlating with the CASEX. As found in previous studies (Allen & Walter, 2018; Jonason et al., 2015), the personality trait of conscientiousness was also negatively correlated with casual sex as measured by the CASEX in both samples.

In both of our samples, extraversion did not correlate with casual sexual experience reported over the last 6 months; whereas previous studies had found links between the personality trait of extraversion and casual sex (Gute & Eshbaugh, 2008; Judd et al., 2022). A potential explanation for that may be that the participants in our samples used online platforms to initiate contact, which may not necessitate higher degrees of extraversion. Possibly, online platforms were the main point of contact for our participants to initiate a sexual encounter during the pandemic. Indeed, this potential explanation would be in line with the trend of increased use of online dating platforms during the pandemic, which Qalati and colleagues (2022) have noted in their review of sexual behaviour during the pandemic.

Surprisingly, the Sexual Abstinence Behavior Scale (SABS) did not significantly correlate with the CASEX, whereas we had hypothesised that it would correlate negatively.

Sexual abstinence appears, from the results in our study, to be a different concept than casual sexual behaviour that is not necessarily its opposite. The four items of the SABS reflect avoidance, delay, and boundary setting about sexual behaviour (one cognitive and three behavioural). Possibly, in some contexts, participants decide to employ those behaviours, and in other contexts, they feel freer to engage in sexual behaviour, and the questionnaires administered do not account for such potential changes across contexts.

In terms of divergent validity, the Pro-Environmental Behavior Scale did not significantly correlate with the CASEX in neither of our samples, which distinguished the constructs which were not supposed to be theoretically nor empirically related in the first place. The Marlowe-Crowne social desirability scale had a significant negative correlation with the CASEX in our first sample; and did not significantly correlate with the CASEX in our second sample. The significant negative correlation of $-.19$ may potentially indicate a slight link between the concept of casual sex that seems to relate to less social desirability. Indeed, people who tend to be more socially desirable also tend to be more conscientious (Borkenau & Ostendorf, 1989), which in turn could explain the link with less casual sex, as high conscientiousness tends to be negatively correlated with casual sex (Jonason et al., 2015). Nevertheless, as the correlation between the CASEX and the Marlowe-Crowne social desirability scale was less than moderate in size, and negative in valence, it was still an indication that the CASEX and the social desirability scale measured distinct concepts.

Reliability

Overall internal consistency of the CASEX was good with a Macdonald omega of $.91$ and $.88$ in our first and second samples, respectively. In terms of the subscales, internal consistencies for the one-night stand, booty calls, and friends with benefits subscales were good in both

samples. The fuck buddies' subscale had an acceptable reliability in the first sample, but a slightly lower internal consistency in the second sample of our study, if the rule of thumb of .70 is used as a threshold for good internal consistency (Najera Catalan, 2019). The internal consistency was of a Macdonald's omega of .66, which is close to .70. The lower consistency may be due to the item "I had sex with my buddy (of any given gender).", which had the lowest loading on the factor of fuck buddies. Possibly, the word "buddy" was too general and did not sufficiently describe the friendship developed following casual sex.

Test-retest reliability, i.e., "a measure of the consistency of results on a test or other assessment instrument over time, given as the correlation of scores between the first and second administrations. It provides an estimate of the stability of the construct being evaluated." (American Psychological Association, 2023) was not conducted in the present study, and if it were, results might have likely been influenced by the pandemic context. Nevertheless, test-retest reliability is an important indicator of validity to test in a further future validation of the CASEX. Test-retest reliability is important because it ensures that a measure provides reliable results in the same context and population. For instance, a good test-retest reliability is an indication that a measure can be reliably used for longitudinal research (Bland & Altman, 1986). In a future validation study of the CASEX, participants can be asked at the end of the survey if they would consent to be re-contacted in a two-week period to fill out the CASEX questionnaire. Correlations could be calculated between participants at time 1 and time 2.

The Covid-19 Pandemic Context

Importantly, especially for the second sample, the time period of the self-report (6 previous months) greatly corresponded to the time during which Covid-19 pandemic restrictions were in place (e.g., social distancing, lockdowns). Unmasked social encounters that were not

respecting a two-meter distance and were indoors were discouraged and could even risk a fine in the jurisdiction in which data was collected, especially at the beginning of the pandemic. This unprecedented societal context of social distancing and isolation probably influenced participants' sexual behaviours. Indeed, participants of the second sample reported a lower frequency of casual sex, compared to the first sample. When participants of the second sample were responding to the CASEX, they would have reported frequency since March 2020 at the earliest. Casual sex reported in the second sample mostly took place in the context of the pandemic. Participants from the first sample would have reported frequency since mid-July 2019 at the earliest. They would have reported casual sex experiences that occurred mostly pre-pandemic.

Studies on sexual behaviour during the Covid-19 pandemic appear to reflect a trend towards sexual activity on-line (Goller et al., 2022). Frequency of engaging in solo sexual behaviours and purchases of sex toys have increased during the pandemic (Qalati et al., 2022). Online platforms provided opportunity of sexual activity that eliminated the risk of Covid-19 transmission, either through solo sexual activity (e.g., masturbation while watching porn) or partnered online sexual activity (e.g., through video-calls).

Ueda and colleagues (2020) had nevertheless noted a trend of an increase of sexual inactivity for men in emerging adulthood, and women 25-34 years old. It may be that outside of the Covid-19 pandemic context, other societal factors may have contributed to the increase of sexual inactivity, such as busy schedules and ease of access to sources of entertainment (McKeen et al., 2022).

Limitations and Future Directions

The samples for validating the Casual sex experiences scale (CASEX) were collected during the socio-historic context of the Covid-19 pandemic. Restrictions either imposed or suggested by public health officials regarding human behaviour with the goal of limiting virus spread; combined with individual variance in appraisal of one's susceptibility and consequences of catching Covid-19, likely have influenced the frequency with which emerging adults engaged in casual sex; and possibly the nature of the environment in which people met for casual sex. In the future, it would be important to validate the scale in a sociohistorical context that may have lesser impact on usual human sexual behaviour.

Another limitation to our study is in terms of lack of gender diversity as both samples mainly consisted of women. This can be a common occurrence in research with convenience sampling among pools of university students enrolled in first-year courses, in particular in psychology. Genders other than male and female were fewer in representation in our samples, and it may be possible that the four-factorial structure does not generalize to all genders. Future studies could test the CASEX with a focus on more diverse samples, as well as by recruiting more male participants.

Our items about casual sex did not incorporate the possibility that a one-night stand or other CSRE may have occurred with more than one partner in the same occurrence. The way items were phrased refer to one casual sex partner at a time. However, if researchers in the future study casual sex with multiple partners (e.g., *ménage à trois*, within the context of consensual polyamory, "swinging"), there may be behaviours that the CASEX does not encompass. If additions are made to the CASEX to represent a greater variety of behaviours, a new validation would be recommended such as re-verifying the factorial structure.

From a psychometric perspective, a potential limitation is the use of MLR as opposed to another estimator such as WLSMV when data is not normally distributed (e.g., presence of positive skewness). Although we conducted a square root transformation and also used MLR to respond to the lack of normality of the distribution, this may have been too conservative. We chose to be more conservative to reduce type I error. Nevertheless, Sellbom and Tellegen (2019) argued that MLR estimated models, when compared to WLSMV and ULSMV estimated models, provided values that would be conventionally rejected; while WLSMV and ULSMV lent results within typical acceptable range for model fits. Possibly, MLR was too stringent and a better model fit would have been obtained if using a different estimator for categorical data, such as WLSMV.

Practical Implications

The present findings offer a basis for further psychometric research on the CASEX and as previously mentioned in the limitations, further testing of psychometric properties is warranted. The selection of items based on statistical performance may change if collection of data occurred in a different socio-historical context. Although this 13-item version of the CASEX was the one that had the best fit with the present data, it may be possible that in a post-pandemic context, a re-examination of the full version of the CASEX could be pertinent. The 13 items that were found to perform well in this study might still be the ones that contribute to the best properties of the scale. As there was support for the four-factor model in our study, we would recommend that scores for each of the four subscales are used in future research (i.e., one-night stands, booty calls, fuck buddies, and friends with benefits) instead of a total scale score.

Once the CASEX is further validated, future studies may employ the CASEX to detail various outcomes of casual sex, per type of CSRE, such as on mental health, health behaviour,

satisfaction, self-esteem. The CASEX may also be used to paint a portrait of characteristics of young adults who tend to have different types of CSREs. Attachment style, motivation, and personality traits may be studied in conjunction with the CASEX. These variables have been found to be related to engagement in casual sex and well-being outcomes of casual sex (Allen, 2019; Armstrong & Reissing, 2015; Segovia et al., 2019).

Conclusion

Our quantitative validation of the CASEX measure indicated that casual sex behaviour among emerging adults can indeed be distinguished into the four types of CSREs previously identified by the qualitative work of Wentland and Reissing (2011): One-night stands, booty calls, friends with benefits, and fuck buddies. The CASEX has encouraging psychometric properties as it showed acceptable factorial, convergent, and divergent validity. Its internal consistency was demonstrated to be good in our two independent samples. The CASEX responded to the need of a measure of casual sexual behaviour that differentiates between a variety of CSREs. The CASEX offers a variety of casual sexual behaviour items that may help researchers to clarify and nuance findings related to casual sex. Furthermore, the measure may be used in future studies on well-being outcomes of different CSREs types. Lastly, the CASEX could enable participants to identify their own tendencies / preferences to engage in a particular type of casual sex. The CASEX, however, would benefit from further replications in different sociocultural and sociohistorical contexts. For example, the psychometric qualities of the CASEX should be re-examined with future samples collected during a historical period in which a pandemic is not affecting human sexual behaviours.

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Tables

Table 1.

Age of participants. Sample 1.

| Age | <i>n</i> | % |
|------------|-----------------|----------|
| 18 | 181 | 42.2 % |
| 19 | 134 | 31.2 % |
| 20 | 57 | 13.3 % |
| 21 | 27 | 6.3 % |
| 22 | 16 | 3.7 % |
| 23 | 8 | 1.9 % |
| 24 | 3 | 0.7 % |

$n=429, M=19.1, SD=1.36$

Table 2.

Age of participants. Sample 2.

| Age | <i>n</i> | % |
|------------|-----------------|----------|
| 18 | 128 | 57.1 % |
| 19 | 45 | 20.1 % |
| 20 | 21 | 9.4 % |
| 21 | 12 | 5.4 % |
| 22 | 7 | 3.1 % |
| 23 | 5 | 2.2 % |
| 24 | 4 | 1.8 % |
| 25 | 2 | 0.9 % |

$n=224, M=19, SD=1.51$

Table 3.
Descriptive statistics of items related to One-night stands. Sample 1.

| | Items | | | | | | |
|--------------------|-------|-------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Mean | 1.69 | 1.32 | 1.41 | 1.50 | 1.49 | 1.76 | 1.49 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 1.16 | 0.77 | 0.86 | 0.90 | 1.04 | 1.19 | 0.90 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 7.00 | 7.00 | 6.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Skewness | 2.10 | 2.99 | 2.43 | 2.18 | 2.68 | 1.62 | 2.43 |
| Kurtosis | 4.88 | 11.00 | 6.16 | 5.48 | 8.26 | 2.09 | 7.84 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=224

Table 4.
Descriptive statistics of items related to Booty calls. Sample 1.

| | Items | | | | |
|--------------------|-------|------|------|------|-------|
| | 8 | 9 | 10 | 11 | 12 |
| Mean | 1.57 | 1.85 | 2.05 | 1.96 | 1.24 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 1.24 | 1.49 | 1.65 | 1.50 | 0.73 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Skewness | 2.67 | 1.92 | 1.56 | 1.61 | 3.74 |
| Kurtosis | 7.29 | 3.10 | 1.54 | 1.90 | 16.50 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=429

Table 5.
Descriptive statistics of items related to Fiends with benefits. Sample 1.

| | Items | | | | |
|--------------------|-------|------|------|------|------|
| | 13 | 14 | 15 | 16 | 17 |
| Mean | 1.69 | 1.63 | 2.41 | 2.32 | 2.24 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 1.38 | 1.47 | 1.90 | 1.85 | 1.75 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Skewness | 2.13 | 2.53 | 1.25 | 1.32 | 1.30 |
| Kurtosis | 3.89 | 5.56 | 0.43 | 0.64 | 0.67 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=429

Table 6.
Descriptive statistics of items related to Fuck buddies. Sample 1.

| | Items | | | | |
|--------------------|-------|------|------|------|------|
| | 18 | 19 | 20 | 21 | 22 |
| Mean | 1.56 | 1.63 | 1.71 | 1.99 | 2.44 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 1.22 | 1.19 | 1.38 | 1.64 | 1.96 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Skewness | 2.50 | 2.22 | 2.14 | 1.62 | 1.16 |
| Kurtosis | 6.06 | 5.11 | 4.00 | 1.65 | 0.10 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=429

Table 7.
Descriptive statistics of items related to One-night stands. Sample 2.

| | Items | | | | | | |
|--------------------|-------|------|-------|------|-------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Mean | 1.48 | 1.25 | 1.35 | 1.47 | 1.37 | 1.57 | 1.45 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 0.87 | 0.70 | 0.98 | 1.00 | 0.98 | 1.08 | 0.95 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 5.00 | 6.00 | 7.00 | 7.00 | 7.00 | 6.00 | 7.00 |
| Skewness | 1.89 | 4.07 | 3.22 | 2.85 | 3.20 | 2.08 | 2.73 |
| Kurtosis | 2.76 | 20.5 | 11.00 | 9.89 | 11.40 | 3.81 | 8.66 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=224

Table 8.
Descriptive statistics of items related to Booty calls. Sample 2.

| | Items | | | | |
|--------------------|-------|------|------|------|------|
| | 8 | 9 | 10 | 11 | 12 |
| Mean | 1.38 | 1.50 | 1.88 | 1.69 | 1.12 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 0.97 | 1.11 | 1.59 | 1.29 | 0.44 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 7.00 | 7.00 | 7.00 | 7.00 | 5.00 |
| Skewness | 3.25 | 2.82 | 1.97 | 2.10 | 4.94 |
| Kurtosis | 11.7 | 8.76 | 3.13 | 4.15 | 31.1 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=224

Table 9.
Descriptive statistics of items related to Friends with benefits. Sample 2.

| | Items | | | | |
|--------------------|-------|------|------|------|------|
| | 13 | 14 | 15 | 16 | 17 |
| Mean | 1.56 | 1.58 | 2.20 | 2.10 | 1.91 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 1.37 | 1.45 | 1.82 | 1.74 | 1.45 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Skewness | 2.75 | 2.86 | 1.46 | 1.54 | 1.59 |
| Kurtosis | 7.00 | 7.49 | 1.02 | 1.34 | 1.69 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=224

Table 10.
Descriptive statistics of items related to Fuck buddies. Sample 2

| | Items | | | | |
|--------------------|-------|------|------|------|------|
| | 18 | 19 | 20 | 21 | 22 |
| Mean | 1.33 | 1.45 | 1.39 | 1.60 | 1.93 |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Mode | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Standard deviation | 0.89 | 1.03 | 0.97 | 1.34 | 1.61 |
| Minimum | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Maximum | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Skewness | 3.35 | 2.91 | 2.78 | 2.53 | 1.81 |
| Kurtosis | 12.60 | 9.64 | 7.92 | 5.97 | 2.45 |

Note. A response of 1 was indicative of “Never” having experienced the behaviour; 2 – One time; 3 – 2 times; 4 – 3-6 times; 5 – 7-10 times; 6 – 11-15 times; and 7 – 16 and more times.
n=224

| Table 11. Factor intercorrelations (standard error in parentheses) | | | |
|--|-----------------------|------------------|----------------------------|
| Sample 1 | | | |
| | F1 – One-night stands | F2 – Booty calls | F3 – Friends with benefits |
| F2 | .69 (0.05) | - | - |
| F3 | .30 (0.05) | .58 (0.06) | - |
| F4 | .60 (0.07) | .92 (0.05) | .73 (0.07) |
| Sample 2 | | | |
| | F1 – One-night stands | F2 – Booty calls | F3 – Friends with benefits |
| F2 | .57 (0.10) | - | - |
| F3 | .38 (0.07) | 0.51 (0.07) | - |
| F4 | .66 (0.10) | 0.66 (0.11) | 0.50 (0.08) |

| Table 12. | | | | | |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| Standardized Factor Loadings. Sample 1 | | | | | |
| | λ^2 CFA 1 | λ^2 CFA 2 | λ^2 CFA 3 | λ^2 CFA 4 | λ^2 CFA 5 |
| [One-night stand] I had sex ... | | | | | |
| 1. with someone with whom I did not expect more than one sexual experience. | 0.67 | 0.67 | - | - | - |
| 2. with someone and I did not intend to contact this person. | 0.77 | 0.77 | 0.77 | 0.86 | 0.86 |
| 3. with someone and I did not expect that this person will contact me. | 0.77 | 0.77 | 0.76 | 0.82 | 0.82 |
| 4. with someone for a one-time sexual adventure. | 0.81 | 0.81 | 0.79 | 0.83 | 0.83 |
| 5. with someone whom I did not know at all. | 0.81 | 0.81 | 0.82 | 0.71 | 0.71 |
| 6. with someone whom I knew very little. | 0.87 | 0.87 | 0.87 | - | - |
| 7. once with someone that I just met. | 0.86 | 0.86 | 0.88 | - | - |
| [Booty calls] I had sex with a casual sex partner... | | | | | |
| 8. that I called, texted, messaged, or contacted through social media because I wanted to have sex promptly. | 0.70 | 0.70 | 0.70 | 0.68 | 0.69 |
| 9. that I knew was likely to be immediately available for sex 'on call'. | 0.87 | 0.87 | 0.87 | 0.88 | 0.86 |
| 10. who is usually available anytime I need them for sex. | 0.82 | 0.82 | 0.82 | 0.82 | - |
| 11. to satisfy my sudden urge/need to have sex. | 0.87 | 0.87 | 0.87 | 0.87 | 0.88 |
| 12. whom I contact when I 'do not succeed' to have sex with somebody else. | 0.52 | 0.52 | 0.52 | - | - |
| [Friends with benefits] I had sex with... | | | | | |
| 13. a friend, sex is one of the activities we do together. | 0.62 | - | - | - | - |
| 14. one of my best friends. | 0.52 | 0.52 | 0.52 | 0.52 | 0.53 |
| 15. a friend and it felt safe. | 0.96 | 0.97 | 0.97 | 0.98 | 0.98 |
| 16. a friend and I knew we could trust each other. | 0.96 | 0.95 | 0.95 | 0.95 | 0.95 |
| 17. a friend without being romantically attached (e.g., we do not call each other girlfriend/boyfriend). | 0.66 | - | - | - | - |
| [Fuck buddies] I had sex ... | | | | | |
| 18. with a friend whom I got to know through casual sex. | 0.63 | 0.63 | 0.63 | 0.66 | 0.66 |
| 19. with someone, and sex provided us with the opportunity to develop a bit of a friendship. | 0.68 | 0.68 | 0.68 | 0.71 | 0.72 |
| 20. with my buddy (of any given gender). | 0.68 | 0.68 | 0.68 | 0.69 | 0.69 |
| 21. while hanging out with my casual sex partner - when we hang out we have sex. | 0.83 | 0.83 | 0.83 | - | - |
| 22. with someone I have had sex with before because we have a lot of fun in bed together. | 0.67 | 0.67 | 0.67 | - | - |
| Note. $n = 429$ | | | | | |

| Table 13. | | | | |
|---|----------------------|----------------------|----------------------|----------------------|
| Standardized Factor Loadings. Sample 2. | | | | |
| | λ^2 CFA 1 | λ^2 CFA 2 | λ^2 CFA 3 | λ^2 CFA 4 |
| [One-night stand] I had sex ... | | | | |
| 2. with someone and I did not intend to contact this person. | 0.77 | 0.80 | 0.81 | 0.80 |
| 3. with someone and I did not expect that this person will contact me. | 0.90 | 0.87 | 0.87 | 0.86 |
| 4. with someone for a one-time sexual adventure. | 0.82 | 0.83 | 0.83 | 0.83 |
| 5. with someone whom I did not know at all. | 0.71 | 0.72 | 0.72 | 0.72 |
| [Booty calls] I had sex with a casual sex partner... | | | | |
| 8. that I called, texted, messaged, or contacted through social media because I wanted to have sex promptly. | 0.74 | 0.74 | 0.73 | 0.72 |
| 9. that I knew was likely to be immediately available for sex 'on call'. | 0.72 | 0.75 | 0.75 | 0.32** |
| 11. to satisfy my sudden urge/need to have sex. | 0.90 | 0.87 | 0.87 | 0.95 |
| [Friends with benefits] I had sex with... | | | | |
| 14. one of my best friends. | 0.48 | 0.48 | 0.48 | 0.48 |
| 15. a friend and it felt safe. | 1.02 | 1.01 | 1.00* | 1.00* |
| 16. a friend and I knew we could trust each other. | 0.91 | 0.93 | 0.94 | 0.94 |
| [Fuck buddies] I had sex ... | | | | |
| 18. with a friend whom I got to know through casual sex. | 0.76 | 0.76 | 0.76 | 0.82 |
| 19. with someone, and sex provided us with the opportunity to develop a bit of a friendship. | 0.81 | 0.79 | 0.79 | 0.76 |
| 20. with my buddy (of any given gender). | 0.32 | 0.39 | 0.39 | 0.37 |
| 9. that I knew was likely to be immediately available for sex 'on call'. | | | | 0.52** |
| <p>Note.</p> <p>$n = 224$; square-root transformation was employed. All p values were below .01, except for item 9 under factor 2, in CFA 4.</p> <p>*Residual variance of item 15 was fixed.</p> <p>**Cross-loading between C9 and factors 2 and 4.</p> | | | | |

Table 14. Pearson Correlations between CASEX items, Sample 1.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | — | | | | | | | | | | | | | | | | | | | | |
| 2 | 0.50*** | — | | | | | | | | | | | | | | | | | | | |
| 3 | 0.54*** | 0.73*** | — | | | | | | | | | | | | | | | | | | |
| 4 | 0.61*** | 0.72*** | 0.65*** | — | | | | | | | | | | | | | | | | | |
| 5 | 0.46*** | 0.59*** | 0.56*** | 0.60*** | — | | | | | | | | | | | | | | | | |
| 6 | 0.58*** | 0.64*** | 0.65*** | 0.67*** | 0.70*** | — | | | | | | | | | | | | | | | |
| 7 | 0.50*** | 0.60*** | 0.61*** | 0.67*** | 0.83*** | 0.78*** | — | | | | | | | | | | | | | | |
| 8 | 0.47*** | 0.44*** | 0.47*** | 0.44*** | 0.53*** | 0.60*** | 0.59*** | — | | | | | | | | | | | | | |
| 9 | 0.62*** | 0.45*** | 0.47*** | 0.50*** | 0.41*** | 0.54*** | 0.46*** | 0.57*** | — | | | | | | | | | | | | |
| 10 | 0.51*** | 0.32*** | 0.38*** | 0.42*** | 0.40*** | 0.49*** | 0.43*** | 0.52*** | 0.75*** | — | | | | | | | | | | | |
| 11 | 0.68*** | 0.47*** | 0.49*** | 0.53*** | 0.49*** | 0.63*** | 0.56*** | 0.64*** | 0.76*** | 0.71*** | — | | | | | | | | | | |
| 12 | 0.37*** | 0.53*** | 0.54*** | 0.49*** | 0.46*** | 0.44*** | 0.44*** | 0.48*** | 0.47*** | 0.36*** | 0.41*** | — | | | | | | | | | |
| 13 | 0.46*** | 0.30*** | 0.34*** | 0.33*** | 0.27*** | 0.37*** | 0.33*** | 0.45*** | 0.59*** | 0.58*** | 0.57*** | 0.27*** | — | | | | | | | | |
| 14 | 0.26*** | 0.18*** | 0.19*** | 0.15** | 0.05 | 0.11* | 0.06 | 0.12* | 0.28*** | 0.28*** | 0.23*** | 0.11* | 0.43*** | — | | | | | | | |
| 15 | 0.42*** | 0.23*** | 0.24*** | 0.28*** | 0.16*** | 0.31*** | 0.27*** | 0.34*** | 0.50*** | 0.53*** | 0.48*** | 0.23*** | 0.56*** | 0.54*** | — | | | | | | |
| 16 | 0.43*** | 0.24*** | 0.26*** | 0.28*** | 0.18*** | 0.33*** | 0.27*** | 0.34*** | 0.54*** | 0.57*** | 0.52*** | 0.23*** | 0.56*** | 0.44*** | 0.93*** | — | | | | | |
| 17 | 0.61*** | 0.42*** | 0.47*** | 0.47*** | 0.44*** | 0.58*** | 0.51*** | 0.54*** | 0.66*** | 0.66*** | 0.67*** | 0.38*** | 0.64*** | 0.33*** | 0.60*** | 0.61*** | — | | | | |
| 18 | 0.41*** | 0.38*** | 0.37*** | 0.37*** | 0.38*** | 0.55*** | 0.46*** | 0.47*** | 0.54*** | 0.53*** | 0.52*** | 0.35*** | 0.48*** | 0.22*** | 0.37*** | 0.37*** | 0.59*** | — | | | |
| 19 | 0.47*** | 0.33*** | 0.34*** | 0.37*** | 0.28*** | 0.44*** | 0.35*** | 0.42*** | 0.57*** | 0.48*** | 0.58*** | 0.36*** | 0.51*** | 0.25*** | 0.50*** | 0.54*** | 0.52*** | 0.56*** | — | | |
| 20 | 0.49*** | 0.32*** | 0.32*** | 0.35*** | 0.19*** | 0.30*** | 0.26*** | 0.31*** | 0.61*** | 0.53*** | 0.52*** | 0.27*** | 0.67*** | 0.46*** | 0.56*** | 0.57*** | 0.66*** | 0.44*** | 0.42*** | — | |
| 21 | 0.51*** | 0.34*** | 0.44*** | 0.41*** | 0.35*** | 0.46*** | 0.38*** | 0.56*** | 0.71*** | 0.75*** | 0.70*** | 0.36*** | 0.66*** | 0.30*** | 0.53*** | 0.56*** | 0.67*** | 0.50*** | 0.54*** | 0.57*** | — |
| 22 | 0.39*** | 0.23*** | 0.29*** | 0.28*** | 0.31*** | 0.41*** | 0.35*** | 0.45*** | 0.57*** | 0.55*** | 0.55*** | 0.26*** | 0.52*** | 0.26*** | 0.47*** | 0.50*** | 0.54*** | 0.42*** | 0.47*** | 0.45*** | 0.56*** |

Note.

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

| | 2 | 3 | 4 | 5 | 8 | 9 | 11 | 14 | 15 | 16 | 18 | 19 |
|----|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|
| 2 | . | | | | | | | | | | | |
| 3 | 0.73 ^{***} | — | | | | | | | | | | |
| 4 | 0.59 ^{***} | 0.74 ^{***} | — | | | | | | | | | |
| 5 | 0.51 ^{***} | 0.62 ^{***} | 0.60 ^{***} | — | | | | | | | | |
| 8 | 0.22 ^{***} | 0.22 ^{***} | 0.41 ^{***} | 0.28 ^{***} | — | | | | | | | |
| 9 | 0.34 ^{***} | 0.34 ^{***} | 0.40 ^{***} | 0.30 ^{***} | 0.48 ^{***} | — | | | | | | |
| 11 | 0.34 ^{***} | 0.36 ^{***} | 0.53 ^{***} | 0.37 ^{***} | 0.70 ^{***} | 0.64 ^{***} | — | | | | | |
| 14 | 0.01 | -0.08 | 0.01 | -0.07 | 0.13 | 0.19 ^{**} | 0.28 ^{***} | — | | | | |
| 15 | 0.24 ^{***} | 0.24 ^{***} | 0.33 ^{***} | 0.23 ^{***} | 0.31 ^{***} | 0.36 ^{***} | 0.46 ^{***} | 0.50 ^{***} | — | | | |
| 16 | 0.24 ^{***} | 0.24 ^{***} | 0.31 ^{***} | 0.20 ^{**} | 0.24 ^{***} | 0.35 ^{***} | 0.43 ^{***} | 0.48 ^{***} | 0.93 ^{***} | — | | |
| 18 | 0.34 ^{***} | 0.40 ^{***} | 0.37 ^{***} | 0.48 ^{***} | 0.34 ^{***} | 0.61 ^{***} | 0.41 ^{***} | -0.05 | 0.31 ^{***} | 0.26 ^{***} | — | |
| 19 | 0.37 ^{***} | 0.37 ^{***} | 0.38 ^{***} | 0.37 ^{***} | 0.45 ^{***} | 0.47 ^{***} | 0.49 ^{***} | -0.004 | 0.42 ^{***} | 0.31 ^{***} | 0.64 ^{***} | — |
| 20 | 0.21 ^{**} | 0.21 ^{***} | 0.33 ^{***} | 0.18 ^{**} | 0.39 ^{***} | 0.38 ^{***} | 0.36 ^{***} | 0.35 ^{***} | 0.35 ^{***} | 0.39 ^{***} | 0.17 [*] | 0.15 [*] |

Note.
* $p < .05$, ** $p < .01$, *** $p < .001$

Figures

Figure 1. Flow chart of item selection during CFAs, Sample 1.

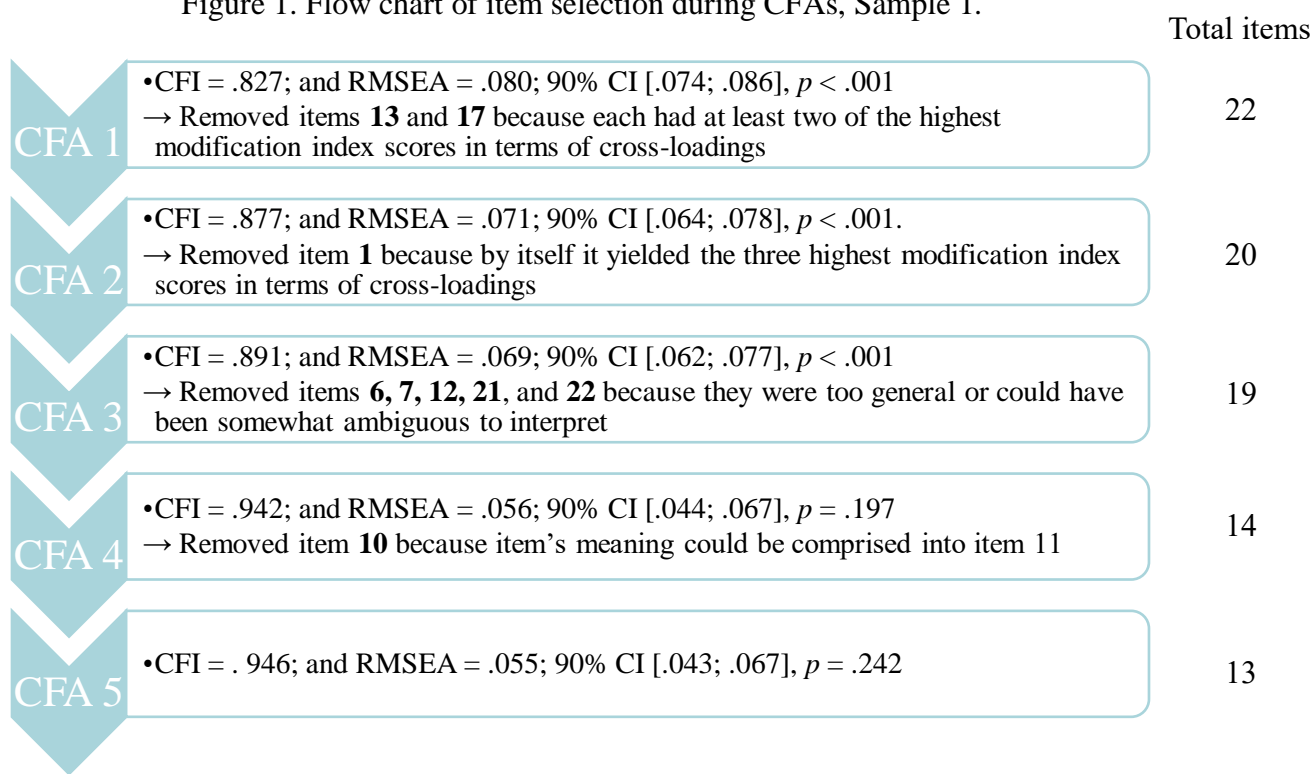
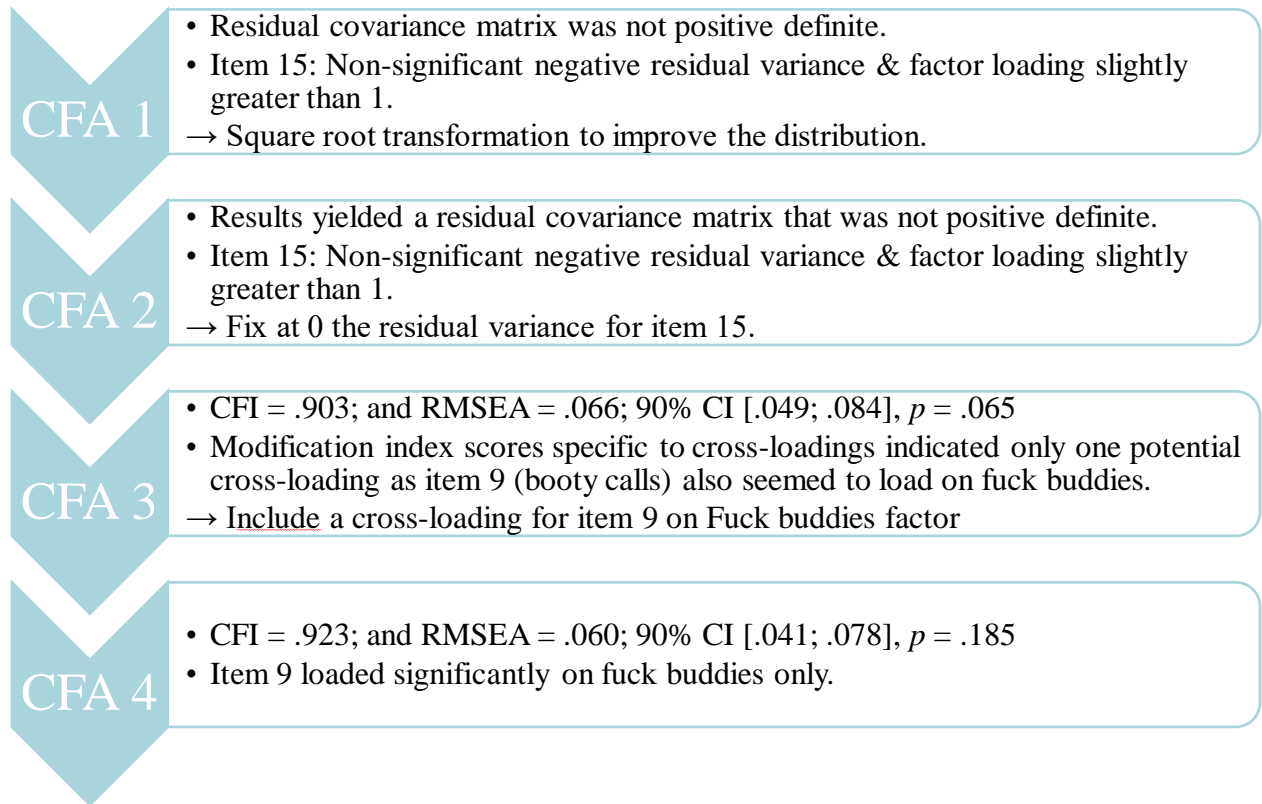


Figure 2. Flow chart of CFAs steps, Sample 2.



Appendix A

Introduction and instructions of the CASEX

Many young adults engage in casual sex, which is sex with someone with whom you are not in a committed romantic relationship and you do not call girlfriend or boyfriend. We would like to understand what those experiences are like for you. The following questions pertain to your experience with consensual casual sex partners (i.e., you were both consenting throughout the casual sex experience).

In the items, by the word “sex”, we intend to mean one or more of the following: genital fondling, oral sex, anal sex, penile-vaginal penetration, and/or penetration with a sex toy (e.g., dildo) with a casual sex partner. This questionnaire pertains to sex with one other person (not group sex).

Researchers have suggested that there are several different types of casual sexual relationships. Please answer the following items as honestly and accurately as possible.

How many different casual sex partners have you had in the past 12 months? ____

For the items listed below, please indicate how many times you engaged in the specified activities over the past 12 months. Please use the scale below to indicate your answer on the following items. The response options represent the total number of times, with a same person and/or with different people. Please remember all the items refer to casual sex.

| | | | | | | |
|-------|--------|---------|-----------|------------|-------------|-----------|
| Never | 1 time | 2 times | 3-6 times | 7-10 times | 11-15 times | 16+ times |
|-------|--------|---------|-----------|------------|-------------|-----------|

Initial items of the CASEX per hypothesized factor

*They were presented in a randomized order to participants for the validation.

One-night stands

- _1_ I had sex with someone with whom I did not expect more than one sexual experience.
- _2_ I had sex with someone and I did not intend to contact this person.**
- _3_ I had sex with someone and I did not expect that this person will contact me.**
- _4_ I had sex with someone for a one-time sexual adventure.**
- _5_ I had sex with someone whom I did not know at all**
- _6_ I had sex with someone whom I knew very little.
- _7_ I had sex once with someone that I just met.

Booty calls

- _8_ I had sex with a casual sex partner that I called, texted, messaged, or contacted through social media because I wanted to have sex promptly.**

9 I had sex with a casual sex partner that I knew was likely to be immediately available for sex 'on call'.

10 I had sex with a casual sex partner who is usually available anytime I need them for sex.

11 I had sex with a casual sex partner to satisfy my sudden urge/need to have sex.

12 I had sex with a casual sex partner whom I contact when I 'do not succeed' to have sex with somebody else.

Friends with benefits

13 I had sex with a friend, sex is one of the activities we do together.

14 I had sex with one of my best friends.

15 I had sex with a friend and it felt safe.

16 I had sex with a friend and I knew we could trust each other.

17 I had sex with a friend without being romantically attached (e.g., we do not call each other girlfriend/boyfriend).

Fuck buddies

18 I had sex with a friend whom I got to know through casual sex.

19 I had sex with someone, and sex provided us with the opportunity to develop a bit of a friendship.

20 I had sex with my buddy (of any given gender).

21 I had sex while hanging out with my casual sex partner - when we hang out we have sex.

22 I had sex with someone I have had sex with before because we have a lot of fun in bed together.

Note. Items in bold are those retained in the final version of the CASEX.

CHAPTER 3

Consensual Casual Sex and Well-being among Emerging Adults

Abstract

Researchers have often studied casual sex through the umbrella term “hook ups”. More rarely have they distinguished between different types of casual sexual relationships and experiences (CSREs) in which emerging adults engage, namely one-night stands, booty calls, fuck buddies, and friends with benefits. In this study of 886 participants (74% women), we aim to examine how diverse types of consensual CSREs relate to well-being (positive and negative markers), and if this relation is moderated by sociosexual attitudes. Additionally, we performed a confirmatory factor analysis (CFA, $n=824$) of the CASEX, a recently developed measure of frequency of different types of CSREs. The results of the CFA revealed a satisfactory four-factorial fit. Results from correlations indicated that CSREs can be related to both positive (e.g., sexual satisfaction) and negative (e.g., psychological distress) markers of well-being. However, links with positive emotions had larger effect sizes than with negative emotions. Interestingly, friends with benefits had the largest correlation with sexual satisfaction and positive emotions from casual sex, and it was not correlated with several negative outcomes; perhaps because this CSRE gains from familiarity in the already established friendship. Sociosexual attitudes were not a moderator in most instances. Yet, in keeping with the theory of cognitive dissonance, the links between CSREs and negative emotions during and following casual sex were stronger in those with less sociosexual attitudes. Intriguingly, the link between one-night stands and positive emotions following casual sex was stronger in those with less sociosexual attitudes. The link between booty calls and positive emotions during casual sex was stronger in those with less sociosexual attitudes. The link between friends with benefits and positive emotions during casual sex was also stronger in those with less sociosexual attitudes. Findings are discussed in light of the developmental period of emerging adulthood.

The main objective of this study is to clarify whether different types of casual sexual relationships and experiences (CSREs) may impact well-being in their own way. Oftentimes, researchers have been measuring casual sex under the umbrella-term “hook ups”, more rarely distinguishing between different types of casual sex that are present among emerging adults (Wentland & Reissing, 2014). A common method researchers have been using to ask participants about their casual sex experiences was by creating their own “homemade” measure, which varies across studies. Moreover, in many studies, questions about casual sex have been kept rather brief and ambiguous, as criticized by Bible and colleagues (2022). Short and ambiguous descriptions of casual sex may lead to a loss of conceptual breadth (diversity) and conceptual precision (nuance), which ultimately underestimate the existence of different types of CSREs. As a result, comparability between studies on casual sex is even more difficult, as definitions and measures can vary substantially across studies.

Indeed, Bible and colleagues (2022) noted in their critical review of conceptual definitions of hookups that an important problem was the lack of uniformization of casual sex definitions. They noted that the majority of authors used vague and unspecific definitions, perhaps because they wanted to be as inclusive as possible of all kinds of casual sex experiences. Researchers may have been trying to include experiences of casual sex that emerging adults may not have wanted to disclose and preferred to refer to colloquially as hookups, instead of being more specific (e.g., referring to a hookup without describing the exact sexual situation). The vagueness of the terminology may have also aimed at respecting the sensitivity of emerging adults who may have preferred to not be too explicit when disclosing the nature of their sexual relationships. Nevertheless, this ambiguity and vagueness is usually not warranted in a research context. Conceptual vagueness may lead to a great discrepancy between the interpretations that

participants and researchers have of the same items in a self-report measure. Bible and colleagues (2022) proposed that more consistency and specificity in assessment would increase the possibility of having comparable research findings as well as of discerning specific types of casual sex (e.g., friends with benefits versus one-night stands).

Four Types of Casual Sexual Relationships and Experiences

Studies on casual sex and well-being have often defined casual sex as hookups or an occasion of sex with “no strings attached”, without differentiating between different types of CSREs. More rarely, researchers focused on a particular type of CSRE. Exceptions are, for instance, friends with benefits (e.g., García et al., 2014) and booty calls (Jonason et al., 2011). Some authors do not explicitly focus on a particular type of CSRE, but their definition of casual sexual is specific enough that researchers could guess to which category of CSRE their measure might belong. For example, Alpert (2022) used the wording of “one-time experience with a sex partner” which may fall under the category of a one-night stand.

Some integrative work was able to describe a more complete panorama of CSREs in the same empirical study. Notably, Wentland and Reissing (2011) documented a variety of four types of CSREs as reported by emerging adults through focus groups, namely one-night stands, booty calls, friends with benefits, and fuck buddies. A *one-night stand* consists of an unplanned occasion where two people who know each other very little or not at all engage in casual sex without the intention of seeing each other again (Campbell, 2008; Wentland & Reissing, 2011). A *booty call* is defined by two people making themselves available for sexual encounters between each other and who communicate via technology (e.g., texting, messaging) when they feel a strong need for sex (Jonason et al., 2011), often the day of or the night of the encounter. *Friends with benefits* are characterized by a pre-existing friendship and an established trust, and

that friendship has an added component of sexual activity (Jonason, 2013). Friends with benefits understand that they are not committed romantically to each other and do not consider themselves boyfriend or girlfriend. *Fuck buddies* consist of two persons who had started to have sex together then gradually developed some form of friendship after their sexual encounter(s) (Wentland & Reissing, 2014). However, the fuck buddies are not in a romantic relationship. When they hang out, it is mostly for sex (Wentland & Reissing, 2014).

The Casual Sex Experiences Scale (CASEX)

In a previous psychometric study (Borisevich & Miranda, 2023), we found that casual sex among emerging adults can be distinguished into four types, namely one-night stands, booty calls, friends with benefits, and fuck buddies. More specifically, that study reported the initial validation of a measure of casual sex, called the Casual Sex Experiences Scale (CASEX, Borisevich & Miranda, 2023). These four types of CSREs provided quantitative evidence for the taxonomy of CSREs that Wentland and Reissing (2014) proposed from their qualitative evidence.

In terms of assessment, the CASEX responded to the need of a measure of casual sexual behaviour that differentiates between the so-far qualitatively and theoretically proposed types of casual sex. The CASEX offered a variety of casual sexual behaviour items rated in terms of frequency that may help researchers to clarify and nuance findings related to different types of CSREs. The factor structure of the CASEX was tested through confirmatory factor analysis in two independent samples. An overall good fit was found with a final version of the measure containing a total of 13 items. Internal validity, convergent and divergent validity were also satisfactory. Overall, the CASEX appeared to be a measure that can differentiate between four types of CSREs and may thus enable researchers to have a consistent and nuanced measurement

of CSREs. In the present study, the CASEX was employed for differentiating links between CSREs and well-being outcomes.

Well-being and CSREs

Well-being in this study is conceptualized by the absence of psychological distress and the presence of happiness (Diener et al., 1999). Diener and colleagues (2018), explained subjective well-being as one's interpretation (cognitive and emotional) of events and experiences on a continuum from negative to positive (Diener et al., 2018). Wesche and colleagues (2021) reported in their systematic review of casual sex outcomes that generally, CSREs tended to be subjectively perceived as more positive than negative. Nevertheless, some nuances in terms of positive and negative outcomes should still be noted from the extant research.

Negative Impact of CSREs on Well-being

Some potentially negative impacts on well-being have been reported to be related to CSREs, in particular for women, and occasionally for men. Alpert (2022) reported that the majority of women in their sample (68% out of 191 female participants) tended to experience more regret following a "one-time experience with a sex partner", which resembles the definition of one-night-stand-type of CSRE. Their study focused on female participants, therefore no data on men were provided. Another study by McKeen and colleagues (2022) which had a diverse-age sample of participants aged between 18-82 years, with means of men and women in the adult age range (mean age of men was 32.85 years, $SD = 10.83$ years; and mean age of women was 28.63 years, $SD = 8.44$ years), found that in their sample, women reported greater negative emotional outcomes such as regret, loneliness, and unhappiness than men. On the other hand, men reported positive outcomes of engaging in casual sex, such as happiness and higher self-confidence. Of note is that although there was an observed difference, the effect size of the

difference reported by the authors was rather small. In line with gender differences previously noted, according to the systematic review conducted by Wesche and colleagues (2021), women tended to report negative emotional outcomes related to casual sex, such as feelings of regret (Bendixen et al., 2017), and lesser emotional and sexual satisfaction than men (Mark et al., 2015).

LaBrie and colleagues (2014) found that unfamiliarity with sex partners was related to discontent after engaging in casual sex. Another variable that contributed to negative emotion after casual sex is consumption of alcohol prior to hooking up for women (LaBrie et al., 2014). However, the definition of a hookup that was used by LaBrie and colleagues (2014) was broad (“someone with whom you do not have a committed relationship”, p. 65). This definition does not permit to distinguish which kind of CSRE participants referred to when answering the survey, thus results may not be generalizable for all CSRE contexts. A contrasting finding was made in a short-term longitudinal design by Vrangalova (2015), who reported that longer casual hookups among men were weakly but significantly linked with more anxiety, less life satisfaction, and lower self-esteem.

Positive Impact of CSREs on Well-being

An earlier study by Vrangalova (2015) which included male and female participants showed non-significant results for most negative outcomes following casual sex, while some positive outcomes were significantly related to casual sex. In that same study, conducted with a short-term longitudinal design, it was found that emerging adults reported an increase in self-esteem following hook ups. Additionally, increases in self-esteem and life satisfaction were also noted following a “longer casual hookup” (Vrangalova, 2015). This finding is in line with the theory that the longer the sexual partners have known each other, the closer they feel with each

other, and the more they know about each other's sexual preferences, which in turn could increase their well-being.

In the above-mentioned longitudinal study, Vrangalova (2015) also found that at the beginning of the semester, students' one-time hookups (with intercourse) were significantly related to an increase of self-esteem. She also found that longer casual hookups predicted an increased life satisfaction and self-esteem. No significant associations were found between casual sex and depression or anxiety symptoms. Conversely, in an earlier study in which the casual sex types were not put into categories with labels (i.e., one-night stands, friends with benefits), Vrangalova and Ong (2014) did not find an association between casual sex and either depressive symptoms or self-esteem. Eisenberg and colleagues (2009) compared subjective well-being between casual and committed sexual encounters. Similarly, they did not find many significant associations between the level of commitment of sexual partner (casual, close and non-romantic, dating, and married/engaged/long-term partnered) and psychological well-being. However, they noted that male participants whose most recent partner was close but not dating (such as friends with benefits) were more likely to have reported suicidal ideation in the last year; while women who were in the most committed category (e.g., married or engaged) reported less symptoms of depression when compared to women with dating partners.

Importance of Consent in Sexual Encounters

An important gap in previous studies on casual sex is that they seldom specify whether sex was consensual. Of course, this is a crucial issue because women who felt pressured to have sex in a CSRE reported experiencing more negative outcomes (McKeen et al., 2022) and women who have experienced sexual assault in adulthood have higher prevalence of psychiatric disorders compared to those who have not (Mullen et al., 1988). For instance, men and women

were found to be more likely to meet criteria for a major depressive disorder, anxiety disorders, and substance use disorders (Burnam et al., 1988) following an instance of sexual assault as adults. For studies on casual sex, it would be important for researchers to highlight in their surveys whether their questions refer to all CSREs (including non-consensual ones) or consensual CSREs. In the present study, it was specified to participants that questions pertained to consensual casual sex.

Sociosexual Attitudes as a Moderator between CSREs and Well-being

Sociosexuality is comprised of three spheres: attitudes, behaviors, and desire about uncommitted sex (Silva Júnior et al., 2022). It is thought that one's sociosexual orientation is a continuum between restricted (low) and unrestricted/permissive (high) sociosexuality. A commonly used measure of sociosexuality, the Sociosexual Orientation Inventory-Revised (SOI-R; Penke & Asendorpf, 2008) contains items related to those three domains, and higher scores indicate more unrestricted (high) sociosexuality.

According to a recent review of the literature on casual sex and emotional outcomes (Wesche et al., 2021), positive and permissive attitudes towards casual sex tend to be related to better mental health and well-being, as well as to more positive emotions. For example, lower anxiety and depressive symptoms were observed among emerging adults who had unrestricted sociosexuality and had engaged in casual sex (Vrangalova & Ong, 2014), whereas restricted sociosexuality was linked to higher anxiety among male emerging adults who engaged in casual sex. Lewis and colleagues (2012) also found that favorable attitudes towards casual sex were related to positive affect following hook ups among college students. Wongsomboon and colleagues (2020) had similar findings as well in their study with participants who were women. Permissive sociosexuality was related to better orgasmic function among women who engaged in

casual sex.

A possible theoretical explanation for those findings may be the theory of cognitive dissonance (Festinger, 1957), which proposes that a mismatch between a person's beliefs and a person's behaviour creates psychological discomfort. Based on that theory, it is possible to posit that individuals with restricted (low) sociosexual orientation who experience a CSRE might feel dissonance (cognitive and emotional discomfort), whereas those who are sociosexually unrestricted might not feel such dissonance. Research on pornography provides an example of the application of cognitive dissonance in research on sexual behavior. For instance, when people experienced psychological discomfort when their use of pornography went against their religious beliefs (Wright, 2022). In the present study, we consider one's sociosexual attitude (from more restricted to permissive) as a moderator of the potential relationships between casual sex and multiple markers of well-being. In other words, the potential impact of CSREs on well-being will depend on whether emerging adults are low or high in sociosexual attitudes.

The Present Study

In this study, our principal aim is to examine how four types of consensual CSREs relate to diverse markers of well-being, and if this relation is moderated by sociosexual attitudes. As seen in Figure 1a, our first general hypothesis is that links between casual sex behaviors and negative markers of well-being (psychological distress, negative emotions during and after casual sex, perceived stress) will have a significantly smaller effect size in emerging adults with high sociosexuality (compared to those with low sociosexuality). Conversely, as seen in Figure 1b, our second general hypothesis is that links between casual sex behaviors and positive markers of well-being (increase in positive emotions during and following casual sex, sexual satisfaction, and self-esteem) will have a significantly larger effect size in emerging adults with

high sociosexuality (compared to those with low sociosexuality). Lastly, our third hypothesis is that longer-term CSREs, especially friends with benefits, would be positively related to positive well-being markers and may lend non-significant relationships with negative well-being markers.

Our preliminary but nonetheless important aim was to test the replicability of the four-factor model of CSREs (one-night stands, booty calls, fuck buddies, and friends with benefits) that had been previously found during the initial validation of the Casual Sex Experiences Scale (CASEX; Borisevich & Miranda, 2023). More specifically, a confirmatory factor analysis will be conducted to test the presence of the aforementioned four factors of CSREs in the present sample.

Method

Participants

We excluded participants from the sample when they filled out the survey more than once ($n=24$), were outside of the pre-defined age range of 18-25 ($n=39$), did not provide their age ($n=53$), provided a wrong answer on one or both of the attention verification items ($n=99$), and did not respond to at least one item per scale ($n=22$).

A final sample was kept of 886 young adults (18-25 years of age) with a good understanding of the English language who were attending university were recruited in the fall of 2020 through an Ontarian university's online research portal. Students were compensated by receiving one percent towards their grade in a given course for participating in the study. The age distribution of participants can be found in Table 1. The average age was 19.2 years ($SD = 1.5$). Participants were from a variety of fields of study: Faculties of social sciences ($n=306$), health science ($n=262$), science ($n=170$), arts ($n=80$), engineering ($n=24$), management ($n=23$), education ($n=10$), and law ($n=1$). However, 10 participants did not respond to the question about

their field of study. In terms of the gender with which participants identified, 654 were women, 224 men, 4 gender fluid/queer, 3 non-binary, and 1 spirit from the third dimension. In terms of sexual orientation, 672 participants reported being heterosexual, 115 mostly heterosexual, 30 homosexual, 14 mostly homosexual, 4 asexual; 31 bisexual, 10 pansexual, 2 questioning, 3 queer, and 1 mostly bisexual. Four participants did not report their sexual orientation. In total, 390 participants reported being in a committed romantic relationship (e.g., boyfriend, girlfriend); 495 were not in a committed romantic relationship, and one person did not respond. For participants who were in a relationship, 47 stated being in an open relationship. Overall, 8 participants reported being Aboriginal, 481 White/Caucasian or European, 100 Black / Caribbean or African, 69 East Asian, 51 South Asian, 56 Middle Eastern (Arab), 7 Latino, 26 North-African, 54 of mixed ethnicities, and 34 participants identified as belonging to other ethnic or cultural group(s).

Most participants reported engaging in casual sex in the last year (63%) with an average of 1.9 ($SD = 4.73$) different casual sex partners. Friends with benefits was the most frequent CSRE ($M = 5.85$, $SD = 4.60$) as reported by participants on the CASEX, whereas the least frequent CSRE was fuck buddies ($M = 4.56$; $SD = 2.89$). One-night stands were the second most popular CSRE ($M = 5.61$, $SD = 3.30$) and booty calls was the third one ($M = 5.18$, $SD = 3.74$). Four participants did not disclose the amount of different casual sex partners that they had over the last year.

With regards to the confirmatory factor analyses, we noticed that 62 participants had participated in the second sample of the previously conducted study and in the present study. We removed those participants from the CFA analyses so that this sample keeps its independency in the validity testing of the instrument, the Casual Sex Experiences Scale (CASEX).

Procedure

The study received ethics approval from the authors' university, through its research ethics board. Interested participants filled an online survey through the platform Qualtrics. They provided their consent online prior to responding to the survey and had the opportunity to withdraw from the study at any time, as well as withdraw their data from the study if they so desired. They received one percent towards their final grade in a given course as compensation for their participation.

Measures

Casual sex behavior. The Casual Sex Experiences Scale (CASEX), developed and validated by the authors in a previous study (Borisevich & Miranda, 2023), was used to measure casual sexual behaviour. In the initial version of the CASEX, there were 22 items. For statistical analyses in our study, we employed the final validated version of the CASEX. It has 13 items in total and measures four types of casual sexual experiences: One-night stands (e.g., "I had sex with someone for a one-time sexual adventure."), booty calls (e.g., "I had sex with a casual sex partner that I called, texted, messaged, or contacted through social media because I wanted to have sex promptly."), fuck buddies (e.g., "I had sex with a friend and it felt safe."), and friends with benefits (e.g., "I had sex with with someone, and sex provided us with the opportunity to develop a bit of a friendship."). Participants answer in terms of frequency of the behavior over the last 12 months, on the following scale: 1 (not at all), 2 (1 time), 3 (2 times), 4 (3-6 times), 5 (7-10 times), 6 (11-15 times), and 7 (16+ times). The total score was obtained by summing up the responses of the items. Lower scores are indicative of less frequent casual sex, whereas higher scores indicate more frequent engagement in casual sex activity. In the initial validation study of the CASEX, the Macdonald's omegas in the two samples analyzed were .91 and .88

(Borisevich & Miranda, 2023); and in the present study, the Macdonald's omega was .95; and the Cronbach alpha was .91.

Well-being.

Psychological Distress. Psychological distress was measured with the Kessler 6 Self-report measure (K6; Kessler et al., 2003), which is also known to be valid with emerging adults (Bessaha, 2017; Chown, 2021). This measure has been used widely by researchers and organizations as a measure of psychological distress (e.g., Kessler et al., 2010; Bessaha et al., 2023). It has also demonstrated good predictive validity for mental illness (Ferro, 2019). The K6 has six items about distress symptoms, such as feeling nervous, worthless, and hopeless. Participants responded in terms of frequency, from 1 (all of the time) to 5 (none of the time) for the past 12 months. Mean scores are reported in this article. Higher scores are indicative of higher psychological distress. Factorial validity with a single factor was supported by Ko and Harrington's (2016) factorial analysis. It has also shown excellent test-retest reliability (Uchida, 2023). The K6's internal consistency was $\alpha=.89$ in Kessler and colleagues' 2003 study. In the present sample, the Cronbach's alpha was .87.

Perceived Stress. The Perceived Stress Scale-10 (PSS-10; Cohen & Williamson, 1988) was employed to evaluate to what degree participants felt impacted by stressful events in their lives over the last year. It was recently used in a study by LaCaille and colleagues (2021), whose sample was composed of emerging adults, and by Yalcin-Siedentopf and colleagues (2021) in the context of sexuality of emerging adults, although they did not report validity information. The scale contains 10 items about thoughts and feelings related to stress, rated on a scale of 0 – never to 4 – very often. The higher the score, the more participants perceived stress in their lives. Mitchell, Crane, and Kim (2008) reported a one-factor structure in their factorial validity testing.

Lee (2012) reported that the PSS-10 showed good test-retest reliability. Cohen and Williamson (1998) reported internal consistency of $\alpha=.78$. In our sample, the reliability was $\alpha=.85$.

Positive and Negative Emotions During and Following Casual Sex. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was used to measure positive and negative emotions felt during consensual casual sex and in the 24 hours following engagement in consensual casual sex. The PANAS is a widely used measure that has also been employed in several studies on emerging adults (e.g., Howland, 2017; Sirois, 2015). The PANAS has a total of 20 items, with 10 items corresponding to negative emotions and 10 to positive emotions. The items are rated on a 1 to 5 scale, from very slightly or not at all to extremely. Higher scores on both subscales represented higher levels of either negative or positive emotions. In an examination of the psychometric properties of the PANAS, Crawford and Henry (2004) reported Cronbach's alphas of .89 for the positive affect scale, and .85 for the negative affect scale. Crawford and Henry (2004) reported a good factorial validity with a good fit for a two-factor model representing positive emotions and negative emotions. Howland and colleagues (2017) reported good test-retest reliability over the span of 4 years (Cronbach's alphas between .83 and .87). In our sample, the Cronbach's alphas were of .88 for negative affect during casual sex; .92 for negative affect following casual sex; .94 for positive affect during casual sex; and .93 for positive affect following casual sex.

Subjective Happiness. Subjective happiness was measured with the Subjective Happiness scale (Lyubomirsky & Lepper, 1999). Participants indicated their degree of agreement on a 7-point Likert scale on four statements about their happiness in general. Higher scores are indicative of more subjective happiness. However, in our survey, an error occurred in the number of anchor points available to participants. Participants could select values from 0-7 instead of 1-

7. The mean scores reported in this study cannot be compared to other studies' means of subjective happiness. Nevertheless, a higher score is still indicative of higher subjective happiness and we kept the measure in our analyses. The Subjective Happiness scale has shown good construct validity with life satisfaction and positive affect (r of .66 and .49, respectively; Mattei & Schaefer, 2004). Lyubomirsky and Lepper (1999) found that it had a good test-retest reliability. Translated versions of the scale showed satisfactory one-factor solutions (e.g., Dogan & Totan, 2013; Spagnoli et al., 2012). The internal consistency reported by Lyubomirsky and Lepper (1999) was of $\alpha = .86$. In our study, Cronbach's $\alpha = .81$.

Sexual Satisfaction. The New Sexual Satisfaction Scale (NSSS; Štulhofer et al., 2011) was used to inquire about sexual satisfaction in the last 12 months. Participants rated 20 items related to various areas of sexual satisfaction (sexual sensations, presence, exchange, emotional connection/closeness, and behavioral sexual activity) on a scale of 1 (not at all satisfied) to 5 (extremely satisfied). Higher scores were indicative of greater sexual satisfaction. The NSSS has shown good construct validity, where it negatively correlated with sexual boredom, and positively correlated with general sexual satisfaction (Štulhofer et al., 2011). In terms of factorial validity, a principal components analysis lent support for a two-factor structure (sexual satisfaction centered on the self and sexual satisfaction in relation to the partner and the sexual interaction). Nevertheless, the authors approve the use of a total score to represent global sexual satisfaction (Štulhofer et al., 2011). The authors reported a good test-retest reliability. The internal consistency reported by the authors of the scale (Štulhofer et al., 2011) was $\alpha = .94$ in their student sample. In our study, Cronbach's $\alpha = .97$.

Self-Esteem. Self-esteem was measured with the Rosenberg Self-Esteem Scale (Rosenberg, 1965). It is a widely used scale for self-esteem and has been translated and validated

in several languages. It has shown good divergent and convergent validity (Schmitt & Allik, 2005). The scale consists of 10 items about how one generally feels about themselves, rated on a scale of 3 - strongly agree to 0 - strongly disagree. One example of item is “On the whole, I am satisfied with myself”. Score reversal instructions were followed for items and higher scores were indicative of better self-esteem. Schmitt and Allik (2005) found support for a single global self-esteem factor. The scale has shown good test-retest reliability (Wongpakaran & Wongpakaran, 2012). The internal consistency reported by Rosenberg (1965) was $\alpha = .77$. In our study, Cronbach’s $\alpha = .89$.

Sociosexual attitudes. Sociosexual attitudes were measured with the Attitudes subscale of the Sociosexual Orientation Inventory - Revised (SOI-R; Penke & Asendorpf, 2008; items 4 to 6). Items (such as “Sex without love is ok.”) are rated on a scale from 1 (strongly disagree) to 9 (strongly agree). Low scores indicate restricted sociosexual attitudes, while high scores indicate unrestricted sociosexual attitudes. The SOI-R demonstrated good convergent validity with similar constructs, such as sex drive, flirting with strangers, and sensation-seeking (Penke & Asendorpf, 2008). Penke (2011) found support for the distinction of the three subscales of the SOI-R through a confirmatory factor analysis, as well as a good test-retest reliability. The internal consistency of this subscale had an alpha of 0.81 (Penke & Asendorpf, 2008). In our study, Cronbach’s $\alpha = 0.72$.

Plan of Analyses

Jamovi was used for computing descriptive statistics, correlations, Cronbach alphas, and moderations. Missing data were replaced by item mode. A post hoc power analysis conducted with GPower3.1.9.7 indicated that with the sample size, the statistical power was of .988 for

conducting moderations. Power analysis is important in order to have a sufficient number of participants to correctly detect a significant effect when one is really present (Kemal, 2020).

Confirmatory factor analyses of the CASEX were performed using Mplus with MLR. The criteria we used to evaluate the model fit were a root mean square error of approximation (RMSEA) of less than .08 and a Comparative Fit Index (CFI) of $\geq .95$ (Hooper et al., 2008; Hu & Bentler, 1995). We expected factor loadings of $\geq .30$ for each item (Tavakol & Wetzel, 2020).

Results

Descriptive statistics and correlations among study variables can be found in Table 2. We report mean scores for all scales, along with standard deviations. For the moderation analyses, scores were standardized for all variables. All confidence intervals that are reported are of 95%. When we use the term “low levels of sociosexual attitudes”, we refer to -1 standard deviation (SD), and when we use the term “high levels of sociosexual attitudes”, we refer to +1SD.

Correlations Between CSREs and Well-being

To qualify the strength of links between CSREs and well-being, we used the meta-analysis of Gignac and Szodorai (2016) on effect sizes in empirical research on individual differences. According to Gignac and Szodorai (2016), correlations can be either relatively small ($r = .10$), typical ($r = .20$), or large ($r = .30$). We calculated 36 Pearson correlations between the 4 types of CSREs, 4 negative, and 5 positive markers of well-being. Among them, most (61%) were statistically significant (22/36 correlations; see Table 2).

Most (63%) correlations between CSREs and negative well-being markers were significant (10/16 correlations). Although these correlations were all positive they were relatively small. There were no significant correlations between CSREs and perceived stress. Friends with

benefits was significantly correlated with only one negative well-being marker, namely negative emotions following casual sex. The correlation was still relatively small ($r=.08$).

Most (70%) correlations between CSREs and positive well-being markers were statistically significant (14/20 correlations). The correlation coefficients ranged from relatively small (4/14 correlations), typical (7/14 correlations), and large (3/14 correlations). Two of the significant correlations with positive well-being markers had negative but small correlations. They were the ones between subjective happiness and one-night stands, as well as between subjective happiness and booty calls. In sum, correlations between CSREs and well-being tended to display larger effect sizes with positive markers than with negatives ones.

Moderation Analyses

The “medmod” package was used within the statistical software Jamovi to perform a series of 36 moderation models. Sociosexual attitudes were examined as a moderator of the relation between casual sex and well-being markers (positive and negative). The results from the moderation analyses are reported below, grouped by types of CSREs, from least to most partner familiarity. A table summarizing the results can be found on page 162 (Table 4). Plots of simple slope analyses are reported for those 12 interactions that were significant (see Appendix A). All scores are standardized.

One-Night Stands.

Negative Markers of Well-being.

Psychological Distress. The outcome variable was psychological distress, the predictor variable was one-night stands, and the moderator variable was sociosexual attitudes. There was a significant main effect found between one-night stands and psychological distress, $\beta = 0.10$, 95% CI [.02, .18], $z = 2.46$, $p < .05$. There was not a significant main effect of sociosexual attitudes on

psychological distress, $\beta = 0.02$, CI [-.04, .09], $z = 0.70$, $p = .48$. The interaction effect between one-night stands and sociosexual attitudes was also found to be non-significant, $\beta = -0.003$, C.I. [-.09, .08], $z = -0.07$, $p = .94$.

Perceived Stress. The outcome variable was perceived stress, the predictor variable was one-night stands, and the moderator variable was sociosexual attitudes. There was no significant main effect between one-night stands and perceived stress, $\beta = 0.01$, CI [-.06, .09], $z = 0.35$, $p = .73$. There was not a significant main effect of sociosexual attitudes on perceived stress, $\beta = -0.02$, CI [-.09, .04], $z = -0.64$, $p = .52$. The interaction effect between one-night stands and sociosexuality was also found to be non-significant, $\beta = 0.02$, C.I. [-.06, .10], $p = .62$.

Negative Emotions During Casual Sex. The outcome variable was negative emotions experienced during casual sex, the predictor variable was one-night stands, the moderator variable was sociosexual attitudes. There was a significant main effect found between one-night stands and negative emotions experienced during casual sex, $\beta = 0.29$, CI [.22, .37], $z = 7.47$, $p < .001$. There was a significant main effect of sociosexual attitudes on negative emotions experienced during casual sex, $\beta = -0.11$, CI [-.18, -.05], $z = -3.51$, $p < .001$. The interaction between one-night stands and sociosexuality was also found to be significant, $\beta = -0.18$, CI [-.26, -.10], $z = -4.27$, $p < .001$. At low levels of sociosexual attitudes, the relationship between one-night stands and negative emotions experienced during casual sex was significant, $\beta = 0.47$, CI [.33, .61], $z = 6.58$, $p < .001$. At average levels of sociosexual attitudes, the relationship between one-night stands and negative emotions experienced during casual sex was also significant, $\beta = 0.29$, CI [.22, .37], $z = 7.39$, $p < .001$. At high levels of sociosexual attitudes, the relationship between one-night stands and negative emotions experienced during casual sex was reduced but still significant, $\beta = 0.12$, CI [.04, .19], $z = 3.00$, $p < .01$. In sum, this indicates that high

sociosexual attitudes may have partially mitigated the link between one-night stands and negative emotions during casual sex.

Negative Emotions Following Casual Sex. The outcome variable was negative emotions experienced following casual sex, the predictor variable was one-night stands, and the moderator variable was sociosexual attitudes. There was a significant main effect found between one-night stands and negative emotions experienced following casual sex, $\beta = 0.30$, 95% CI [.22, .38], $z = 7.65$, $p < .001$. There was a significant main effect of sociosexual attitudes on negative emotions experienced following casual sex, $\beta = -0.13$, CI [-.19, -.06], $z = -3.89$, $p < .001$. The interaction between one-night stands and sociosexual attitudes was also found to be significant, $\beta = -0.16$, CI [-.24, -.08], $z = -3.92$, $p < .001$. At low levels of sociosexual attitudes, the relationship between one-night stands and negative emotions experienced following casual sex was significant, $\beta = 0.46$, CI [.32, .60], $z = 6.47$, $p < .001$. At average levels of sociosexual attitudes, the relationship between one-night stands and negative emotions experienced following casual sex was significant, $\beta = 0.30$, CI [.22, .38], $z = 7.58$, $p < .001$. At high levels of sociosexual attitudes, the relationship between one-night stands and negative emotions experienced following casual sex was reduced but still significant, $\beta = 0.14$, CI [.06, .21], $z = 3.56$, $p < .001$. In sum, this indicates that high sociosexual attitudes may have partially mitigated the link between one-night stands and negative emotions following casual sex.

Positive Markers of Well-being.

Positive Emotions During Casual Sex. The outcome was positive emotions during casual sex, the predictor variable was one-night stands, and the moderator variable was sociosexual attitudes. There was a significant main effect found between one-night stands and positive emotions experienced during casual sex, $\beta = 0.15$, CI [.07, .22], $z = 3.88$, $p < .001$. There

was also a significant main effect between sociosexual attitudes and positive emotions experienced during casual sex, $\beta = 0.31$, CI [.25, .37], $z = 9.81$, $p < .001$. The interaction between one-night stands and sociosexual attitudes was, however, not significant, $\beta = -0.06$, CI [-.14, .02], $z = -1.51$, $p = .13$.

Positive Emotions Following Casual Sex. The outcome was positive emotions following casual sex, the predictor variable was one-night stands, and the moderator variable was sociosexual attitudes. There was a significant main effect found between one-night stands and positive emotions experienced following casual sex, $\beta = 0.14$, CI [.06, .21], $z = 3.48$, $p < .001$. There was also a significant main effect between sociosexual attitudes and positive emotions experienced following casual sex, $\beta = 0.19$, CI [.13, .26], $z = 5.94$, $p < .001$. The interaction between one-night stands and sociosexual attitudes was also found to be significant, $\beta = -0.10$, CI [-.18, -.02], $z = -2.38$, $p < .05$. At low levels of sociosexual attitudes (restricted), the relationship between one-night stands and positive emotions experienced following casual sex was significant, $\beta = 0.23$, CI [0.10, 0.37], $z = 3.30$, $p < .001$. At average levels of sociosexual attitudes, the relationship between one-night stands and positive emotions experienced following casual sex was also significant, $\beta = 0.14$, CI [.06, .21], $z = 3.48$, $p < .001$. At high levels of sociosexual attitudes, the relationship between one-night stands and positive emotions experienced following casual sex was not significant, $\beta = 0.04$, CI [-.04, .11], $z = 0.99$, $p = .32$. In sum, this indicates that high sociosexual attitudes may have reduced to non-significance the link between one-night stands and positive emotions following casual sex.

Subjective Happiness. The outcome variable was subjective happiness, the predictor variable was one-night stands, and the moderator variable was sociosexual attitudes. There was not a significant main effect between one-night stands and subjective happiness, $\beta = -0.06$, CI [-

.14, .02], $z = -1.50$, $p = .13$. There was a significant main effect between sociosexual attitudes and subjective happiness, $\beta = -0.09$, CI [-0.15, -0.02], $z = -2.64$, $p < .01$. The interaction between one-night stands and sociosexual attitudes was not significant, $\beta = -0.003$, CI [-0.09, 0.08], $z = -0.08$, $p = 0.94$.

Sexual Satisfaction. The outcome variable was sexual satisfaction, the predictor variable was one-night stands, and the moderator variable was sociosexual attitudes. There was a significant main effect found between one-night stands and sexual satisfaction, $\beta = 0.12$, CI [.05, .20], $z = 3.16$, $p < .01$. There was also a significant main effect between sociosexual attitudes and sexual satisfaction, $\beta = 0.20$, CI [.14, .26], $z = 6.12$, $p < .001$. The interaction between one-night stands and sociosexual attitudes was, however, not significant, $\beta = -0.07$, CI [-0.15, .01], $z = -1.61$, $p = .11$.

Self-Esteem. The outcome variable was self-esteem, the predictor variable was one-night stands, the moderator variable was sociosexual attitudes. There were no significant effects found in this moderation analysis. There was not a significant main effect between one-night stands and self-esteem, $\beta = -0.05$, CI [-0.13, .03], $z = -1.23$, $p = .22$. There was not a significant main effect between sociosexual attitudes and self-esteem, $\beta = -0.02$, CI [-0.08, .05], $z = -0.47$, $p = .64$. The interaction between one-night stands and sociosexual attitudes was not significant either, $\beta = -0.01$, CI [-0.09, .08], $z = -0.13$, $p = .90$.

Booty Calls.

Negative Markers of Well-being.

Psychological Distress. The outcome variable was psychological distress, the predictor variable was booty calls, and the moderator variable was sociosexual attitudes. There was a significant main effect between booty calls and psychological distress, $\beta = 0.12$, 95% CI [.04,

.19], $z = 2.87$, $p < .01$. There was not a significant main effect of sociosexual attitudes on psychological distress, $\beta = 0.01$, CI [-0.06, .08], $z = 0.29$, $p = .78$. There was no significant interaction effect between booty calls and sociosexual attitudes, $\beta = -.05$, C.I. [-.13, .03], $z = -1.19$, $p = .24$.

Perceived Stress. The outcome variable was perceived stress, the predictor variable was booty calls, and the moderator variable was sociosexual attitudes. There were no significant effects found in this moderation analysis. There was not a significant main effect between booty calls and perceived stress, $\beta = 0.05$, CI [-0.03, .13], $z = 1.23$, $p = .22$. There was not a significant main effect between sociosexual attitudes and perceived stress, $\beta = -0.04$, CI [-.10, .03], $z = -1.08$, $p = .28$. The interaction between booty calls and sociosexual attitudes was not significant either, $\beta = -0.00$, CI [-.09, 0.08], $z = -0.01$, $p = 0.99$.

Negative Emotions During Casual Sex. The outcome variable was negative emotions experienced during casual sex, the predictor variable was booty calls, and the moderator was sociosexual attitudes. There was a significant main effect between booty calls and negative emotions experienced during casual sex, $\beta = 0.26$, CI [.18, .33], $z = 6.44$, $p < .001$. There was a significant main effect of sociosexual attitudes on negative emotions experienced during casual sex, $\beta = -0.13$, CI [-.19, -.06], $z = -3.78$, $p < .001$. The interaction effect between booty calls and sociosexual attitudes was also found to be significant, $\beta = -0.21$, CI [-.29, -0.13], $z = -5.05$, $p < .001$. At low levels of sociosexual attitudes (restricted), the relationship between booty calls and negative emotions experienced during casual sex was significant, $\beta = 0.46$, CI [0.32, 0.60], $z = 6.46$, $p < .001$. At average levels of sociosexual attitudes, the relationship between booty calls and negative emotions experienced during casual sex was significant, $\beta = 0.26$, CI [.18, .33], $z = 6.35$, $p < .001$. At high levels of sociosexual attitudes (unrestricted), the relationship between

booty calls and negative emotions experienced during casual sex was not significant, $\beta = 0.05$, CI [-.03, .13], $z = 1.29$, $p = .20$. In sum, this indicated that high sociosexual attitudes may have completely buffered the relationship between booty calls and negative emotions experienced during casual sex.

Negative Emotions Following Casual Sex. The outcome variable was negative emotions experienced following casual sex, the predictor variable was booty calls, and the moderator was sociosexual attitudes. There was a significant main effect found between booty calls and negative emotions experienced following casual sex, $\beta = 0.25$, 95% CI [.17, .33], $z = 6.30$, $p < .001$. There was a significant main effect of sociosexual attitudes on negative emotions experienced following casual sex, $\beta = -0.13$, CI [-.20, -.07], $z = -4.02$, $p < .001$. The interaction between booty calls and sociosexual attitudes was also found to be significant, $\beta = -0.18$, CI [-.26, -.10], $z = -4.31$, $p < .001$. At low levels of sociosexual attitudes (restricted), the relationship between booty calls and negative emotions experienced following casual sex was significant, $\beta = 0.42$, CI [.29, .56], $z = 5.97$, $p < .001$. At average levels of sociosexual attitudes, the relationship between booty calls and negative emotions experienced following casual sex was also significant, $\beta = 0.25$, CI [.17, .33], $z = 6.23$, $p < .001$. However, at high levels of sociosexual attitudes (unrestricted), the relationship between booty calls and negative emotions experienced following casual sex was not significant, $\beta = 0.07$, CI [-.001, .15], $z = 1.93$, $p = .053$. In sum, this indicated that high sociosexual attitudes may have completely mitigated the relationship between booty calls and negative emotions experienced following casual sex.

Positive Markers of Well-being.

Positive Emotions During Casual Sex. The outcome variable was positive emotions during casual sex, the predictor variable was booty calls, and the moderator was sociosexual

attitudes. There was a significant main effect between booty calls and positive emotions experienced during casual sex, $\beta = 0.25$, CI [.18, .33], $z = 6.84$, $p < .001$. There was a significant main effect of sociosexual attitudes on positive emotions experienced during casual sex, $\beta = 0.25$, CI [.19, .31], $z = 8.20$, $p < .001$. The interaction between booty calls and sociosexual attitudes was also found to be significant, $\beta = -0.09$, CI [-.16, -.01], $z = -2.34$, $p < .05$. At low levels of sociosexual attitudes, the relationship between booty calls and positive emotions experienced during casual sex was significant, $\beta = 0.34$, CI [.21, .47], $z = 5.16$, $p < .001$. At average levels of sociosexual attitudes, the relationship between booty calls and positive emotions experienced during casual sex was significant, $\beta = 0.25$, CI [.18, .33], $z = 6.82$, $p < .001$. At high levels of sociosexual attitudes, the relationship between booty calls and positive emotions experienced during casual sex was reduced but still significant, $\beta = 0.16$, CI [.09, .23], $z = 4.63$, $p < .001$. In sum, this indicates that high sociosexual attitudes may have partially reduced the strength of the link between booty calls and positive emotions during casual sex.

Positive Emotions Following Casual Sex. The outcome variable was positive emotions following casual sex, the predictor variable was booty calls, and the moderator variable was sociosexual attitudes. There was a significant main effect found between booty calls and positive emotions experienced following casual sex, $\beta = 0.23$, CI [.15, .30], $z = 5.88$, $p < .001$. There was a significant main effect of sociosexual attitudes on positive emotions experienced following casual sex, $\beta = 0.14$, CI [.08, .21], $z = 4.51$, $p < .001$. However, the interaction between booty calls and sociosexual attitudes was not statistically significant, $\beta = -0.08$, CI [-.15, .002], $z = -1.91$, $p = .06$.

Subjective Happiness. The outcome variable was subjective happiness, the predictor variable was booty calls, and the moderator was sociosexual attitudes. There was no significant

main effect found between booty calls and subjective happiness, $\beta = -0.06$, CI [-.13, .02], $z = -1.51$, $p = .13$. There was a significant main effect of sociosexual attitudes on subjective happiness, $\beta = -0.08$, CI [-.15, -.02], $z = -2.50$, $p < .05$. However, the interaction between booty calls and sociosexual attitudes was not statistically significant, $\beta = 0.03$, CI [-.05, .11], $z = 0.81$, $p = .42$.

Sexual Satisfaction. The outcome variable was sexual satisfaction, the predictor variable was booty calls, and the moderator was sociosexual attitudes. There was a significant main effect between booty calls and sexual satisfaction, $\beta = 0.22$, CI [.14, .29], $z = 5.63$, $p < .001$. There was also a significant main effect between sociosexual attitudes and sexual satisfaction, $\beta = 0.15$, CI [.09, .21], $z = 4.70$, $p < .001$. The interaction between booty calls and sociosexual attitudes was, however, not statistically significant, $\beta = -0.08$, CI [-.15, .002], $z = -1.90$, $p = .06$.

Self-Esteem. The outcome variable was self-esteem, the predictor variable was booty calls, and the moderator variable was sociosexual attitudes. There were no significant effects found in this moderation analysis. There was not a significant main effect between booty calls and self-esteem, $\beta = -0.05$, CI [-.13, .03], $z = -1.28$, $p = .20$. There was not a significant main effect between sociosexual attitudes and self-esteem, $\beta = -0.01$, CI [-.08, .05], $z = -.36$, $p = .72$. The interaction between booty calls and sociosexual attitudes was not significant either, $\beta = 0.06$, CI [-.02, 0.14], $z = 1.51$, $p = 0.13$.

Fuck Buddies.

Negative Markers of Well-being.

Psychological Distress. The outcome variable was psychological distress, the predictor variable was fuck buddies, and the moderator was sociosexual attitudes. There was a significant main effect between fuck buddies and psychological distress, $\beta = 0.11$, CI [.04, .04], $z = 2.90$, $p <$

.01. There was not a significant main effect of sociosexual attitudes on psychological distress, $\beta = 0.02$, CI [-.05, .08], $z = 0.48$, $p = .63$. The interaction between fuck buddies and sociosexual attitudes was not significant either, $\beta = -0.04$, CI [-.11, 0.04], $z = -1.01$, $p = 0.32$.

Perceived Stress. The outcome variable was perceived stress, the predictor was fuck buddies, and the moderator was sociosexual attitudes. There were no significant effects found in this moderation analysis. There was not a significant main effect between fuck buddies and perceived stress, $\beta = 0.05$, CI [-.02, .13], $z = 1.40$, $p = .16$. There was not a significant main effect between sociosexual attitudes and perceived stress, $\beta = -0.04$, CI [-.10, .03], $z = -1.06$, $p = .29$. The interaction between fuck buddies and sociosexual attitudes was also found to be non-significant, $\beta = 0.01$, C.I. [-.06, .09], $z = 0.28$, $p = .78$.

Negative Emotions During Casual Sex. The outcome variable was negative emotions experienced during casual sex, the predictor variable was fuck buddies, and the moderator variable was sociosexual attitudes. There was a significant main effect found between fuck buddies and negative emotions experienced during casual sex, $\beta = 0.21$, CI [.13, .28], $z = 5.38$, $p < .001$. There was a significant main effect of sociosexual attitudes on negative emotions experienced during casual sex, $\beta = -0.10$, CI [-.16, -.03], $z = -2.89$, $p < .05$. The interaction between fuck buddies and sociosexual attitudes was also found to be significant, $\beta = -0.16$, CI [-.23, -.08], $z = -4.09$, $p < .001$. At low levels of sociosexual attitudes (restricted), the relationship between fuck buddies and negative emotions experienced during casual sex was significant, $\beta = 0.36$, CI [.23, .49], $z = 5.43$, $p < .001$. At average levels of sociosexual attitudes, the relationship between fuck buddies and negative emotions experienced during casual sex was significant, $\beta = 0.21$, CI [.13, .28], $z = 5.33$, $p < .001$. However, at high levels of sociosexual attitudes (unrestricted), the relationship between fuck buddies and negative emotions experienced during

casual sex was not significant, $\beta = 0.05$, CI [-0.02, .13], $z = 1.32$, $p = .19$. In sum, this indicated that high sociosexual attitudes may have completely buffered the link between fuck buddies and negative emotions experienced during casual sex.

Negative Emotions Following Casual Sex. The outcome variable was negative emotions experienced following casual sex, the predictor was fuck buddies, and the moderator was sociosexual attitudes. There was a significant main effect found between fuck buddies and negative emotions experienced following casual sex, $\beta = 0.21$, 95% CI [.14, .29], $z = 5.51$, $p < .001$. There was a significant main effect of sociosexual attitudes on negative emotions experienced following casual sex, $\beta = -0.11$, CI [-0.17, -.04], $z = -3.27$, $p < .05$. The interaction between fuck buddies and sociosexual attitudes was also found to be significant, $\beta = -0.11$, CI [-0.18, -.03], $z = -2.79$, $p < .05$. At low levels of sociosexual attitudes, the relationship between fuck buddies and negative emotions experienced following casual sex was significant, $\beta = 0.32$, CI [.19, .45], $z = 4.78$, $p < .001$. At average levels of sociosexual attitudes, the relationship between fuck buddies and negative emotions experienced following casual sex was also significant, $\beta = 0.21$, CI [.14, .29], $z = 5.49$, $p < .001$. At high levels of sociosexual attitudes (unrestricted), the relationship between fuck buddies and negative emotions following casual sex was reduced but still significant, $\beta = 0.11$, CI [.03, .18], $z = 2.76$, $p < .01$. In sum, this indicated that high sociosexual attitudes may have partially mitigated the link between fuck buddies and negative emotions following casual sex.

Positive Markers of Well-being.

Positive Emotions During Casual Sex. The outcome variable was positive emotions during casual sex, the predictor was fuck buddies, the moderator was sociosexual attitudes. There was a significant main effect found between fuck buddies and positive emotions experienced

during casual sex, $\beta = 0.20$, CI [.13, .27], $z = 5.50$, $p < .001$. There was also a significant main effect of sociosexual attitudes on positive emotions experienced during casual sex, $\beta = 0.28$, CI [.22, .34], $z = 9.14$, $p < .001$. Nonetheless, the interaction between fuck buddies and sociosexual attitudes was not significant, $\beta = -0.05$, CI [-.12, .02], $z = -1.37$, $p = .17$.

Positive Emotions Following Casual Sex. The outcome variable was positive emotions following casual sex, the predictor variable was fuck buddies, and the moderator was sociosexual attitudes. There was a significant main effect found between fuck buddies and positive emotions experienced following casual sex, $\beta = 0.15$, CI [.08, .22], $z = 3.99$, $p < .001$. There was a significant main effect of sociosexual attitudes on positive emotions experienced following casual sex, $\beta = 0.18$, CI [.12, .24], $z = 5.60$, $p < .001$. The interaction between fuck buddies and sociosexual attitudes was not statistically significant, $\beta = 0.00$, CI [-0.07, .07], $z = 0.005$, $p = .996$.

Subjective Happiness. The outcome variable was subjective happiness, the predictor variable was fuck buddies, and the moderator variable was sociosexual attitudes. There was no significant main effect found between fuck buddies and subjective happiness, $\beta = -0.07$, CI [-.14, .01], $z = -1.70$, $p = .09$. There was a main effect between sociosexual attitudes and subjective happiness, $\beta = -0.09$, CI [-0.15, 0.02], $z = -2.57$, $p < .05$. The interaction between fuck buddies and sociosexual attitudes was not significant, $\beta = 0.07$, CI [-.005, .15], $z = 1.83$, $p = .07$.

Sexual Satisfaction. The outcome variable was sexual satisfaction, the predictor variable was fuck buddies, and the moderator was sociosexual attitudes. There was a significant main effect between fuck buddies and sexual satisfaction, $\beta = 0.20$, CI [.13, .27], $z = 5.39$, $p < .001$. There was a significant main effect of sociosexual attitudes on sexual satisfaction, $\beta = 0.17$, CI [.11, .23], $z = 5.21$, $p < .001$. The interaction between fuck buddies and sociosexual attitudes was

also found to be significant, $\beta = -0.08$, CI [-.15, -.005], $z = -2.09$, $p < .05$. At low levels of sociosexual attitudes, the relationship between fuck buddies and sexual satisfaction was significant, $\beta = 0.28$, CI [.15, .41], $z = 4.31$, $p < .001$. At average levels of sociosexual attitudes, the relationship between fuck buddies and sexual satisfaction was also significant, $\beta = 0.20$, CI [.13, .28], $z = 5.37$, $p < .001$. At high levels of sociosexual attitudes, the relationship between fuck buddies and sexual satisfaction was reduced but still significant, $\beta = 0.12$, CI [.05, .20], $z = 3.34$, $p < .001$. In sum, this indicates that high sociosexual attitudes may have decreased the magnitude of the link between fuck buddies and sexual satisfaction.

Self-Esteem. The outcome variable was self-esteem, the predictor was fuck buddies, and the moderator variable was sociosexual attitudes. There were no significant effects found in this moderation analysis. There was not a significant main effect between fuck buddies and self-esteem, $\beta = -0.07$, CI [-.15, .01], $z = -1.80$, $p = .07$. There was not a significant main effect between sociosexual attitudes and self-esteem, $\beta = -0.01$, CI [-.07, .06], $z = -0.25$, $p = .80$. The interaction between fuck buddies and sociosexual attitudes was also found to be non-significant, $\beta = 0.06$, C.I. [-.02, .14], $z = 1.55$, $p = .12$.

Friends with Benefits.

Negative Markers of Well-being.

Psychological Distress. The outcome variable was psychological distress, the predictor variable was friends with benefits, and the moderator variable was sociosexual attitudes. There were no significant effects found in this moderation analysis. There was no significant main effect between friends with benefits and psychological distress, $\beta = -0.05$, CI [-.02, .12], $z = 1.35$, $p = .18$. There was not a significant main effect between sociosexual attitudes and psychological distress, $\beta = 0.04$, CI [-.03, .10], $z = 1.12$, $p = .27$. The interaction between friends with benefits

and sociosexual attitudes was also found to be non-significant, $\beta = -0.02$, C.I. [-.10, .05], $z = -0.56$, $p = .58$.

Perceived Stress. The outcome variable was perceived stress, the predictor variable was friends with benefits, and the moderator was sociosexual attitudes. There was no significant main effect between friends with benefits and perceived stress, $\beta = 0.05$, CI [-.02, .12], $z = 1.42$, $p = .16$. There was not a significant main effect between sociosexual attitudes and perceived stress, $\beta = -0.03$, CI [-.10, .03], $z = -0.95$, $p = .34$. The interaction between friends with benefits and sociosexual attitudes was also found to be non-significant, $\beta = 0.02$, C.I. [-.06, .09], $z = 0.44$, $p = .66$.

Negative Emotions During Casual Sex. The outcome variable was negative emotions experienced during casual sex, the predictor variable was friends with benefits, and the moderator was sociosexual attitudes. There was a significant main effect found between friends with benefits and negative emotions experienced during casual sex, $\beta = 0.09$, CI [.02, .16], $z = 2.51$, $p < .05$. There was not a significant main effect of sociosexual attitudes on negative emotions experienced following casual sex, $\beta = -0.06$, C.I. [-.13, .003], $z = -1.86$, $p = .06$. However, the interaction between friends with benefits and sociosexual attitudes was found to be significant, $\beta = -0.11$, CI [-.18, -.03], $z = -2.84$, $p < .05$. At low levels of sociosexual attitudes (restricted), the relationship between friends with benefits and negative emotions experienced during casual sex was significant, $\beta = 0.20$, CI [.08, .32], $z = 3.22$, $p < .01$. At average levels of sociosexual attitudes, the relationship between friends with benefits and negative emotions experienced during casual sex was also significant, $\beta = 0.09$, CI [.02, .16], $z = 2.50$, $p < .01$. However, at high levels of sociosexual attitudes (unrestricted), the relationship between friends with benefits and negative emotions experienced during casual sex was not significant, $\beta = -0.02$,

CI [-.10, .06], $z = -0.40$, $p = .69$. In sum, this indicated that high sociosexual attitudes may have completely buffered the link between friends with benefits and negative emotions experienced during casual sex.

Negative Emotions Following Casual Sex. The outcome variable was negative emotions experienced following casual sex, the predictor variable for the analysis was friends with benefits, and the moderator variable was sociosexual attitudes. There was a significant main effect found between friends with benefits and negative emotions experienced following casual sex, $\beta = 0.11$, CI [0.04, 0.18], $z = 3.05$, $p < .01$. There was a significant main effect of sociosexual attitudes on negative emotions experienced following casual sex, $\beta = -0.07$, CI [-.14, -.01], $z = -2.22$, $p < .05$. The interaction between friends with benefits and sociosexual attitudes was not statistically significant, $\beta = -0.03$, CI [-.11, .04], $z = -0.89$, $p = .37$.

Positive Markers of Well-being.

Positive Emotions During Casual Sex. The outcome variable was positive emotions during casual sex, the predictor variable for the analysis was friends with benefits, and the moderator variable was sociosexual attitudes. There was a significant main effect found between friends with benefits and positive emotions experienced during casual sex, $\beta = 0.27$, CI [0.21, 0.34], $z = 8.23$, $p < .001$. There was a significant main effect of sociosexual attitudes on positive emotions experienced during casual sex, $\beta = 0.26$, CI [.20, .32], $z = 8.59$, $p < .001$. The interaction between friends with benefits and sociosexual attitudes was also significant, $\beta = -0.07$, CI [-.14, -.01], $z = -2.11$, $p < .05$. At low levels of sociosexual attitudes, the relationship between friends with benefits and positive emotions experienced during casual sex was significant, $\beta = 0.34$, CI [.23, .45], $z = 6.13$, $p < .001$. At average levels of sociosexual attitudes, the relationship between friends with benefits and positive emotions experienced during casual

sex was significant, $\beta = 0.27$, CI [.21, .34], $z = 8.21$, $p < .001$. At high levels of sociosexual attitudes, the relationship between friends with benefits and positive emotions experienced during casual sex was reduced but still significant, $\beta = 0.20$, CI [.12, .27], $z = 5.25$, $p < .001$. In sum, this indicates that high sociosexual attitudes may have partially reduced the strength of the association between friends with benefits and positive emotions during casual sex.

Positive Emotions Following Casual Sex. The outcome variable was positive emotions following casual sex, the predictor variable was friends with benefits, and the moderator variable was sociosexual attitudes. There was a significant main effect found between friends with benefits and positive emotions experienced following casual sex, $\beta = 0.23$, CI [.16, .30], $z = 6.71$, $p < .001$. There was a significant main effect of sociosexual attitudes on positive emotions experienced following casual sex, $\beta = 0.16$, CI [.10, .22], $z = 4.96$, $p < .001$. The interaction between friends with benefits and sociosexual attitudes was not statistically significant, $\beta = -0.03$, CI [-.10, .04], $z = -0.90$, $p = .37$.

Subjective Happiness. The outcome variable was subjective happiness, the predictor variable was friends with benefits, and the moderator was sociosexual attitudes. A significant main effect of sociosexual attitudes on subjective happiness was present, $\beta = -0.10$, CI [-.17, -.03], $z = -2.99$, $p < .01$. There was no significant main effect between friends with benefits and subjective happiness, $\beta = -0.01$, CI [-.08, .06], $z = -0.37$, $p = .71$ nor was the interaction between friends with benefits and sociosexual attitudes significant, $\beta = 0.05$, CI [-.02, .13], $z = 1.35$, $p = .18$.

Sexual Satisfaction. The outcome variable was sexual satisfaction, the predictor was friends with benefits, and the moderator was sociosexual attitudes. There was a significant main effect found between friends with benefits and sexual satisfaction, $\beta = 0.29$, CI [.22, .36], $z =$

8.56, $p < .001$. There was a significant main effect of sociosexual attitudes on sexual satisfaction, $\beta = 0.14$, CI [.08, .20], $z = 4.42$, $p < .001$. The interaction between friends with benefits and sociosexual attitudes was also found to be significant, $\beta = -0.09$, CI [-.16, -.02], $z = -2.55$, $p < .05$. At low levels of sociosexual attitudes, the relationship between friends with benefits and sexual satisfaction was significant, $\beta = 0.38$, CI [.27, .50], $z = 6.59$, $p < .001$. At average levels of sociosexual attitudes, the relationship between friends with benefits and sexual satisfaction was significant, $\beta = 0.29$, CI [.22, .36], $z = 8.52$, $p < .001$. At high levels of sociosexual attitudes, the relationship between friends with benefits and sexual satisfaction was reduced but still significant, $\beta = 0.20$, CI [.12, .28], $z = 5.13$, $p < .001$. In sum, this indicates that high sociosexual attitudes may have decreased the magnitude of the relationship between friends with benefits and sexual satisfaction.

Self-Esteem. The outcome variable was self-esteem, the predictor was friends with benefits, and the moderator was sociosexual attitudes. There was no significant main effect between friends with benefits and self-esteem, $\beta = -0.02$, CI [-.09, .05], $z = -0.64$, $p = .52$. There was not a significant main effect of sociosexual attitudes on self-esteem, $\beta = -0.02$, CI [-.09, .04], $z = -0.64$, $p = .53$. The interaction between friends with benefits and sociosexual attitudes was not significant, $\beta = 0.05$, CI [-.03, .12], $z = 1.30$, $p = .20$.

Confirmatory Factor Analysis of the Casual Sex Experiences Scale (CASEX)

Given the recency of the Casual Sex Experiences Scale (CASEX), we performed a CFA with the 13 items of the CASEX that were retained in the initial validation study of Borisevich and Miranda (2023).

The four-factor model did not sufficiently fit the present data: $\chi^2 = 182.529$, $df = 59$, $p = .0000$; CFI = .944; and RMSEA = .050; 90% CI [.042; .059], $p = .453$. The factor loadings for all

13 items were still found to be significant ($p < .001$). Although we already used Maximum Likelihood Robust (MLR) estimates in this CFA, we anticipated that the model fit may be reached if a square root transformation would improve the distribution of all 13 items.

We conducted a second CFA with the 13-item version of the CASEX but this time with a square root transformation for all 13 items. The four-factor model had a good fit with the present data: $\chi^2 = 189.423$, $df = 59$, $p = .0000$; CFI = .951; and RMSEA = .052; 90% CI [.044; .060], $p = .347$. The factor loadings for all 13 items were found to be significant ($p < .001$). Overall, the four factors of the CASEX were significantly intercorrelated with effect sizes spanning from one being medium (One-night stands and Friends with benefits) to the rest being large. Factor intercorrelations can be found in Table 3.

Discussion

The present study had three main objectives. First, we observed whether different types of casual sexual relationships and experiences (CSREs), namely one-night stands, booty calls, fuck buddies, and friends with benefits, may be related differently to various markers of well-being. Second, we verified whether one's sociosexual attitudes moderated the relations between CSREs' and well-being markers, in accordance with the theory of cognitive dissonance. Third, as a preliminary step, we tested the factor structure of the Casual Sex Experiences Scale (CASEX) through a confirmatory factor analysis to see if it would replicate the four-factor model of CSREs previously identified by Borisevich and Miranda (2023).

Objective 1: Relationships between Four CSREs and Well-being Markers

We found that indeed, there were different relations between different types of CSREs and well-being markers. In terms of the negative well-being markers that we studied, the majority (63%) of the correlations were significant, positive, but relatively small. Overall,

CSREs in our sample appear to be weakly related to some negative well-being markers (psychological distress, negative emotions during and following casual sex), and yet not at all related to perceived stress.

There was one notable difference between CSRE types and their relation to negative well-being, and that was the pattern of correlations for friends with benefits. Friends with benefits was not significantly correlated with several negative outcomes, namely psychological distress, perceived stress, and negative emotions during casual sex. Interestingly, negative emotions following casual sex were positively correlated with all types of casual sexual relationships and experiences. The weakest correlation was the one of friends with benefits, whereas the strongest correlation was for one-night stands. As such, it may suggest that more familiarity with casual sex partners appears to be related with a lesser experience of negative emotions following casual sex. This finding is in line with our initial hypothesis, in which we predicted that longer-term CSREs, such as friends with benefits, may lend non-significant relationships to negative well-being markers. It is also similar to Owen and Fincham's (2011) results, in which they found that participants reported more positive than negative outcomes associated to friends with benefits. Another hypothetical interpretation is that participants who had casual sex with a trusted friend felt some benefits of the friendship aspect of the relationship, especially in the complicated and uncertain context of a pandemic.

In terms of the positive well-being markers that we studied, the majority (70%) of the correlations were significant and ranged between relatively small to relatively large. However, self-esteem was not significantly correlated to any of the CSREs. Moreover, none of the CSRE types were positively correlated with subjective happiness. One-night stands and booty calls had in fact a relatively small negative correlation with subjective happiness. The three correlations

that were relatively large were between friends with benefits and positive emotions during casual sex, friends with benefits and sexual satisfaction, and booty calls and positive emotions during casual sex. Hence, the friends with benefits CSRE type was the one with the strongest correlations to positive well-being markers. This is in line with the observation of Wesche and colleagues (2021), who reported in their systematic review of emotional outcomes of CSREs that partner familiarity was related to more positive emotions. On the other hand, one-night stands had the smallest effect sizes among the four CSREs in regard to correlations with positive emotions during and following casual sex. In other words, one-night stands with unfamiliar people does not seem to be very conducive of positive emotions from casual sex. This is in line with the hypothesis that familiarity of the sex partner increases sexual satisfaction (LaBrie et al., 2014).

The variable of positive emotions during casual sex was the one that was the most strongly and positively correlated with all four types of CSREs; followed by positive emotions after casual sex and then, by sexual satisfaction. Indeed, as Armstrong and Reissing (2015) reported, among the five most common motivations for engaging in CSREs for men and women are reasons related to pleasure such as “it feels good” (p. 926). Moreover, several researchers have found that participants tended to report more positive than negative emotions about casual sex when thinking back about their experience (e.g., Snapp et al., 2015; Owen & Fincham, 2011). Sexual experiences during the developmental period of emerging adulthood may have positively contributed to emerging adult’s satisfaction, as some emerging adults see casual sex as an experience they want to explore during their time in university (Lewis et al., 2012). Moreover, sexual satisfaction and subjective happiness were positively correlated, which seems to point to the concept of sexuality as part of global happiness (Hull, 2008). Perhaps, emerging adults who

engaged in casual sex during the pandemic appreciated the opportunity for sexual closeness that may have been lacking for possibly several months due to lockdowns and health recommendations by the government regarding distancing and social isolation. Indeed, Dion and colleagues (2023) noted that in their sample, during the Covid-19 pandemic, participants reported more frequent sex in the beginning of the pandemic (March 2020, T1) than in December 2021 (T2).

We also found significant and positive correlations between sociosexual attitudes and positive emotions during and following casual sex, as well as with sexual satisfaction. This is in line with the cognitive dissonance theory according to which a person whose behaviour is aligned with their cognitive belief would feel psychological comfort. Therefore, emerging adults who had unrestricted sociosexual attitudes and engaged in CSREs likely had the belief that casual sex is ok, and let themselves notice and experience positive aspects of the CSREs encounters. However, sociosexual attitudes were significantly and negatively correlated with subjective happiness but with a small effect size. It may be that they felt less happy generally because the restrictions imposed by the pandemic context prevented them from engaging in sexual behaviours aligned with their sociosexual attitudes. Sociosexual attitudes were not significantly correlated with psychological distress, perceived stress, self esteem, negative emotions during or following casual sex. The findings of the absence of significant correlation between negative markers of well-being and sociosexual attitudes is partly similar to results reported by Vrangalova and Ong (2014). In their study, participants who engaged in casual sex while having high sociosexuality tended to experience less distress. However, a contrasting result in our study was that self-esteem was not related to CSREs, whereas in Vrangalova and Ong's 2014 study, participants with unrestricted (high) sociosexuality experienced higher self-esteem.

The strong negative correlation between self-esteem and psychological distress seems to indicate that one's positive regard towards oneself may be protective from experiencing frequent depressive and anxious symptoms (e.g., Feng et al., 2018; Grossman & Kerner, 1998). The data which lent those results was collected during a stressful socio-historical period, namely the Covid-19 pandemic. This finding is important for informing future resilience and coping-building programs in that developing one's sense of self-worth can be a pertinent protective factor. Another result in support of that was that self-esteem was strongly and positively related to subjective happiness. It seems that not only might self-esteem protect against anxious and depressive symptoms, it may also promote more general happiness.

However, self-esteem was not significantly correlated with CSREs. A speculation regarding that finding may be that initiating contact to engage in a CSRE may not necessarily require a certain amount of self-esteem when online options for finding sex partners are available (for example, talking face-to-face with a potential partner at a bar versus sending a message via an application such as Tinder). Self-esteem was negatively correlated with negative emotions during and following casual sex; and positively correlated with positive emotions during and following casual sex. Self-esteem once again appears to act as a potential protective factor against negative emotions and as a potential facilitator of positive emotions.

Objective 2: Is Sociosexuality a Moderator of the Relationships between Casual Sex and Well-being?

In total, we conducted 36 moderation analyses with the four different CSRE types as predictors, sociosexual attitudes as the moderator, and 9 well-being markers (4 negative and 5 positive). The majority of the moderations (24/36; 67%) were not statistically significant. Of the 12 significant moderations, 10 pertained to emotional experiences and 2 to sexual satisfaction. In

sum, sociosexual attitudes was not a moderator in most instances, but with the notable exception of negative and positive emotional experiences from casual sex.

Our general hypotheses were guided by the theory of cognitive dissonance (Festinger, 1957). The theory posits that a mismatch between a person's beliefs and a person's behavior would lead to psychological discomfort. First, we hypothesized that among emerging adults with high sociosexuality, links between casual sex behaviors and negative markers of well-being (psychological distress, negative emotions during and after casual sex, perceived stress) would have a significantly smaller effect size compared to emerging adults with low sociosexuality. Second, we expected that links between casual sex behaviors and positive markers of well-being (positive emotions during and following casual sex, sexual satisfaction, and self-esteem) would have a significantly larger effect size in emerging adults with high sociosexuality (compared to those with low sociosexuality).

Importantly, the awareness of dissonant elements (i.e., knowledge and awareness of the mismatching behavior and attitude) is necessary for dissonance to occur (Harmon-Jones & Mills, 2019). Awareness of mismatching elements is more likely in temporal proximity to the event triggering the dissonance (in our study, casual sex). Discomfort experienced in proximity to the casual sex event in this study was measured with the PANAS to inquire about emotions during the casual sex experience itself and after casual sex (during the 24 hours following consensual CSREs). It was the only measure for which the time frame was contextualized to the casual sex experience. This specification appears to have played an important role in the observed results, because most moderations occurred in the context of variables evaluated with the PANAS. In other words, when a temporal time frame was added to the measure, along with a contextualization that questions pertain to emotions related to the casual sex experience, we were

able to observe interactions in moderations with sociosexuality. The rest of the significant moderations were also proximal to the experience of casual sex (e.g., sexual satisfaction).

Negative Emotions. The first hypothesis was overall supported by our results from the moderation analyses. Sociosexual attitudes moderated the relation between all CSRE types and negative emotions during casual sex. Sociosexual attitudes also moderated the link between three out of four CSRE types and negative emotions following casual sex. In general, more restricted (lower) levels of sociosexual attitudes strengthened the link between CSREs and negative emotions during and following casual sex. This is in contrast of the findings of Vrangalova and Ong (2014) who noted that participants with restricted sociosexuality did not experience negative effects of engaging in casual sex, whereas in the present study we found that sociosexuality did significantly moderate the relationship between CSREs and negative emotions experienced during and following casual sex. However, Vrangalova and Ong (2014) had used the full SOI-R scale and when the score is computed, the total score amalgamates ratings for behaviors, desires, and attitudes. This may potentially explain the difference between our results and theirs.

An interesting observation in the results was noted in the moderations between CSREs and negative emotions during casual sex. As partner familiarity increased from one-night stands to friends with benefits, the effect size of the links diminished. Indeed, for restricted levels of sociosexual attitudes, which was the level of the moderator that increased the effect size across CSRE types, the effect size in one-night stands was .47 (large), in booty calls was .46 (large), in fuck buddies it was .36 (large), but in friends with benefits, it was .20 (typical). A similar pattern was observed for the moderations with negative emotions following casual sex as an outcome. The effect size for restricted levels of sociosexual attitudes for one-night stands was large, for booty calls was still large, for fuck buddies was again large, but then the interaction was not even

significant for friends with benefits. In other words, sociosexuality may not have mattered anymore in the case of friends with benefits.

The stronger effect size found with one-night stands could be partially attributed to the potential lower degree of communication in such CSREs. One-night stands tend to be experiences where partners may know each other less well or are complete strangers to one another (Wentland & Reissing, 2011). This element of uncertainty about one-night stand partners' health, especially in the context of the COVID-19 pandemic (e.g., social distancing and mask wearing), may have been more negative or concerning, because sexual contact could have put a person at risk of contagion. Indeed, uncertainty tends to be correlated with feelings of anxiety (Carleton et al., 2012).

Moreover, the context in which one-night stands tend to occur (e.g., alcohol consumption, substance use, low communication about sexual health; LaBrie and colleagues, 2014) may interfere with getting in touch with one's sociosexual attitudes when engaging in CSREs. Casual sex with recurrent and familiar partners may provide the individuals time to reflect whether engaging in longer-term CSREs is aligned with their beliefs, in between sexual encounters; whereas one-night stands tend to occur more spontaneously. Those contextual variables were not examined in the present study but taken together may also have an impact on negative emotions during casual sex.

Positive Emotions. Our second hypothesis was not supported by our results from the moderation analyses. We had predicted casual sex behaviors and positive markers of well-being (positive emotions during and following casual sex, sexual satisfaction, and self-esteem) to have a significantly larger effect size in emerging adults with high sociosexuality (compared to those with low sociosexuality). However, only five of the 16 moderations with positive well-being

markers were significant. Moreover, surprisingly, the interactions occurred in the groups of emerging adults with more restricted (less) sociosexual attitudes, instead of the ones with more sociosexual attitudes, contrary to what we had initially expected.

The links between positive emotions during casual sex and either booty calls or friends with benefits were moderated by sociosexuality. More restricted (less) sociosexual attitudes strengthened the link between casual sex and positive emotions during casual sex. This finding went against the initial hypothesis that unrestricted sociosexual attitudes would be associated with higher well-being. Booty calls and friends with benefits had in common that partners are seen more than one time (repetition) and a certain availability of partners may be assumed. These characteristics may have made it more comfortable for people with restricted sociosexual attitudes to engage in casual sex interactions and may make it for them a preferred venue for casual sex where they find enjoyment.

The links between positive emotions following casual sex and either booty calls, or fuck buddies, or friends with benefits were not moderated by sociosexuality. On the other hand, for one-night stands, there was a significant interaction where restricted sociosexual attitudes were associated with higher levels of positive emotions. This was contradictory to the theory of cognitive dissonance. Other variables that were not taken into consideration, such as sexual fantasies as related to sociosexual orientation, may have played a role in that finding. Lehmiller (2018) noted that individuals with more conservative political views tended to have more liberal sexual fantasies. We speculate one-night stands may be a way for people to test a sexual fantasy without commitment. Following that encounter, they may integrate their experience and feel a sense of accomplishment that may be related to the experience of positive emotions following casual sex.

Another surprising finding was that unrestricted (high) sociosexual attitudes seemed to decrease the magnitude of the relationship between fuck buddies and sexual satisfaction, and the relationship between friends with benefits and sexual satisfaction. Possibly, because of the repetitive nature of this casual sexual relationship, a certain habituation may have occurred, thus lowering the emotional reaction. It seems that in our sample, in general, participants with unrestricted sociosexual attitudes appear less emotional in terms of their experiences with CSREs, both in terms of positive and negative emotions related to casual sex.

Sociosexual attitudes did not moderate the link between CSREs and general subjective happiness, but there was a significant main effect of sociosexual attitudes on subjective happiness. It appears that one's unrestricted (more) sociosexual attitudes have a small negative effect on subjective happiness. Possibly, individuals who had more sociosexual attitudes had a desire to engage in casual sex on which they were unable to act because of the context of the Covid-19 pandemic.

Objective 3: CFA of the Casual Sex Experiences Scale (CASEX)

The CASEX showed a good model fit with the four-factor structure, with a CFI (CFI = .949) slightly better than the ones (CFI = .946 and CFI = .923) initially reported in the two samples of Borisevich and Miranda (2023). Thus far, the CASEX appears to be mostly replicable in its factor structure across three samples. As such, the CASEX can aptly differentiate different types of CSREs : One-night stands, booty calls, fuck buddies, and friends with benefits.

The four types of casual sexual relationships and experiences were significantly and positively correlated with sociosexual attitudes, with relatively large effect sizes (r ranged between .31 and .39). This finding further supports convergent validity of the CASEX measure. Indeed, Borisevich & Miranda (2023) had initially observed that the behavioral subscale of the

Socio-sexual Orientation Inventory-Revised (SOI-R) had large correlations with the CASEX ($r = .65, p < .001$ in their first sample, and $r = .73, p < 0.001$ in their second sample). The present study adds evidence supporting the CASEX's convergent validity by adding the attitudes' subscale of the SOI-R. Additionally, all four types of CSREs were significantly and positively correlated to each other with relatively large intercorrelations varying between .35 to .74, $p < .001$. The presence of correlations between the four types of CSREs examined suggests that they may point to the overarching construct of casual sex, all the while the variation in strength of correlations also suggested that the four types are reasonably distinct from each other.

General contributions

Casual Sex has an Ambivalent Relationship with Well-being. CSREs are characterized by mixed feelings and complex patterns of links with well-being. The existence of negative and positive emotions was found to be simultaneously reported by participants. Correlations between CSREs and negative emotions tended to have a relatively small effect size, while correlations with positive emotions tended to have varying effect sizes (mostly typical and relatively large). This was in line with previous findings where participants report more positive than negative experiences with casual sex (Wesche et al., 2021). In our results, friends with benefits tended to have the weakest correlations with negative markers of well-being, whereas one-night stands tended to have higher correlations with negative markers of well-being. Hence, when it came to positive markers of well-being, more familiarity between casual sex partners tended to be more strongly related with positive outcomes.

The Role of Sociosexual Attitudes as a Moderator. Sociosexual attitudes did not moderate most relationships between casual sex and well-being markers. However, when there was a significant moderation, it occurred most often in the context of the experience of emotions

during and following casual sex (i.e., 10 of the 12 moderations). The other two moderations occurred with the outcome of sexual satisfaction. It seemed that attitudes about casual sex do not moderate the link between CSREs and general well-being markers but do matter more specifically in the context of the emotional experience related to casual sex and sexual satisfaction.

In the context of the emotional experience, when it came to negative emotions during and following casual sex, our hypotheses were supported by our results. Unrestricted sociosexual attitudes tended to mitigate the link between CSREs and negative emotions during casual sex. The theory of cognitive dissonance could be considered as a mechanism explaining the observed results.

On the other hand, in the context of positive emotions, the three moderations that were significant went against our initial hypotheses. Unrestricted sociosexual attitudes reduced the strength of the link between CSREs (booty calls and friends with benefits) and positive emotions during casual sex; and the link between one-night stands and positive emotions after casual sex. A potential variable that could contribute to those results may be that participants with more conservative sociosexual attitudes may have found CSREs more exciting; perhaps due to lesser frequency or novelty of the sexual experience. Indeed, people with restricted sociosexual orientation tend to engage less in casual sex behaviour (Balzarini et al., 2020).

These new observations help to map the landscape of nuances of CSREs and give an idea about how different types of CSREs relate in their own way with well-being markers. Our study is useful to base future investigations of the found links. Moreover, it provided more clarity into the role that sociosexual attitudes play (and do not play) in terms of moderating the link between CSREs and well-being markers.

Casual Sex can be Measured by a Self-Report Scale. Another contribution of the present study is that it provided additional support to the factorial validity of the Casual Sex Experiences Scale (CASEX). In the present sample, which was larger than the samples in which the CASEX was initially validated, the four-factor structure of one-night stands, booty calls, fuck buddies, and friends with benefits had a good fit. The reliability of the CASEX was also found to be good in this sample. The CASEX scores also converged with the sub-scale of sociosexual attitudes from the Sociosexual Orientation Inventory-Revised (SOI-R; Penke & Asendorpf, 2008), suggesting a good convergent validity in this sample as well. Lastly, a strength of the present study is that in the instructions to participants about filling out the survey, we specified that the study is about consensual casual sex. This has not always been the case in previous studies and could have a significant impact on findings (e.g., McKeen et al., 2022).

Limitations and Future Directions

The present study has a cross-sectional design. Findings cannot be interpreted in terms of causality because no temporal link can be established, nor were there randomly assigned experimental conditions in this study. The predictive properties of variables, in this case various types of CSREs, should be tested through a longitudinal design in which behaviour and changes in well-being markers could be observed through different time points. Nevertheless, the present study suggests that there are nuances between different types of CSREs and their outcomes on well-being, which would be worth continuing to examine in future studies.

Gender comparisons were not conducted due to uneven group sizes ($n_{\text{men}} = 224$ versus $n_{\text{women}} = 654$) and the quantity of analyses already present in the study. All the while some previous studies did not find many statistically significant effects of gender on outcomes following casual sex (e.g., Vrangalova, 2015), several studies noted a tendency of negative

consequences of casual sex for women (e.g., Bendixen et al., 2017; Mark et al., 2015). Evolutionary psychology theorists tend to predict more impactful undesired negative outcomes of casual sex on women's well-being (e.g., Buss & Schmitt, 1993) as well as some social psychology theories indicating a double-standard possibly negatively influencing well-being of women who engage in casual sex (e.g., Bogle, 2008). Future studies could examine different casual sex types and compare their outcomes by gender, possibly by employing the CASEX to measure types and frequencies of casual sex relationships and experiences.

The data were gathered during the Covid-19 pandemic (fall semester of 2020) during which university courses were held virtually and the university's campus life was not comparable to pre-pandemic levels. Therefore, this socio-historical context may render findings of the present study more or less comparable to previous research, or to future research studies, in particular in terms of well-being outcomes. Isolation, loneliness, grief of missed experiences, among others, may have been important variables that may have contributed to the variations in well-being observed in emerging adults who participated in the present study.

Moreover, emerging adults who do not attend university may have different experiences compared to our university sample. The present results may not be generalizable to emerging adults at large. Future studies may recruit community samples of emerging adults to gain a better understanding of that population, as casual sex research has mainly focused on convenience sampling of college and university students (partly also due to the campus culture of partying and exploration; Garcia et al., 2012).

Conclusion

Our study provided important information about the potential of simultaneous experience of both positive and negative emotions associated to casual sex, as well as on nuances brought by

the diversity of CSREs. Overall, correlations were larger between CSREs and positive well-being markers than between negative ones. We tested the moderating role of sociosexual attitudes, which mattered in particular for the experience of emotions related to casual sex. More restricted levels of sociosexual attitudes strengthened the association between CSREs and negative emotions, which was in line with the initial hypothesis derived from the theory of cognitive dissonance. However, a surprising finding was that the associations between some CSREs and positive emotions following casual sex were strengthened by restricted sociosexual attitudes. Lastly, we replicated the four-factorial structure of the CASEX. Results consolidated the importance for researchers to nuance CSREs by type and to consider mechanisms behind observed relationships between CSREs and well-being in future studies.

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Tables

Table 1.
Age of participants.

| Age | <i>n</i> | % of Total |
|-----|----------|------------|
| 18 | 411 | 46.4 % |
| 19 | 216 | 24.4 % |
| 20 | 118 | 13.3 % |
| 21 | 57 | 6.4 % |
| 22 | 48 | 5.4 % |
| 23 | 16 | 1.8 % |
| 24 | 14 | 1.6 % |
| 25 | 6 | 0.7 % |

Mean = 19.2, *SD* = 1.5

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|----------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|---------|-------|-------|
| 1-Age | — | | | | | | | | | | | | | | |
| 2-One-night stands | 0.12*** | — | | | | | | | | | | | | | |
| 3-Booty calls | 0.11** | 0.64*** | — | | | | | | | | | | | | |
| 4-Fuck buddies | 0.07* | 0.55*** | 0.74*** | — | | | | | | | | | | | |
| 5-Friends with benefits | 0.003 | 0.35*** | 0.59*** | 0.63*** | — | | | | | | | | | | |
| 6-Psychological distress | -0.09* | 0.10** | 0.09** | 0.10** | 0.05 | — | | | | | | | | | |
| 7-Perceived stress | -0.14*** | 0.02 | 0.04 | 0.05 | 0.05 | 0.69*** | — | | | | | | | | |
| 8-Negative emotions during casual sex | -0.04 | 0.17*** | 0.10** | 0.09** | 0.03 | 0.25*** | 0.20*** | — | | | | | | | |
| 9-Negative emotions following casual sex | -0.03 | 0.18*** | 0.10** | 0.12*** | 0.08* | 0.27*** | 0.20*** | 0.82*** | — | | | | | | |
| 10-Positive emotions during casual sex | 0.04 | 0.21*** | 0.30*** | 0.27*** | 0.33*** | -0.02 | -0.09* | 0.09** | 0.06 | — | | | | | |
| 11-Positive emotions following casual sex | 0.03 | 0.14*** | 0.24*** | 0.21*** | 0.27*** | -0.07 | -0.16*** | 0.08* | 0.06 | 0.80*** | — | | | | |
| 12-Subjective happiness | 0.05 | -0.09** | -0.08* | -0.06 | -0.03 | -0.59*** | -0.56*** | -0.21*** | -0.18*** | 0.07* | 0.15*** | — | | | |
| 13-Sexual satisfaction | 0.09** | 0.15*** | 0.24*** | 0.22*** | 0.30*** | -0.10** | -0.13*** | 0.01 | -0.02 | 0.66*** | 0.56*** | 0.14*** | — | | |
| 14-Self-esteem | 0.10** | -0.06 | -0.02 | -0.04 | -0.01 | -0.61*** | -0.61*** | -0.16*** | -0.17*** | 0.09* | 0.15*** | 0.64*** | 0.13*** | — | |
| 15-Sociosexual attitudes | 0.07* | 0.31*** | 0.39*** | 0.34*** | 0.31*** | 0.05 | -0.02 | -0.03 | -0.04 | 0.35*** | 0.23*** | -0.11** | 0.24*** | -0.03 | — |
| Mean | 19.2 | 1.4 | 1.73 | 1.52 | 1.95 | 1.68 | 2.14 | 1.68 | 1.58 | 2.98 | 2.48 | 4.08 | 3.20 | 1.79 | 15.70 |
| (SD) | 1.5 | 0.82 | 1.25 | 0.97 | 1.53 | 0.87 | 0.61 | 0.69 | 0.75 | 1.05 | 1.03 | 1.39 | 1.09 | 0.58 | 0.71 |

Note. The scores used in this table are the mean scores of scales.
* $p < .05$, ** $p < .01$, *** $p < .001$

| Table 3. | | | |
|---|-----------------------|------------------|----------------------------|
| Factor intercorrelations (standard error in parentheses). | | | |
| | F1 – One-night stands | F2 – Booty calls | F3 – Friends with benefits |
| F2 | .77 (.03) | - | - |
| F3 | .45 (.04) | .70 (.03) | - |
| F4 | .76 (.05) | .93 (.04) | .72 (.06) |

| Table 4. Summary of moderation analyses results by types of CSREs and well-being outcomes, as moderated by sociosexual attitudes (SA). | | | | |
|--|---|---|--|--|
| | One-night Stands (ONS) | Booty Calls (BC) | Fuck Buddies (FB) | Friends with Benefits (FWB) |
| Psychological distress | ONS main effect * | BC main effect* | FB main effect* | - |
| Perceived stress | - | - | - | - |
| Negative emotions during casual sex | ONS main effect*** SA main effect *** Interaction *** (all levels, lower levels SA associated with higher levels of negative emotions during) $\beta = 0.47$ low levels | BC main effect*** SA main effect *** Interaction *** (low SA associated with higher levels of negative emotions during) $\beta = 0.46$ low levels | FB main effect*** SA main effect * Interaction *** (low SA associated with higher levels of negative emotions during) $\beta = 0.36$ low levels | FWB main effect* Interaction * (low SA associated with higher levels of negative emotions during) $\beta = 0.20$ low levels |
| Negative emotions following casual sex | ONS main effect*** SA main effect *** Interaction *** (all levels, lower levels SA associated with higher levels of negative emotions following) $\beta = 0.46$ low levels | BC main effect*** SA main effect *** Interaction *** (low SA associated with higher levels of negative emotions following) $\beta = 0.42$ low levels | FB main effect*** SA main effect * Interaction *** (all levels, low SA associated with higher levels of negative emotions following) $\beta = 0.32$ low levels | FWB main effect** SA main effect* |
| Positive emotions during casual sex | ONS main effect*** SA main effect *** | BC main effect*** SA main effect *** Interaction * (all levels, low SA linked to higher positive emotions) $\beta = 0.34$ low levels | FB main effect*** SA main effect *** | FWB main effect*** SA main effect *** Interaction * (all levels, low SA linked to higher positive emotions) $\beta = 0.34$ low levels |
| Positive emotions following casual sex | ONS main effect *** SA main effect*** Interaction *** (low SA associated with higher levels of positive emotions) $\beta = 0.23$ low levels | BC main effect *** SA main effect *** | FB main effect*** SA main effect *** | FB main effect*** SA main effect *** |
| Subjective happiness | - | SA main effect * | SA main effect * | SA main effect ** |
| Sexual satisfaction | ONS main effect** SA main effect*** | BC main effect *** SA main effect *** | FB main effect*** SA main effect *** Interaction * (all levels, lower levels SA associated with higher levels of sexual satisfaction) $\beta = 0.28$ low levels | FB main effect*** SA main effect *** Interaction * (all levels, lower levels SA associated with higher levels of sexual satisfaction) $\beta = 0.38$ low levels |
| Self-esteem | - | - | - | - |

Notes. Statistical significance is flagged with asterix as follows: * $p < .05$, ** $p < .01$, *** $p < .001$

Figures

Figure 1a

General Hypothesis 1

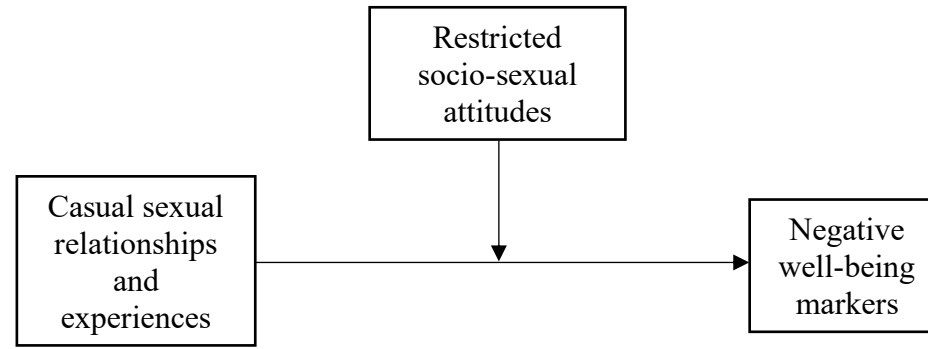
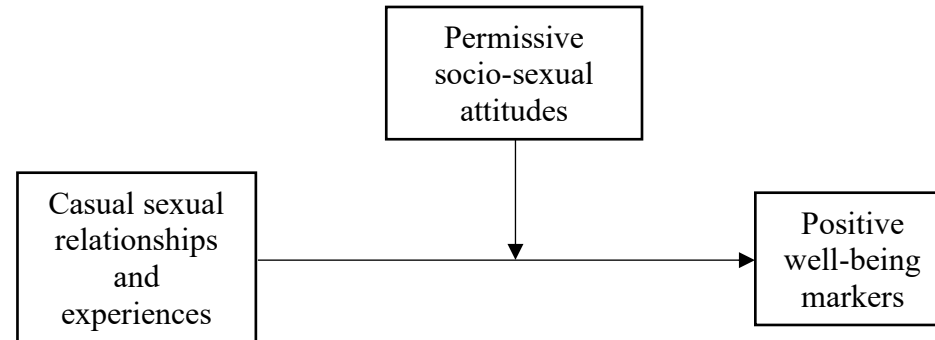


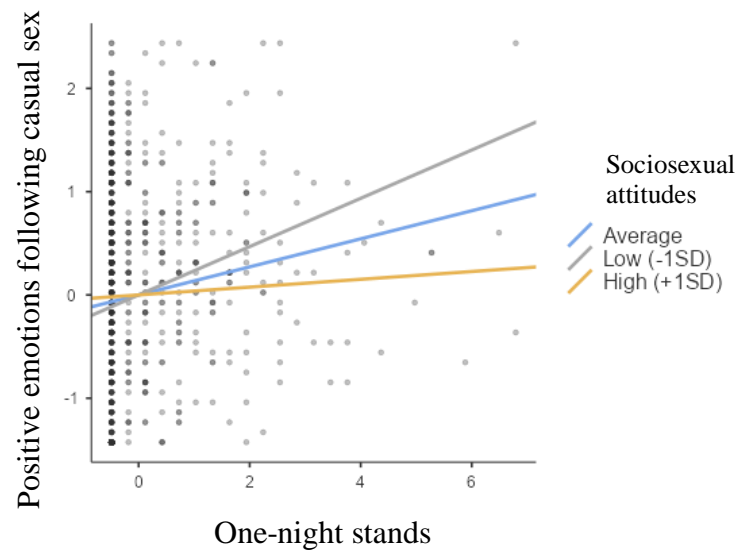
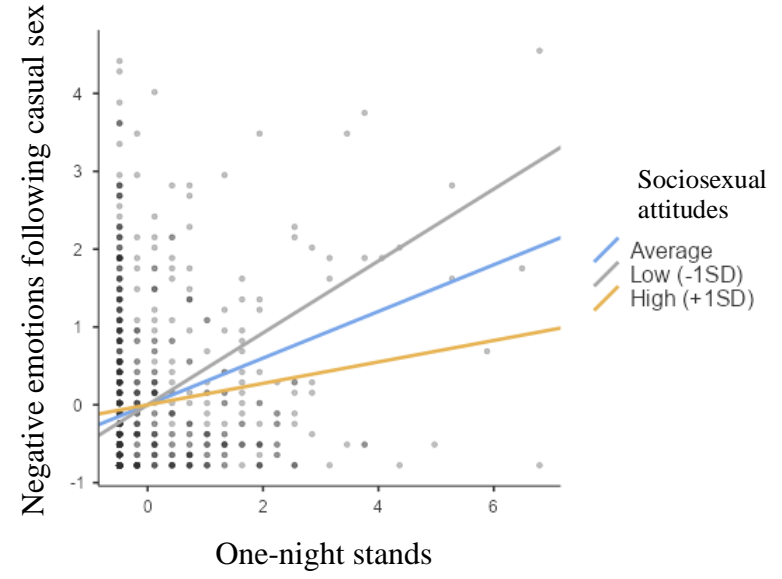
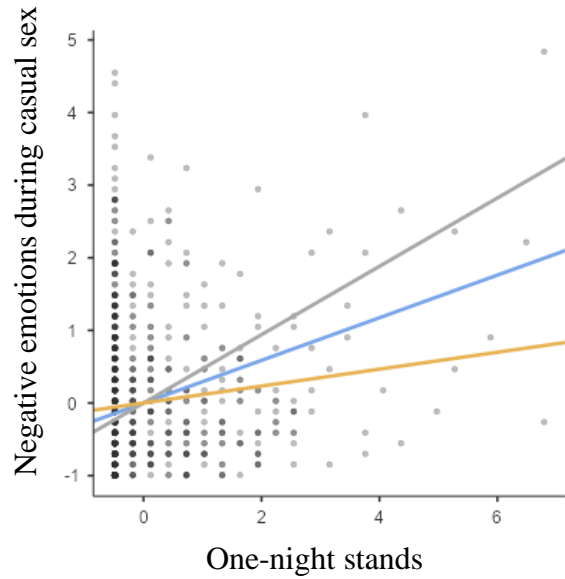
Figure 1b

General Hypothesis 2

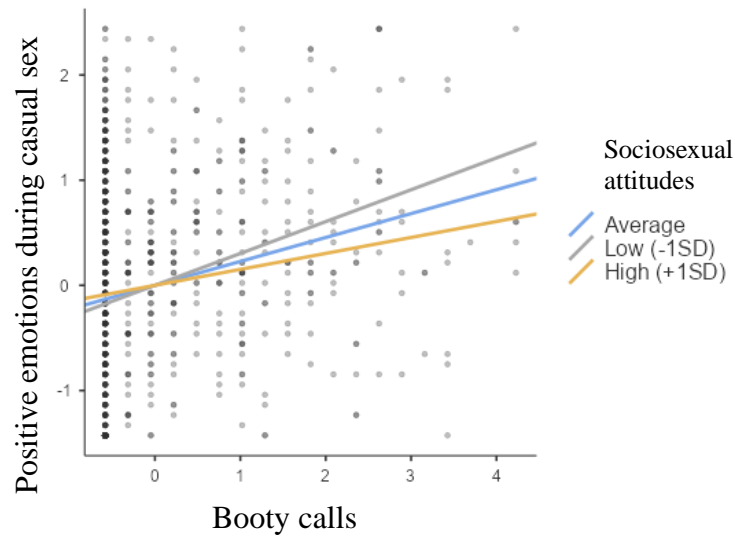
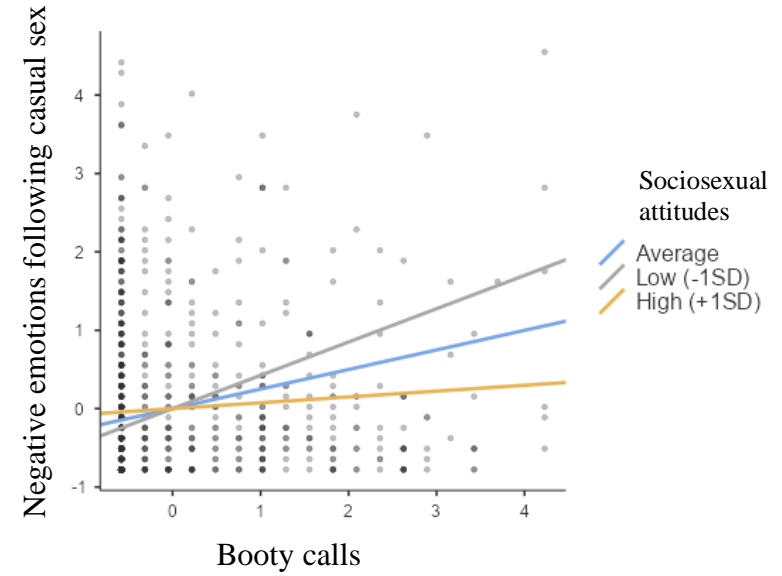
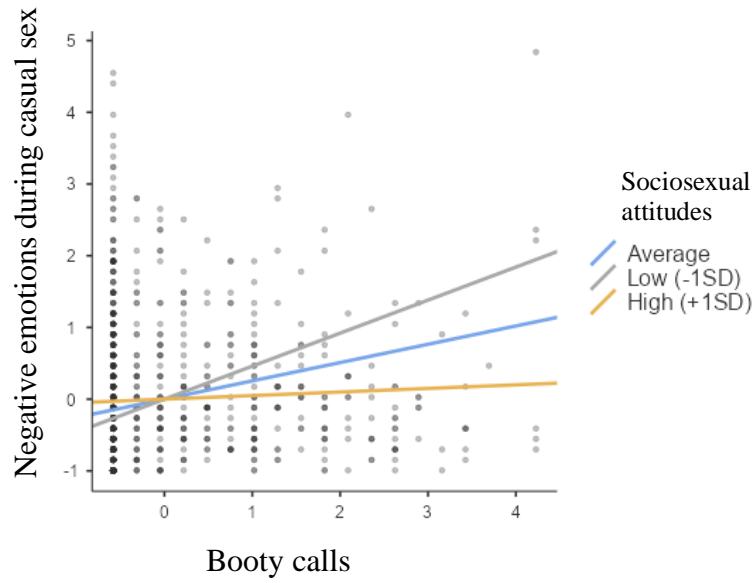


Appendix A

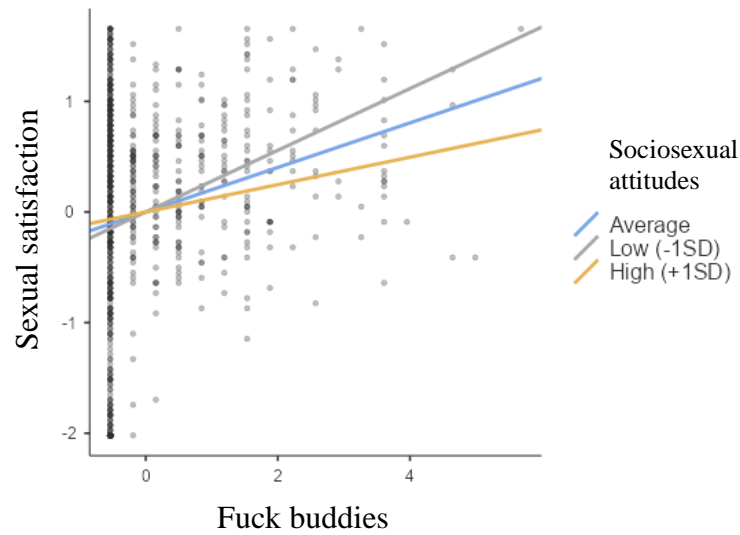
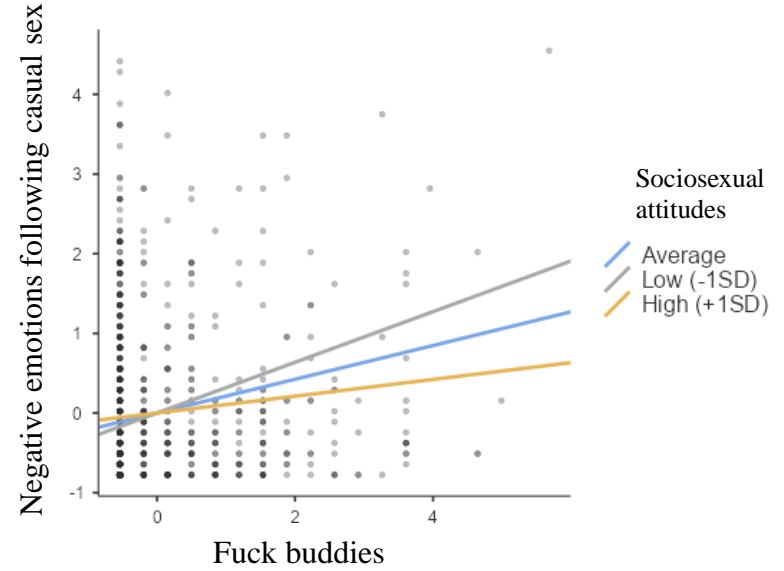
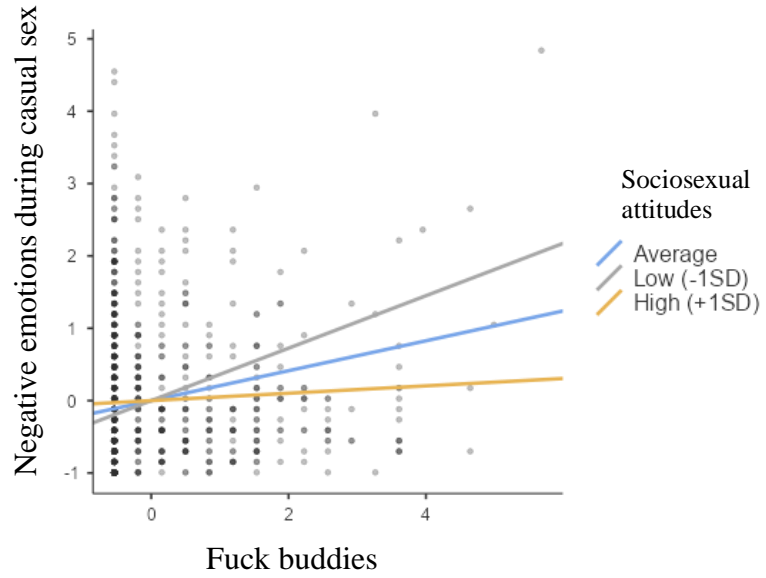
Simple Slope Plots – One-night Stands



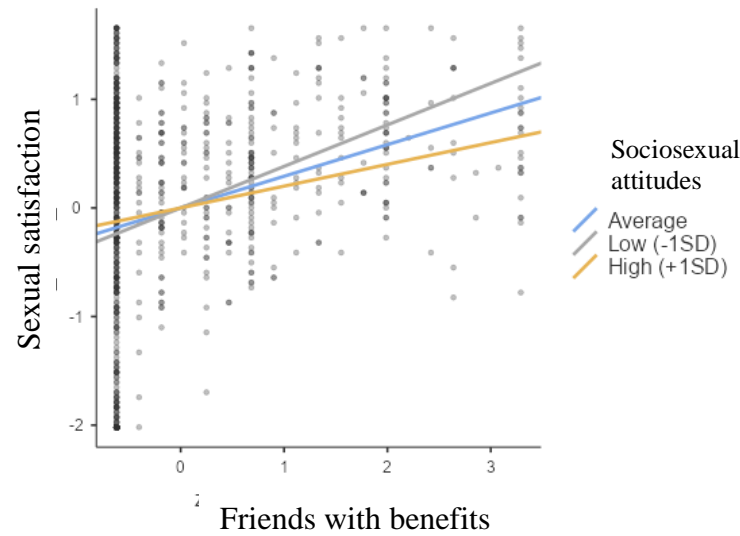
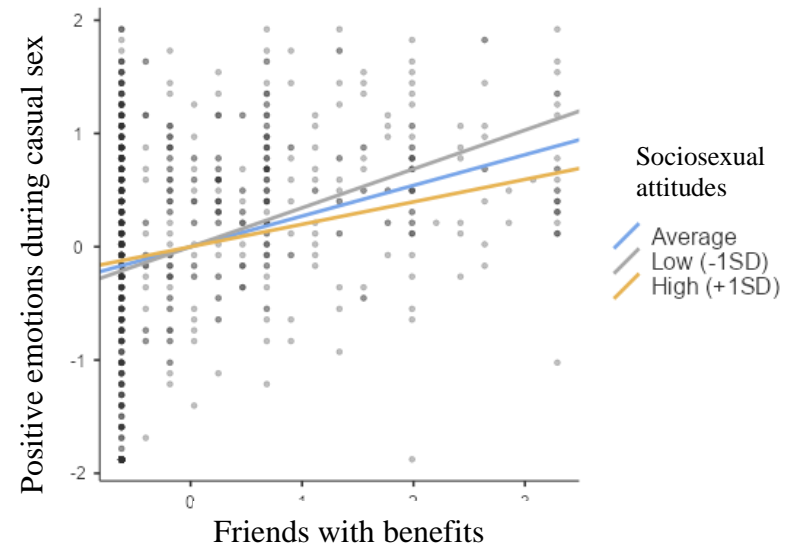
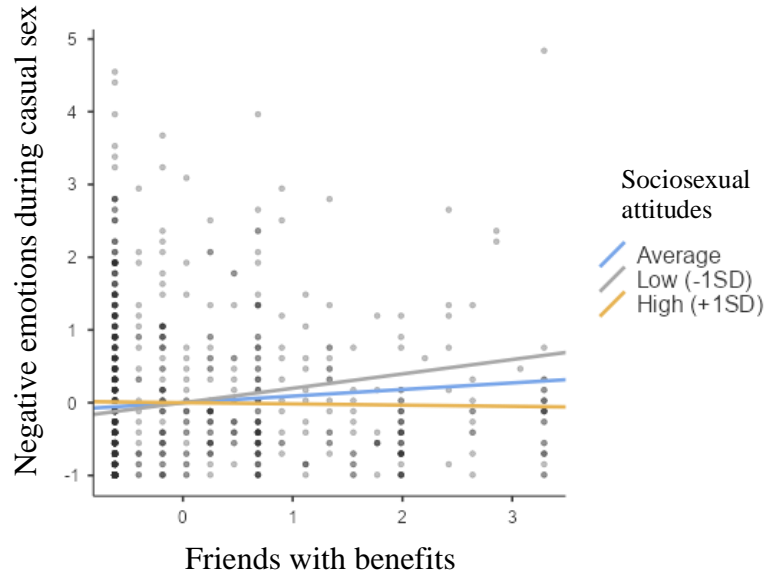
Simple Slope Plots – Booty Calls



Simple Slope Plots – Fuck Buddies



Simple Slope Plots – Friends with Benefits



CHAPTER 4
General Discussion

Summary

The present dissertation pertained to casual sex among emerging adults and its relationship to well-being. The definition of casual sex, a common phenomenon among emerging adults and college/university students in particular (Claxton & van Dulmen, 2013), has stayed somewhat vague and ambiguous in previous research (Bible et al., 2022). Details about different types of casual sexual relationships and experiences (CSREs) were sometimes tossed in the same bag and seldom was there identification of the particular casual sexual relationship or experience to which authors referred in their studies of casual sex or hookups. Some exceptions are studies on specific types of CSREs, such as Lehmler and colleagues' (2014) research on friends with benefits or Jonason and colleagues' (2011) research on booty calls, or a more recent article by Segovia and colleagues (2019) which asked participants to identify the specific type of CSRE in which they engaged. Nevertheless, the lack of clarity about types of CSREs in much of the research is problematic because nuances about casual sex, such as familiarity between sex partners, length of the relationship/experience, and function thereof, were not specified. These details matter, as evidenced by some studies that were focused on a specific type of casual sex. For instance, negative outcomes seem to be more related to shorter-term CSREs in which partners do not know each other a lot (Snapp et al., 2015; Uecker & Martinez, 2017; Wesche et al., 2018) and less related to longer-term casual sex relationships in which partners are more familiar with each other (e.g., Garcia et al., 2014).

In this thesis, the first study pertained to the creation and validation of a measure of four distinct types of casual sexual relationships and experiences, the *Casual Sex Experiences Scale – CASEX*, to provide researchers with a valid and reliable tool for measuring casual sex. The CASEX permits the identification of four types of CSREs, namely one-night stands, booty calls,

fuck buddies, and friends with benefits. The CASEX can be administered to calculate frequency of CSREs behavior. In the second study, we once again verified the validity (factorial structure) and reliability (internal consistency) of the CASEX. We also contributed to the extant literature by nuancing well-being outcomes by types of casual sex identified through the CASEX. We provided a more complete picture of well-being markers by including both negative and positive markers of well-being. We also tested the theory of cognitive dissonance in the context of casual sex by verifying whether sociosexual attitudes moderated the relation between CSREs and well-being markers. Below, sets of findings from the present dissertation's studies are outlined, along with their respective limitations. They are followed by general limitations, future research directions, and potential practical implications.

Key Findings

Validation of the Casual Sex Experiences Scale (CASEX)

In the first study, the development and validation of the Casual Sex Experiences Scale (CASEX) were reported. The results in the first study, from two confirmatory factor analyses (CFAs) across two independent samples, indicated that casual sex behaviour in emerging adults can be quantitatively distinguished into four types: one-night stands, booty calls, friends with benefits, and fuck buddies. In addition, we performed a third confirmatory factor analysis in the second study, with a third independent sample. The results indicated again an acceptable fit for a four-factor model of CSREs. This finding was in line with previous qualitative research among focus groups with emerging adults, in which these four types of CSREs had emerged (Wentland & Reissing, 2011, 2014). This quantitative operationalization, differentiation, and gradation of four different types of casual sex is perhaps the prime original contribution from the present

dissertation. In other words, this is probably an important psychometric advancement in the field of research on casual sex because it often lacked rigour in both concepts and measurement.

Indeed, one of the main benefits and contributions of the development and validation of the CASEX is that it could be employed as a standard tool to compare the same types of CSREs across different studies. It is an easy and quick scale for participants to complete, containing 13 items with which participants can report frequency of engaging in different types of CSREs. The CASEX also contains a brief introductory paragraph to put participants at ease for answering what some may perceive as sensitive or personal questions. This is also a strength of the scale, as research has shown that such introductory statements can encourage participants to answer more truthfully, while also validating and normalizing their experience (DiIorio, 2005). The CASEX's wording is neutral and non-judgemental in order to control the framing effect (Stalans, 2012), where participants could place more importance on some elements depending on the opening statements of the questionnaire.

Moreover, of particular conceptual relevance, the introductory paragraph serves to provide a clear and precise definition of casual sex. As per Kalkbrenner (2021), terms that may be ambiguous should be defined for concordance between the researcher's idea and the participant's understanding thereof. The definition of sex provided was aimed at penetrative sex, because this type of sexual activity has been found to be the most strongly correlated to well-being outcomes in past research (Dubé et al., 2017; Fielder & Carey, 2010; Olmstead et al., 2013). This scale could nevertheless be adapted depending on the behaviours, contexts, phenomena, and populations studied to include more diverse sexual behaviours. For instance, it could be adapted to polyamorous and consensual non-monogamous sexual experiences.

An element that adds to the confidence we can place on the four-factor structure of the CASEX is that we took the care to randomize the order of presentation of items for participants in the surveys using a random number generator (random.org). This precaution was employed because we wanted to leave the possibility of the four-factor model fit to be infirmed. In other words, randomizing the order of presentation of the items made it easier to observe a lack of fit and poor model indices as compared to if the items were already sorted in their appropriate factorial category. Indeed, Kalkbrenner (2021) proposed to disperse items of a same theorized cluster to reduce odds of an artificially favorable response pattern. The four-factor structure appears to be replicable and demonstrated encouraging psychometric properties. Internal consistency was good to excellent in all three samples.

Nevertheless, some of the initial items were removed from the final version of the scale. For example, items 13 and 17 initially written for the friends with benefits CSRE type, had the highest modification indices in terms of cross-loading on other factors, in particular on booty calls and fuck buddies. Both items were constructed around the idea of “a friend”. Perhaps merely using the word “friend” was too general for it to be distinguishable enough from “buddy” or from friendliness that may be present in booty call experiences. Items that were reflective of a longer longevity of the friendship (i.e., one of my best friends) and the qualities of a friends with benefits relationship (trust and safety) were the ones kept in the final version of the CASEX as they performed better in the CFA; and were also the most theoretically compatible with the concept of friends with benefits.

Some items were removed for the sake of parsimony as they seemed similar/redundant to other ones (e.g., “I had sex with someone I knew very little” and “I had sex with someone I just met” from the one-night stands factor.). Others were removed as they may have been more

ambiguous to interpret. For example, the item “I had sex with someone I have had sex with before because we have a lot of fun in bed together.” from the fuck buddies factor could potentially have applied to booty calls and friends with benefits, even though “fun sex” was one of the characteristics of fuck buddies defined in Wentland and Reissing (2014). The final 13 items of the CASEX in the first study were thereafter used in the second study to distinguish how different types of CSREs relate to well-being.

We verified construct validity through testing convergent and discriminant validity. All measures in the first study that were used for convergent validity correlated in the expected directions, except for the trait of extraversion. In both samples of the first study, the trait of extraversion did not correlate with CSREs reported over the last 6 months; whereas previous studies had found links between the personality trait of extraversion and casual sex (Judd et al., 2022; Gute & Eshbaugh, 2008). A potential explanation may be that even participants who were higher on extraversion may have had reduced opportunities for casual sex in the context of the Covid-19 pandemic. For instance, Qalati and colleagues (2022) found in their review of the literature on sexuality and the Covid-19 pandemic that sales of sex toys had doubled, whereas partnered in-person sexual activities diminished. More online sexual activities were present during the pandemic (e.g., Shilo & Mor, 2020), for which the CASEX would not have accounted as skin-to-skin or toy-to-skin or condom-to-skin sex activities (genital fondling, oral sex, anal sex, penile-vaginal penetration, and/or penetration with a sex toy with a casual sex partner) were the ones participants were asked to report in our studies.

The personality trait of conscientiousness was negatively correlated with our measure. This was in line with findings from a previous study by Gute and Eshbaugh (2008). A lack of conscientiousness can be described by a tendency of being messy, procrastinating, having lower

self-control, and sometimes behaving irresponsibly (Soto & John, 2017). Gute and Eshbaugh (2008) explain that individuals lower on conscientiousness tend to have a higher interest in sexuality and do not feel pressured by moral standards or by potential consequences (McCrae et al., 1986), which may be reasons for engaging in non-committed sex (one-night stands in particular in that study).

The Sexual Abstinence Behavior Scale (SABS) did not significantly correlate with the CASEX, whereas we had hypothesised that it would correlate negatively. Surprisingly, from the results in our validation study, sexual abstinence did not appear to be the obvious opposite of casual sexual behaviour. Although the SABS is named a behavioral scale, there is one item that is more cognitive, namely “How often did you tell yourself you were making the right decision by waiting to have sex?”. Also, two other items refer to communication (verbally refusing sex), which may situate the scale in a different domain than sexual behaviour. In other words, the SABS might evaluate the social communication and cognition tools participants employ to abstain from sex.

The behavioral subscale of the Sociosexual Orientation Scale – Revised (SOI-R; Penke & Asendorpf, 2008) containing items pertaining to casual sex behavioural frequency and partner count had a strong significant correlation with the CASEX. This was indicative of a good conceptual validity for our scale because both measures inquire about sexual behaviour. Scales about liberal sexual attitudes (the Sexual Attitude Scale, the Permissiveness subscale of the Brief Sexual Attitudes Scale, and the Attitudes subscale of the SOI-R in the second study) were also significantly correlating in the expected direction with the CASEX.

In terms of divergent validity, the Marlowe-Crowne social desirability scale had a weak negative correlation with the CASEX in our first sample; and did not significantly correlate with

the CASEX in our second sample. As expected, social desirability and casual sex are two distinct constructs. The Pro-Environmental Behavior Scale did not significantly correlate with the CASEX in neither of our samples, which also contributes to divergent validity.

Limitations and Future Directions. While the CASEX responded to the need of differentiating among different types of casual sexual relationships and experiences, several limitations are worth noting. The CASEX would benefit from further replications in different sociocultural and sociohistorical contexts. The psychometric qualities of the CASEX should be re-examined with future samples collected during a historical period in which a pandemic is not affecting human sexual behaviours. Studies on sexual behaviour during the Covid-19 pandemic appear to reflect a trend towards sexual activity online (Goller et al., 2022). Frequency of engaging in solo sexual behaviours and purchases of sex toys have increased during the pandemic (Qalati et al., 2022). Online platforms provided opportunity of sexual activity that eliminated the risk of Covid-19 transmission, either through solo sexual activity (e.g., masturbation while watching porn) or partnered online sexual activity (e.g., through video-calls). Despite the availability of those options, of note is that even within our samples which were all collected during the pandemic, there were still participants who engaged in in-person casual sexual activity.

A lot of changes were observed in people's lives during the pandemic in the context of both the public and private spheres. The increase of sexual desire and the decrease of opportunity for in-person sex appeared to be a challenge for people during the pandemic (Ballester-Arnal et al., 2021). This potentially uncomfortable duality between desire and lack of opportunity; combined with the threat of physical illness or a fine issued by the authorities for infringing confinement or social distancing rules presented an out-of-the ordinary context for studying

casual sex behaviour. In future research, we suggest that the CASEX's factorial, convergent, and divergent validities, as well as reliability, be tested within a more typical socio-historical context.

Another limitation is that there was a lack of gender diversity that is more representative of the demographics of emerging adults in Canada. Female was the most prevalent gender of participants in both samples of the validation of the CASEX. Genders other than male and female were fewer in representation in our sample, and it may be possible that the four-factor structure of CSREs does not generalize to all genders. This gender distribution can be a common occurrence in research with convenience sampling among pools of students enrolled in first-year courses at university. One might hypothesize that there would not be significant gender differences in the factorial structure if the CASEX were to be compared between a sample of men and of women, because in Wentland and Reissing's (2014) study, both men and women associated correctly the definitions of the four types of CSREs with their labels. Nevertheless, for more representative results, the CASEX's psychometric properties should be tested with samples that are more representative of gender diversity; and during recruitment, specific attention could be called to gender minorities, and men in order to attain a more representative sample.

The wording of items of the CASEX were limited in that they did not incorporate the possibility that a one-night stand or other CSRE may have occurred with more than one partner in the same instance. The way items are phrased refer to one person at a time. However, for future studies on casual sex with multiple partners (such as in threesomes, within the context of consensual polyamory, or "swinging"), wording may be modified and a new validation would be recommended to ensure representation of the behaviour and population under study (e.g., Thompson and colleagues, 2021, described attributes of mixed-gender threesomes). Lastly, technology-mediated sex encounters (e.g., video sex, remote-controlled sex toys) were not taken

into consideration. A specific measure of engaging in casual sex through that medium; or a separate category of the CASEX, could be developed in future studies.

Consensual Casual Sex and Well-being among Emerging Adults

Casual Sex Engagement in the Context of the Covid-19 Pandemic. Most data for this dissertation was collected in reference to time periods during the pandemic, with the exception of a part of the first sample of the first study. Nevertheless, the majority of participants from the three samples reported having engaged in casual sex over the last 6 months or year. We observed a drop of 11% of participants engaging in casual sex in the last 6 months from the first sample to the second sample of the first study. There was also a slight decrease in the average amount of different casual sex partners between the first and second sample of the first study. These reductions may be reflective of the social impact of the Covid-19 pandemic and compliance with health regulations of physical distancing. At the same time, our data shows that a good portion of emerging adults from our samples did not follow these recommendations.

This was the case for a portion of participants from a study in Spain who answered questionnaires during a three-month confinement period. Ballester-Arnal and colleagues (2021) found that 38 % of women and 29 % of men from their adult sample ($n = 1448$; M age = 31.9, $SD = 10.1$) reported an increase in their sexual desire (while about a third reported less and approximately another third reported same sexual desire as prior to confinement). While both female and male participants reported increase in masturbation activities during the pandemic (as compared to prior), also about four percent of male and female participants reported having broken confinement rules to have sex. In another study conducted by Silva Junior and colleagues (2022) in Brazil with a sample of 583 men (M age = 28.6, $SD=8.6$), the authors found that 38.3% of men reported having had casual sex during the pandemic.

On the other hand, Rodrigues and colleagues (2022) found that a predictor of *not* engaging in sexual activities during the Covid-19 pandemic was a person's focus on prevention. Their study was done with adults (M age = 30.7, SD = 11.8) in a short-term longitudinal design. Adults who had a focus on prevention engaged in health-protective behaviours, had less sexual activities, and fewer sexual partners.

Interestingly, there appears to possibly have been a harm reduction approach in emerging adults' decision-making in samples from our studies. Friends with benefits were the most frequent type of CSRE in which emerging adults engaged across samples. Possibly, participants were aware of their friend with benefits' health habits and may have included their friend with benefits in their "social bubble" (in the province of Ontario, social bubbles of a certain amount of people were proposed to citizens to limit contamination).

The continuation of engagement in CSREs during the Covid-19 pandemic speaks to the importance that emerging adults may place on sexuality to lead a satisfying life and potentially benefit from the developmental period of emerging adulthood. Even in contexts where in-person contact could have put one's health at potentially serious risk, or the health of loved ones, and at a larger perspective, the population's health at increased risk of contamination (and in some cases, death), some emerging adults still engaged in casual sex. It seems that casual sex as a reproductive strategy (i.e., short-term mating, Buss & Schmitt, 1993) or as a part of the exploration and identity formation phase of emerging adulthood (Claxton, 2021) could help explain emerging adults' engagement in CSREs in a difficult sociohistorical context.

Mixed Emotions in Casual Sex. The second study of the present dissertation contributed to the research on casual sex by demonstrating that different types of CSREs may be differently related to different well-being markers. New nuances were discovered in terms of casual sexual

behaviours, attitudes, and well-being markers. CSREs were accompanied by mixed feelings and complex patterns with well-being. The existence of negative and positive emotions during and following casual sex were found to be simultaneously reported by participants. Links between CSREs and positive emotions had larger effect sizes than links between CSREs and negative emotions, which was in line with previous findings (Wesche et al., 2021). Generally, friends with benefits tended to be less strongly correlated to negative well-being markers, whereas one-night stands were the most strongly correlated, as initially hypothesized.

Friends with Benefits: Familiarity may Help but it Can Come at Some Cost. In most of the analyses in the second study, the friends with benefits CSRE type was the most strongly and positively correlated to positive emotions and the least strongly correlated to negative emotions. While experience with friends with benefits was significantly and positively correlated to negative emotions following casual sex, it still had the weakest correlation among all four types of CSREs that we examined, and the correlation was relatively small. Moreover, among all four CSRE types, friends with benefits had the largest correlations for positive emotions both during and following casual sex. Friends with benefits were also positively associated with sexual satisfaction (although all four types of CSREs were also significantly associated with sexual satisfaction) and was the only one not significantly correlated with psychological distress.

It appears that characteristics of the friends of benefits can explain those findings. In the items used to assess friends with benefits' frequency, the concepts of knowing the person (i.e., one of my best friends), safety, and trust were highlighted. This is in line with the idea that familiarity of the sex partner can increase sexual satisfaction (LaBrie et al., 2014) and also with the theorized benefits proposed by Wentland and Reissing (2011; 2014). Wentland and Reissing (2011) theorized that a more prolonged relationship with a sexual partner may provide more

sexual pleasure to the partners due to better communication, and stronger emotional connection between partners. Wentland and Reissing (2014) proposed that the clearer are the expectations between the casual sex partners (e.g., not expecting to be monogamous or that the relationship will evolve to a romantically committed one), the less disappointment (and subsequent feelings of sadness) they may experience. Given the recurrent nature of friends with benefits, and likelihood of encountering the friend with benefit as a friend as well, it may open more doors to that communication to occur. Indeed, Weaver and colleagues (2011) identified from their qualitative study on friends with benefits, that participants reported closeness and companionship as a positive aspect of their casual sex relationship, as well as safety and trust. Yet, in another study on friends with benefits, Garcia and colleagues (2014) found that their participants reported more positive emotional reactions about their casual sex with a friend, such as feeling happy, desired, and satisfied. From a health behaviour perspective, friends with benefits practiced safe sex more frequently than romantic couples (Lehmiller et al., 2014). In a time of the Covid-19 pandemic, this factor may have contributed to lower possible distress about contracting a virus.

It is not to say that engaging in a friends with benefits relationship may not come at some risk or cost. Participants from Garcia and colleagues' (2014) study reported feeling confused or used, although the percentages of negative emotions tended to be lower compared to the positive emotions reported. In a quantitative study, Gusarova and colleagues (2012) found that 22% of participants (men and women) reported emotional complications in the context of their friends with benefits relationship. In our study, friends with benefits experiences were nevertheless correlated with negative emotions during and following casual sex. The correlations were relatively small and had the smallest effect sizes amongst the four types of CSREs.

Sociosexual Attitudes Do Not Always Play a Moderating Role. We tested whether the links between friends with benefits and well-being markers would be moderated by sociosexual attitudes. We found that restricted (low) sociosexual attitudes amplified the effect of CSREs on negative emotional experience during casual sex but sociosexual attitudes did not play a great role on emotions after the sexual experience, nor on subjective happiness. Indeed, emotions are limited in time and tend to be triggered by events (external or internal, such as thoughts; Frederickson, 2001). Emotions are influenced by the meaning, interpretation, or models of the individual (Mikulincer & Shaver, 2016). In our study, the external event in proximity to the emotion, i.e., during casual sex, was where sociosexual attitudes were a moderator. Unrestricted (low) sociosexual attitudes amplified the relationship between some CSREs and positive emotions during casual sex and sexual satisfaction. This was contrary to the initial hypothesis. Potentially, for participants who reported engaging in friends with benefits behavior and had more restricted views on sexuality, a friends with benefits arrangement may have been more comfortable for them to engage in casual sex with someone they knew and trusted. Participants may have been positively surprised by their friends with benefits experience.

Limitations and Future Directions. Within the CSRE category of friends with benefits, there appears to be different subtypes that could be further explored in future research. Indeed, Mongeau and colleagues (2019) found differences in communication between friends with benefits partners depending on how the transition to friends with benefits happened. They proposed a model based on the axes of closeness and romantic desire on which friends with benefits relationships can be placed on a continuum. With that model, they proposed how people can transition in and out of the friends with benefits relationship (either to romantic relationship, no relationship, or back to friendship). Indeed, in a study on the trajectory of friends with

benefits, Machia and colleagues (2019) noted that 59 % of their participants who wanted to transition back to being friends were able to do so successfully but that participants who wanted to move into a romantic relationship had more difficulty doing so (15 % succeeded; while 19 % kept their friends with benefits status, and the rest were split into going back to just friendship or no relationship at all). Although the CASEX delineates the category of friends with benefits, there may be subcategories that were not taken into account.

An important consideration in the interpretation of results from the second study of the present dissertation is the nature of the items composing the friends of benefits subscale. Positive findings related to friends with benefits may have been partly biased by the items that were retained in the CASEX. For instance, elements of having sex with a friend with whom it felt safe and could be trusted; as well as considered as among one's best friends all tend to be positive aspects of the friends with benefits relationship type. It may have been that those three items were salient because of the pandemic context. For instance, it may have been a way to mitigate risk of Covid-19 contagion by having sex with people whom one trusts to have followed some precaution (e.g., hand washing, mask wearing).

In sum, we discovered through our study that the friends with benefits category appeared to have the most advantages in terms of its relation to well-being, and that levels of sociosexual attitudes can moderate the relationship between CSRE types and well-being markers. However, there is still more room for exploration about the individual characteristics of persons who engage in CSREs that are related to more positive well-being outcomes. Future studies could, for example, verify which personality traits tend to be related to positive well-being outcomes, as differentiated by CSREs types.

One-night Stands: One (Somewhat Satisfying) Night for a Reason? One-night stands were positively correlated with positive emotions during casual sex, following casual sex, and sexual satisfaction. The aforementioned correlations had the smallest effect sizes amidst all of the links between CSREs types and positive emotions. Additionally, one-night stands were negatively correlated with subjective happiness, positively correlated with psychological distress, and positively correlated with negative emotions during and following casual sex. Those results appear to suggest that one-night stands may be the type of CSRE that is the least positive in terms of well-being. This appears to once more be in line with the idea that unfamiliarity of the sex partner can decrease sexual satisfaction (Wesche et al., 2021). Possibly, contextual variables related to one-night stands that were not examined here but that tend to be typical for this kind of CSRE may contribute to the strength of those links. For instance, substance use may contribute to not using protection (George, 2019) or forgetting whether protection was used. In turn, this could in part explain negative well-being following the encounter due to nervousness or restlessness about potential risk of sexually transmitted infections or pregnancy. If alcohol use was present, it could have also diminished the sexual arousal (which can be dose and context-dependent; George et al., 2008, 2006). Another potential factor that could contribute to the experience of negative emotions may be if the one-night stand was in the context of infidelity, in particular for women who tend to experience feelings of guilt (Fisher et al., 2008).

Sociosexual Attitudes can be a Moderator in the Context of Emotions. Different levels of sociosexual attitudes did not influence the strength of the association between one-night stands and: psychological distress, subjective happiness, sexual satisfaction, and self-esteem, perceived stress, and positive emotions during casual sex. It seems that for more general

indicators of well-being about which we inquired over a longer period of time (with the exception of positive emotions during casual sex), sociosexual attitudes were not a moderator.

However, levels of sociosexual attitudes did moderate one-night stands' link to negative emotions experienced both during and following casual sex. We observed that restricted levels of sociosexual attitudes strengthened one-night stand's link to negative emotions. This was in line with the cognitive dissonance theory that inspired the initial hypothesis that if there is casual sexual behaviour that is performed in misalignment with one's sociosexual attitudes, the person may feel emotional discomfort. Maybe initial desire and pleasure-seeking (common motivations for engaging in CSREs, McKeen et al., 2022) were high enough to motivate the initiation of casual sexual behaviour. However, once in the sexual interaction, conflicting thoughts may embark, bringing cognitive dissonance and discomfort. One-night stands could be anxiety-provoking due to lesser predictability of behaviour of the sexual partner because of the unknown element. This unpredictability and uncertainty may, for instance, drive anxious emotional reactions.

On the other hand, there were significant main effects of both one-night stands and sociosexual attitudes on sexual satisfaction and on positive emotions during casual sex. Participants may have been able to experience pleasure as they may be worried less about potential relationship consequences of the one-night stand, as one-night stands are the CSRE type with the least commitment (Segovia et al., 2019). Potentially, having a one-time sexual experience with a stranger makes it easier for the people who engage in it to express their sexuality free of judgement, as at the time of the encounter, they do not intend to see that person again.

Limitations and Future Directions. We discuss the results from the present dissertation in a noncausal manner when looking at the different types of CSREs and their relationships to well-being markers. Future studies could employ a study design that would permit group comparison between CSRE types and well-being outcomes. More specific to one-night stands, variables such as context and alcohol consumption were not considered in our study. Future studies could integrate contextual variables in models to be tested. Future studies should also continue, like we did in the present studies, to specify if they are asking about consensual or non-consensual encounters. This is of course important across all CSREs, and maybe even greater attention could be placed on consent in the context of one-night stands, where communication appears to be lower and verbal and non-verbal communication may be mis-interpreted, especially because of the higher use of alcohol in one-night stands experiences (Labrie et al., 2014).

Booty Calls and Fuck Buddies: The CSREs in the Middle. Booty calls and fuck buddies have in common a certain knowledge of the sexual partners, as well as a common sexual history (i.e., booty call partners and fuck buddies have already had sex together in the past). However, fuck buddies have developed a bit of a friendship through their sexual activities, whereas booty calls tend to be more utilitarian. A difference that we found between booty calls and fuck buddies was that the correlation between subjective happiness and booty calls was negative and significant, however it was non-significant for fuck buddies. Although the correlation was weak, it may be that fuck buddies had a more developed relationship compared to booty call partners, and that slighter closeness may have acted as a protective factor.

Both booty calls and fuck buddies CSREs positively and weakly correlated with psychological distress. Interestingly, booty calls and fuck buddies were positively and

moderately correlated with sexual satisfaction, positive, and negative emotions during and following casual sex. The correlation with psychological distress for both booty calls and fuck buddies was weak, while self-esteem was not significantly correlated to either. Future research focusing on those two CSRE types could further inquire about sources of negative emotional experience during and following casual sex. The findings from our study overall seem to point to several positive aspects of engagement in booty calls and fuck buddies CSREs. These positive aspects may outweigh negative ones. This balance in favour of positive aspects may contribute to the repetitive nature of sexual encounters present in booty calls and fuck buddies.

Findings from Moderations. Sociosexual attitudes moderated the relationship between CSREs (both booty calls and fuck buddies) and negative emotions during and following casual sex. Restricted (low) sociosexual attitudes amplified these relationships. These results were as expected, in line with the theory of cognitive dissonance. Conversely, restricted levels of sociosexual attitudes amplified the link between booty calls and positive emotions during casual sex. Restricted levels of sociosexual attitudes strengthened the link between fuck buddies and sexual satisfaction. These findings went against the initial hypothesis that restricted levels of sociosexual attitudes would diminish the strength of the association between CSREs and positive well-being. Booty calls and friends with benefits types of CSREs have in common that partners are seen more than one time (repetition) and a certain availability of partners may be assumed. These characteristics may make it more comfortable for people with restricted sociosexual attitudes to engage in casual sex interactions and may make it for them a preferred venue for casual sex where they find enjoyment.

Hypothetical Gender Differences in Associations between Casual Sex and Well-being

In the present studies, gender-based analyses were not conducted due to unequal group sizes, which would have increased the chances of type 1 error. Nevertheless, we will discuss some considerations with regards to potential gender differences based on previous research. There is some debate in the field of research on sexuality about gender differences, in particular between men and women (Wesche et al., 2021). Notwithstanding, there appears to be some support for the evolutionary theory of sexuality.

Buss and Schmitt (1993) theorized that short-term mating contexts may be more beneficial to men as opposed to women; and that short-term mating exists as a strategy for ensuring successful reproduction of the human species. Some empirical support was offered to the evolutionary theory. There seems to be a trend where men report a higher frequency of engagement in casual sex as compared to women (Eisenberg et al., 2011; Grello et al., 2003; Owen & Fincham, 2011; Schwartz et al., 2011) and a higher comfort with casual sex (Clark & Hatfield, 1989). Men also tend to have more permissive attitudes towards casual sex (Petersen & Hyde, 2010). Therefore, we might expect in future research employing the CASEX that men might obtain higher scores than women.

Buss and Schmitt (1993) listed potential negative consequences of short-term mating for women that might deter them from engaging in short-term reproductive strategies. Namely, some possible costs to casual sex specific to women may be a reputation as promiscuous and a lowering of social status (more so than men due to the sexual double standard where women pay a social status cost for casual sex, whereas men's status improves; Crawford & Popp, 2003), sexual abuse, and not benefitting from men's resources for a longer period of time. Moreover, Dawson and McIntosh (2006) noted that negative emotions related to sex may have become present through evolution with the purpose of deterring less successful reproductive decisions.

For example, women might have come to experience negative emotions related to short-term mating when the partner did not provide sufficient resources and investment. Hence, given the potential negative consequences of casual sex for women, earlier research on casual sex tended to have a focus on the negative outcomes of casual sex, and more so for women.

In line with the hypothesis that women would experience more negative consequences related to casual sex than men, several researchers focused their studies on the negative consequences of casual sex for women in particular. Some research findings appear to support that idea. The emotion of regret was found to be relatively common among participants who were women (Fisher et al., 2012). A more recent study had similar results, where men reported less regret about casual sex than women (Bendixen et al. 2017). However, the authors noted that sociosexuality and religiosity also played a role in observed results. Regardless of gender, less socio-sexually restricted individuals and less religious individuals tended to regret casual sex less; and also felt like they missed out when they did not engage in casual sex opportunities.

Uecker and Martinez (2017) found that there was a significant but small gender difference between women and men's reported regret following casual sex (16% versus 11% of regret endorsement for vaginal intercourse). Interestingly, when the partner of the hookup involving intercourse was new, the percentage of regret augmented (28 % for women versus 14% for men). This seems to be aligned with the evolutionary theory of sexuality, where the risk for women of a new and unknown partner can be bigger as compared to a known partner.

Other negative outcomes which were examined aside of emotional regret were depressive symptoms and sexual satisfaction. Grello and colleagues (2006) noted more depressive symptoms in women with casual sex experience than among men with casual sex experience. As

to sexual satisfaction, Mark and colleagues (2015) reported lower sexual satisfaction for women as compared to men during casual sex.

In a future study, if we were to derive hypotheses from the evolutionary theory about different types of casual sex (for example, by using the CASEX) and gender differences in terms of well-being outcomes, we might predict that women would experience more negative affect in shorter-term CSREs, such as one-night stands, and more positive affect in longer-term CSREs (where a partner is seen several times), such as fuck buddies or friends with benefits.

If we had equal group sizes in our second study to calculate gender comparisons, possibly effect sizes would be small, as in previous studies. Possibly, women might experience more cognitive dissonance if their perceived social norms adhere to the sexual double standard. As fewer people seem to adhere to the double sexual standard nowadays (Wongsomboon et al., 2022), the percentage of women who might be affected by that would probably be smaller than in previous studies.

Importantly, we considered the potential negative outcome of sexual abuse in our studies and we specifically inquired about consensual CSREs. Therefore, previous findings of women experiencing more negative well-being than men could possibly be explained by the lack of consent within the CSREs context. Sexual and physical abuse could potentially have explained in part the previously observed results.

Moreover, some researchers have found other potential explanations for the observed gender differences between women and men. For example, Jonason and colleagues (2015) reported that more variance in casual sex behaviour engagement was explained by personality traits than by gender. Indeed, they found that participants who were more conscientious tended to

engage less in one-night stands. Additionally, they noted that a secure relationship attachment style was less associated with casual sex.

Another criticism of the evolutionary perspective on casual sex (Emmerink et al., 2016, McKeen et al., 2022) was that access to contraception permits casual sex to occur for other goals than reproduction. Fun and pleasure are indeed the most reported motives to engage in casual sex (Armstrong & Reissing, 2015; Lyons et al., 2014). Additionally, contraception access can reduce some of the posited costs of casual sex for women, namely pregnancy and child-rearing resources.

Hypothetical Differences for Diverse Sexual Orientations and Genders in Associations between Casual Sex and Well-being

There is in general less data on emerging adults who identify with a gender or sexual orientation minority and who engage in casual sex. Nevertheless, some researchers included analyses in their studies with more sexually diverse populations. Mark and colleagues (2015) found that lesbian women reported the least sexual and emotional satisfaction from casual sex, whereas gay men reported the most satisfaction out of all gender and sexual orientation combinations. However, their finding contrasted somewhat with Galperin and colleagues' (2013) findings. They did not find sexual orientation differences for men's regret of CSREs, but they did find that bisexual and lesbian women experienced less regret as compared to heterosexual women. This is an interesting finding because although women of different sexual orientations might be engaging in casual sex for the same reasons (Armstrong & Reissing, 2015), they experienced differences in feelings of regret differently. More research is needed with diverse sexual orientations and genders to better understand their experiences.

General Limitations and Future Directions

The studies in the present dissertation had a cross-sectional design. While such a design allowed us to observe relationships between several variables at the same time, causation of observed relationships could not be shown. The relationships that were found in the second study could be further examined in future studies through longitudinal designs to enable at least inference of prediction by observation of change over time of sequence of events.

The measures of the present studies were completed by participants through an online platform and data was self-reported. While this has advantages of convenience for participants, who were able to decide when and where they answer the questions, and for researchers who could access all data in one place; in future studies it could be interesting to have a mix-methods approach. For example, emerging adults could complete diaries which would prevent deformation of reported information when recalling from memory and could provide a better-quality information about personal experience close to a CSRE event. It can still be important to have questionnaires at a later time about past experience of CSREs because doing so can provide a glimpse into how a person may have processed, integrated, and made sense of their past casual sex experience in their autobiographical memory.

Observations that were made between variables in the second study are correlational. To improve face validity of findings, future studies could employ the CASEX by separating questions about outcomes by CSRE type. For example, participants may answer the items pertaining to the one-night stand category, and researchers could specify that subsequent questions pertain to their experience related to one-night stands. This could permit easier comparison between well-being markers as differentiated by CSRE types.

No gender comparisons were conducted in the present dissertation. The sample of the second study had disproportionately more female than male participants, and gender minorities

were few in our sample, preventing from a reliable comparison analysis. This gender distribution can be a common occurrence in research with convenience sampling among pools of students enrolled in first-year university courses. For example, there appears to be a tendency among psychology student samples to have higher numbers of female students. In future research examining gender-related questions, a call for participation could be extended to gender minorities, and men, depending on the population where the sampling is done, in order to attain a comparable sample size between groups that researchers want to compare.

In the present study, genital contact sexual activities were the ones we asked participants to report in terms of frequency when answering the CASEX (genital fondling, oral sex, anal sex, penile-vaginal penetration, and/or penetration with a sex toy with a casual sex partner). This choice was made because previous studies tended to link those types of sexual behaviours to well-being outcomes (e.g., Olmstead et al., 2013); in particular hypothesized to have negative outcomes in particular for women (Fielder & Carey, 2010). Future studies could include a wider variety of sex behaviours and categorize them. This would help to close the gap from past studies on casual sex that did not differentiate between kissing, hugging, fondling, or intercourse when asking about “hookup” experiences, and findings were agglomerated regardless of the interaction that occurred. Moreover, with the technological advancements, technology-mediated sex (e.g., remote-controlled sex toys, online partnered sex activities, e.g., Shaughnessy et al., 2017) could present as an additional category of casual sex behaviour. As suggested by Bible and colleagues (2022), more precision in research on casual sex is needed in the questions and definitions provided to participants.

Lastly, the context in which CSREs occurred was not a variable in the present studies, other than that we specified that the population we were sampling from was emerging adults who

attend university. Attending university was hoped to be an indicator of participant's immersion in campus culture that emerging adults who attend university live in. This, however, was impeded by the Covid-19 pandemic, which forced campus closure as of mid-March 2020 and all participants who enrolled in our studies (with the exception of those from the first sample of the first study of validation of the CASEX who answered the survey prior to the month of March 2020) participated in classes remotely and rarely, if not at all, accessed campus. The university campus during the Covid-19 pandemic was not a typical university campus environment, and future studies could be conducted post-pandemic in a more typical university setting.

Other contextual variables could be examined further by researchers in the future, such as the relationship status context. For example, well-being outcomes may vary depending on whether people who engaged in casual sex did so while being single; in a committed romantic relationship (cheating); or in the context of a non-monogamous relationship (e.g., pre-determined parameters of an open relationship). The environmental context may also contribute to how emerging adults experience casual sex. For instance, being in one's own home, at somebody else's home, in a public space, or at a hotel may make a difference in one's emotional experience. The time of the year may have an influence as well. For example, DeLuca and colleagues (2015) chose to administer questionnaires about casual sex close to big events that tend to be related to gatherings, such as Halloween and Saint Patrick parties.

In future studies on casual sex and well-being, it may be pertinent to include grounded theory qualitative designs to ensure that important variables of the nomological network are present in quantitative studies (Chun Tie et al., 2019). For example, participants could be invited for a telephone interview that could be scheduled within the week (or two) of the lived CSRE. Alternatively, they could fill out diary entries (which could be digital on a secure online

platform) in relation to their experience. This method would have the advantage of reducing errors in recall of the experience, being close to the experience of the person, and providing the researcher with access to the language and concepts relevant to individuals who engage in CSREs (Hyers, 2018).

Some possibly important variables that have been shown in previous studies to have an influence on the experience of casual sex but that the present study was unable to directly address are alcohol and substance use, protection use, and religiosity. Alcohol use has been linked in previous research to an increased involvement in CSREs, in particular for emerging adults (Claxton et al., 2015). The relationship between casual sex and well-being, as moderated by alcohol use, seems unclear. In some cases, more experience of negative outcomes was reported (Fisher et al., 2012), whereas in others, alcohol use and negative outcomes of CSREs were not correlated (Winkeljohn Black et al., 2020). Condom use, and rather lack of, has been associated with regret of casual sex and feelings of worry for women. Fisher and colleagues (2012) found a cumulative effect of the combination of alcohol use and lack of use of protection. When both were combined, worse well-being was reported.

Social scripts (Schank & Abelson, 1977) might also impact well-being in emerging adults participating in casual sex (Katz & Schneider, 2015). Through scripts, individuals' behavior is based on an understanding of what is expected of them, and that understanding may be influenced by past experiences and social norms and influences (e.g., peers, observation, media; Clair, 2008). Previous research has shown that casual sex behaviors tend to be scripted (Eaton et al., 2015). Masters and colleagues (2013) noted that emerging adults were either conforming, exception-finding, or transformative in their application of sexual scripts. Conforming scripts could hypothetically interfere with autonomous motivation for engagement in casual sex, and

thus impact well-being negatively (Manthos et al., 2014). Few researchers have used the social scripts theory in the context of casual sex, but it is thought that casual sex scripts tend to be more relaxed and less formal than dating scripts (Paul & Hayes, 2002). An innovative study was conducted by Timmermans and Van den Bulck (2018) in which the authors conducted an analysis of casual sex scripts in popular TV shows. They found that adults were the most often depicted engaging in CSREs, followed by emerging adults. Casual sex was portrayed in most instances as a fun experience with less known partners. Reference to use of contraception was minimal (only 2 %) and in 18 % of cases there was use of alcohol. Interestingly, the authors found that women tended to initiate casual sex more often than men on the screen. This goes against the typical script where men initiate sexual activity. In a different study, the majority of emerging adults did not endorse the sexual double standard where it is perceived as acceptable for men to have casual sex but not for women (Allison & Risman, 2013). It seems that this is portrayed in popular media as well. More modern scripts of casual sex may promote more equity between genders as opposed to traditional dating scripts.

Practical Implications

In terms of research implications, the present studies added practical value to the research field of casual sex by providing researchers with a tool, the Casual Sex Experiences Scale (CASEX), to measure casual sexual relationships and experiences in a consistent and more precise manner. The CASEX is practical in its short form and included a set of instructions to help participants better understand the questions. We demonstrated that casual sex is multidimensional, and that different types of CSREs (one-night stands, booty calls, fuck buddies, and friends with benefits) were related differently to outcomes on well-being. We also

highlighted several future directions and considerations that can be taken into account in future research methodology and design.

In terms of sex education, knowledge translation of findings may serve the emerging adults' population to inform their decision-making regarding engagement in casual sex. Currently, there seem to be some meaningful patterns observed in our research, concordant with past research, such as the beneficial role of partner knowledge, the coexistence of both positive and negative aspects related to CSREs in terms of well-being, its positive effects on sexual satisfaction, and that one's attitudes about sexuality can sometimes play a role in the link between CSREs and well-being.

Although further details about casual sex may be studied before making precise recommendations, some information could yet be useful to disseminate by sex educators about casual sex. Normalization of casual sex and teaching that CSREs are not always related to negative consequences, can possibly decrease stigma and anxiety about this common behaviour among the emerging adult population. Open information sharing would be important, because sex can be a taboo topic about which the population may not necessarily access quality information. Young adults may hesitate to ask about casual sex and engage in avoidance coping instead of proactive coping and information seeking. Information about diverse types of casual sex and how they relate to well-being could enable emerging adults to make more informed decisions about the types of experiences they seek out and the casual sexual relationships they develop.

The importance of communication between partners would be another topic that would be beneficial to add when educating about casual sex (and relationships in general). The more information emerging adults have about the topic of casual sex, the more versed they may be to

express and assert their preferences in CSRE contexts. Sexual interactions have a learning component to them, and that learning could start with asking oneself questions about values and attitudes about sexuality, comfort with different types of sexual activities, and needs that one may be seeking to meet through casual sex. This information can then be combined with knowledge from research about casual sex and guide future action. In the long-term, this may improve emerging adult's population mental health and sexual satisfaction.

Conclusion

Emerging adults and their experience of casual sex inspired research questions in the present dissertation. In the first study, we examined whether casual sex was diversified in subcategories (multifactorial), while creating a tool to measure CSREs with more precision – the CASEX. In the second study, we tested whether sociosexual attitudes moderated relationships between different types of CSREs and well-being markers. An important aspect of the present research was to design studies that provided opportunities to observe both negative and positive markers of well-being capturing nuances emerging adults may experience. The findings of confirmatory factor analyses confirmed that there are four different casual sex categories: one-night stands, booty calls, fuck buddies, and friends with benefits. The four-factor structure of the CASEX was observed in three samples and the CASEX demonstrated good validity and reliability. Overall, results indicated the simultaneous presence of negative and positive emotions during and following casual sex experiences, with positive emotions having a larger effect size than negative ones. We observed that sociosexual attitudes did not significantly moderate the relationship between most CSRE types and well-being. Nevertheless, sociosexual attitudes were moderators in terms of well-being outcomes that were closely related to the emotional experience of casual sex (i.e., positive and negative emotions during and following casual sex,

sexual satisfaction) but did not moderate relationships between CSREs and more global well-being markers (psychological distress, perceived stress, subjective happiness, and self-esteem). Restricted levels of sociosexual attitudes strengthened the relationship between CSREs and negative emotions during and following casual sex, in accordance with the cognitive dissonance theory. However, some unexpected interactions were found in the moderations when it came to positive emotions, such as restricted levels of sociosexual attitudes increasing the strength of the relationship between some CSREs types and positive outcomes. Lastly, friends with benefits seemed to be the type of CSRE that was the most strongly correlated to positive well-being markers and the most weakly (in some cases non-significantly) correlated to negative ones. Limitations of the studies included the cross-sectional research design, the pandemic context, and the exclusion of contextual variables. With the studies of this dissertation, we aimed to diminish ambiguity and augment precision for future research on casual sex with the CASEX measure. Findings may contribute to knowledge translation to emerging adults to normalize, destigmatize, and inform about casual sexual experiences and relationships that can be sometimes difficult to detangle.

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