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THE INTERNAL WORKING MODEL AND SEXUAL SATISFACTION: A SELF-DETERMINATION
APPROACH

by

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A thesis submitted in partial fulfillment of the requirements
for graduation with Honors in the Social Work

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Abstract

The internal working model is a central tenet in attachment theory and is critical to the organization of the attachment behavioral system. Consisting of beliefs about the self, attachment figures, and these figures' behaviors when needed, the internal working model informs attachment behaviors and styles. The amount and breadth of attachment-based studies has increased, with attachment theorists and researchers observing correlations between attachment and sexual behaviors. Such links have been found between attachment style and sexual satisfaction. However, current attachment research lacks a sufficient operative definition of sexual satisfaction and an effective model for gauging it. Research on sexual satisfaction in relation to attachment necessitates an integrative approach, bridging attachment research with current research on sexuality and sexual self-efficacy. The Self-determination Theory model of sexual satisfaction measures satisfaction through the meeting of basic needs: competence, autonomy, and relatedness. Under the SDT framework of sexual satisfaction, the author suggests that sexual satisfaction is reflective of the attachment relationship's sexually activated internal working model—that is, the internal working model is predictive of sexual satisfaction—whereas the nature of the sexual relationship, be it casual or non-casual, is not. The results indicate a positive relationship between the internal working model and sexual satisfaction, with no evidence of a relationship between relationship type and satisfaction. With results suggesting that individuals can possess both global and relationship-specific internal workings models and even several different models in a single attachment relationship, situational specificity in these assessments is a necessity.

Keywords: internal working model, attachment, self-determination theory, casual sexual relationships

The Internal Working Model and Sexual Satisfaction: A Self-Determination Approach

Bowlby's Theory of Attachment

Attachment theory, as initially posited by Bowlby and Ainsworth, examines the relationship between a mother and child to understand the effects of maternal deprivation. Bowlby's research takes a particular interest in the association "between form and degree of disturbance and the extent to which the mother has permitted clinging and following, and all the behavior associated with them, or has refused them" (Bowlby, 1958, p. 370). To Bowlby, the bonding experience of the child to the mother does not manifest out of a secondary driver but is biologically mandated through the process of natural selection (Cassidy & Shaver, 2016). Under this framework, attachment and the resulting attachment behaviors are evolutionary processes with the goal of increasing proximity between the mother and infant and thereby decreasing threats of danger. Attachment behaviors, signaling ones such as smiling or aversive ones such as crying, are said to serve a Darwinian purpose, though Bowlby concludes that attachment serves many evolutionary objectives aside from protection, such as feeding and learning (Cassidy & Shaver, 2016).

For Bowlby, maternal attachment is considered a prototypical framework for future relationships and its disruption the potential cause of psychopathology. Maternal deprivation theory evolved into attachment theory after observing different behavioral patterns exhibited by children after separation from their mothers. Bowlby (1973) theorized that negative attachment-based behavioral motivators—such as maternal separation—could lead to increased aggression, lower intelligence, delinquency, or depression. The varying behavioral responses of the children were thought to stem from "mental representations, or internal working models, that consist of

expectations about the self, significant others, and the relationship between the two" (Pietromonaco & Feldman Barrett, 2000).

Investigators began using Bowlby's ideas as theoretical frameworks for adult romantic relationships, noticing a pattern in adults with distance or over-enmeshment in their romantic relationships and troubled relationships with parental figures as a child (Rubenstein & Shaver, 1982; Hazan & Shaver, 1987; Weiss, 1973). While the nature of the relationships may differ, motivators within the relationships remain the same, and these motivations result from situational assessments by internal systems. Adult romantic behavior, according to Hazan & Shaver (1987), is regulated by the same system as parental attachment, or what Bowlby terms the attachment behavioral system, while simultaneously integrating the caregiving and mating or reproductive system. The attachment behavioral system determines how an individual will act based on characteristics of the attachment figure and feelings about self.

In describing the attachment system, Bowlby compares it to a thermostat, activating the heater only when the temperature is too low and promptly shutting it off when the desired temperature is reached. Bowlby later amends the assertion, distinguishing the attachment system from a thermostat in that it is "being continually activated (with variations of relatively more or less activation), rather than being completely turned off at times" (Cassidy & Shaver, 2016, p. 6). The two contexts under which the child's attachment system activates, both of which are induced by distress or perceived threat, are said to be dependent on 1) the condition of the child, and 2) the condition of the environment (Cassidy & Shaver, 2016). This is extended out to relationships later in life, as similar dynamics are observed in adult romantic relationships, with feelings of safety usually being dependent on the proximity, accessibility, and responsiveness of the partner (Fraley & Shaver, 2000).

The Internal Working Model

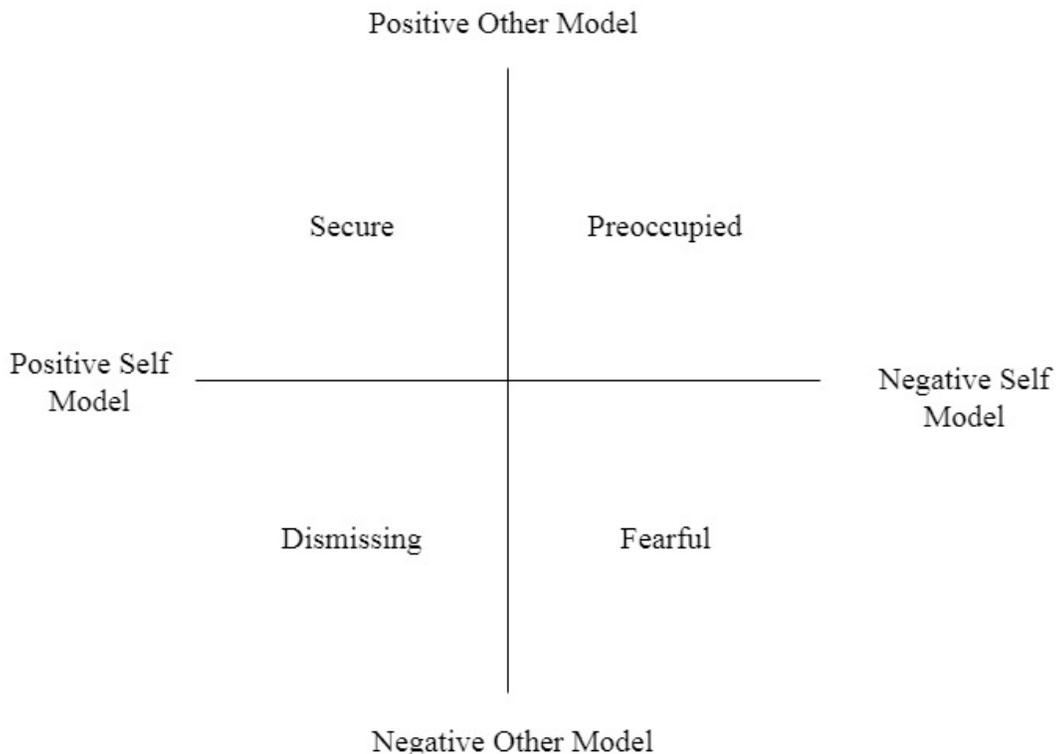
The internal working model is a central tenet in attachment theory and is evidenced in several fields of research. The internal working model construct, though unfinished, was initially posited by the cognitive psychologist Kenneth Craik (1943) and subsequently discovered and observed by neuroscientist Johnson-Laird (1983). Bowlby views the model as a general construct that operates as a “representation system that allows us... to imagine interactions with others, based on our previous experiences with them” (Bretherton & Munholland, 2008, p. 103).

The internal working model consists of conceptions of 1) “expectations of who will serve as attachment figures,” 2) “how accessible those figures are,” and 3) “how they will respond when needed” (Pietromonaco & Feldman Barrett, 2000, p. 156). To explain this, one can return to Bowlby’s analogy. If Bowlby defines the attachment system as the thermostat, then the internal working model would be the room and that happens and is contained within it. The temperature on the thermometer changes based on the room, just as the attachment system changes based on the organization of the internal working model, with contextual factors influencing both. Bowlby (1973) further explains:

Similarly, in the working model of the self that anyone builds a key feature is his notion of how acceptable or unacceptable he himself is in the eyes of his attachment figures. On the structure of these complementary models are based that person’s forecasts of how accessible and responsive his attachment figures are likely to be should he turn to them for support. In terms of the theory now advanced, it is on the structure of those models that depends, also, whether he feels confident that his attachment figures are in general

readily available or whether he is more or less afraid that they will not be available—occasionally, frequently or most of the time. (p. 203)

The organization of the attachment behavioral system, Bowlby proposes, is based on the internal working model of the individual. Correlations can be found between the organization of the internal working model and behaviors consistent with particular attachment styles. Hazan and Shaver (1987) identified three distinct attachment styles: secure, avoidant, and anxious. Securely attached individuals are defined as “comfortable with closeness in relationships,” and are “not particularly worried about others rejecting them” (Pietromonaco & Feldman Barrett, 2000). Avoidantly-attached individuals experience discomfort with closeness, have difficulty with depending on or trusting others, and fear closeness. Those with an anxious attachment style perceive others as less willing to become close than they themselves are, worry about the sincerity of the love of their partner, and seek an extreme level of closeness. These attachment styles are reflective of and influenced by the internal working models of an individual. In looking at models of the self, those possessing positive models of self adhere to the prototypically secure attachment style (Pietromonaco & Feldman Barrett, 2000). Collins and Read (1990) observe the relationship between internal working models and attachment style. Later attachment research identified four different attachment styles, with avoidant styles breaking into the two different categories of dismissive or fearful, and with the anxious style being referred to as preoccupied. Chui & Leung (2016) demonstrate how the organization of the internal working model relates to these four styles with a visual model:



In testing working models of self, Collins and Read (1990) find that individuals who were comfortable with intimacy and depending on others express greater evaluations of self-worth, social confidence, and are more expressive. When examining conceptions of peers and greater society, those with insecure attachment tended to have more negative and distrustful views of others while secure individuals looked more positively at human nature (Collins & Read, 1990). The organization of the internal working model then differs across attachment styles, such as where individuals are avoidantly or anxiously attached. La Guardia, Ryan, Couchman, and Deci (2000) found a similar relationship between positive models of self and others and attachment security when studying within-person variance.

Tracing back to childhood, those whose attachment figures are seen as “readily available, responsive, and reliable” are assumed to have a more positive assessment of self, seeing the self as “acceptable and worthwhile,” whereas those with inconsistent or unresponsive attachment

figures are predicted to have a self-perception of unworthiness or unacceptableness (Pietromonaco & Feldman Barrett, 2000, p. 156). Those who view childhood parent attachment relationships as being warm and non-rejecting have been found to be more comfortable depending on others and to possess fewer fears of abandonment (Collins & Read, 1990). In contrast, feeling ignored or perceiving emotional signals as being deliberately misunderstood by primary attachment figures as a child can communicate rejection, likely leading to interpretations of one's own needs as being invalid or inconsequential (Bretherton, 1990). Though Bowlby proposes parental attachment relationships and the internal working models prescribed to them are prototypes for future models, Bowlby himself among other researchers observes multiple, varying, and dynamic working models.

In naming this complex internal world, Bowlby preferred internal working model to other terms such as 'image' or 'cognitive map' because it "connotes a dynamic representational system that allows humans to imagine (or internally simulate) habitually experienced sequential patterns of social interaction" (Cassidy & Shaver, 2016, p. 64). Bowlby's theory of this dynamic representational system is consistent with his own observations and researchers' subsequent observations rejecting the notion of one global attachment style or one global internal working model. Bowlby (1973) observed adults possessing incompatible working models, such as those developed in childhood which were defensively hidden and opposing ones developed in adulthood, proposing models could develop both sequentially and simultaneously. Since the internal working model includes an individual's acceptability and worthiness based on behaviors or views of the attachment figure, the possibility exists that individuals possess multiple and varying models of self based on each individual attachment relationship (Pietromonaco & Feldman Barrett, 2000). In support, studies found that people can often identify several

attachment figures who they can rank by degrees of use (Trinke & Bartholomew, 1997); that feelings and behaviors across these attachment relationships evidenced varying attachment styles in different relationships (Baldwin, Keelan, Fehr, Enns, & Koh, 1996); and that individuals report both a general working model and relationally specific ones (Baldwin et al., 1996). If internal working models, and thus attachment, are subject to within-person variance, situational specificity must be used in the assessment of an individual's internal working models. Specificity can be utilized in many areas where internal working models are activated, but one realm of relational importance is sex, particularly the relationship between internal working models and sexual satisfaction.

Sexual Satisfaction

Though for a long time the attachment system and the sexual system were kept decidedly separate in research and attachment literature, empirical evidence suggests the two are related. Relationship and sexual satisfaction have been found to be causally linked, though the direction of the causal linkage is not conclusive (Sprecher & Cate, 2004). Regardless of the direction, attachment informs the ways in which individuals interpret romantic relationships and the sexual encounters within the context of these relationships (Birnbaum, 2006). Sexual satisfaction and the methods for achieving it have been defined in a variety of ways, and similar to attachment motivators, can be evaluated through the perceived fulfillment of certain needs through transactions.

Several theories suggest and support this assertion. Both social exchange theory and equity theory suggest that satisfaction arises from reaching a perceived equilibrium in the costs and benefits of relational transactions, where sexual partners may be "receiving different levels of rewards but have equitable relationships because they are incurring different levels of

costs/benefits” (Sprecher & Cate, 2004, p. 239). Birnbaum, Glaubman, & Mikulincer (2001) demonstrated a positive association between frequency of orgasms and sexual satisfaction in relationships. However, Sprecher & Cate (2004) suggest caution when interpreting such empirical findings, “as the occurrence of orgasm is sometimes used as a proxy for sexual satisfaction... or questions concerning orgasm may be included in multi-item measures of sexual satisfaction” (p. 244).

While achieving orgasm is a conventional—and perhaps misguided—measure of sexual satisfaction, Schnarch (1994) asserts one’s own perception and mental processes during sex are even bigger contributors to sexual satisfaction than physical factors in his review on ‘good sex.’ Schnarch advocates that genuine sexual satisfaction arises from the meeting of different needs, particularly on the psychological level. Models such as the Multidimensional Sexuality Questionnaire omit the orgasm as a measure of satisfaction, instead presenting comparative and expectation-measuring questions while assessing needs satisfaction (i.e., “I am very satisfied with the way my sexual needs are currently being met”) (Snell, Fisher, & Walter, 1993, p. 53). Though Snell, Fisher, and Walter in their survey acknowledge sex as a function for meeting needs and the meeting of those needs as contributive and determinant of sexual satisfaction, sexual needs are not defined in the Multidimensional Sexuality Questionnaire. To adequately assess sexual satisfaction, sexual needs must be defined.

Self-Determination Theory

Schnarch’s assertions necessitate a model for gauging sexual satisfaction as a process for meeting certain needs that also establishes what those needs are. One model for measuring sexual satisfaction in terms of psychological processes utilizes Self-determination Theory. Smith (2007) tested Self-determination Theory (SDT) in the context of sexual satisfaction. SDT is

comprised of several different theories, but most important is basic needs theory. Basic needs theory posits that “people must meet three psychological needs in order to attain optimal functioning” (Smith, 2007, p. 71). The three needs—competence, autonomy, and relatedness—are said to contribute to and influence the sexual satisfaction of the involved parties. Smith (2007) found that those who felt high levels of autonomy, competency, and relatedness expressed higher levels of satisfaction in their sexual encounters, supporting Schnarch’s claims about mental processes and their significant contributions to and influence on sexual satisfaction.

Competence

One component of the working model is one’s view of the self as worthy or acceptable. As Bowlby (1979) states, the “internal working model of self is also assumed to have a major impact on self-image, self-esteem, etc.” (p. 117). Definitions of self-esteem broadly differ, with calculative approaches suggesting self-esteem “is dependent on the size of the gap between one’s self-ideals and his or her ability to reach them, the attainment of which involves competence” (Mruk, 2013, p. 158). Research findings support the idea that a two-factor approach encompassing competency and worthiness seem superior in defining and evaluating self-esteem (Mruk, 2013). In examining the psychodynamic literature on the self and through which attachment theory is derived, Pietromonaco & Feldman Barrett (2000) propose that “adults experience felt security when their attachment figure confirms that (a) they are loved and lovable people, and (b) that they are competent or have mastery over their environment” (p. 167).

Competence can then be measured through scales of sexual self-esteem. Sexual self-esteem is defined as “the dispositional tendency to evaluate positively one’s capacity to relate sexually to others” (Snell, Fisher, & Walters, 1993, p. 34). Snell, Fisher, & Walter (1993) measure sexual-esteem in a five-item subset of their Multidimensional Sexuality Questionnaire.

Survey questions address general beliefs about sexual competence (e.g., “I am confident about myself as a sex partner”) (Snell, Fisher, & Walter, 1993, p. 53). However, the Multidimensional Sexuality Questionnaire lacks specificity. Because internal working models, and thus assessments of competency, can vary based on the partnership and within a partnership, self-esteem measurements must not only be specific to the sexual context but relationship specific.

Relatedness

The relatedness component of SDT “refers to the need to care for and be cared for by others” (Brunell & Webster, 2013, p. 971). La Guardia et al. (2000) suggests that “sensitivity and responsiveness represent supports for one’s relatedness need” (p. 368). Responsiveness as a relatedness need parallels the organization of the internal working model in expectations of attachment figures. SDT measures of relatedness and the internal working model demonstrate an interconnected and reciprocal relationship. Pietromonaco and Feldman Barrett (2000) identify the association between responsiveness and negative models of self, where the self is seen as unacceptable or unworthy. This suggests a relationship between relatedness and models of self, indicating a secondary association to measures of competence.

La Guardia et al. (2000) presents a Basic Need Satisfaction scale for the general relationship. Brunell and Webster (2013) augmented the scale to measure sex-specific need satisfaction, measuring relatedness through feeling loved or cared about and feelings of intimacy. The scale does not offer a definition for intimacy, and though the study uses a modified version of the scale in LaGuardia et al. (2000), it does not examine sexual need satisfaction in relation to attachment or working models. Schaefer and Olson (1981) define an intimate experience as “a feeling of closeness or sharing with another in one or more of the seven areas” in their Personal Assessment of Intimacy in Relationships (PAIR) model (p. 50). The seven areas include

emotional intimacy, social intimacy, intellectual intimacy, recreational intimacy, spiritual intimacy, aesthetic intimacy, and sexual intimacy, which is defined as “the experience of sharing general affection and/or sexual activity” (Schaefer & Olson, 1981, p. 50). The PAIR model then measures sexual intimacy through questions about sexual satisfaction. To more effectively measure relatedness as a contributor to satisfaction, questions must exclude satisfaction. Models such as Relational Affiliation Model from Hess, Fannin, and Pollom (2007) can be used to measure general closeness in a relationship, although the measure is not specific to sexuality.

Jill P. Weber (2013) coins the term ‘sextimacy,’ or “pursuing sex to gain emotional intimacy” (p. 9). In terms of sexual relatedness, this definition would not be far off. While definitions and assessments seem circular, if relatedness is to be understood as the need for the reciprocity in caring for and being cared for by others, a feeling of emotional closeness or sensitivity would be essential in meeting relatedness needs in a sexual context. One method to achieve emotional closeness is through sexual self-disclosure, which can be an even more intimate interaction than general self-disclosure (Tang, Bensman, & Hatfield, 2013). Tang, Bensman, and Hatfield (2013) define sexual self-disclosure as the “degree to which a member of a romantic dyad discloses [their] sexual thoughts, feelings, and behavior to his or her partner” (p. 235). A positive correlation has been found between sexual self-disclosure and marital and sexual satisfaction (Byers & Demmons, 2010). Byers & Demmons (1999) assessed sexual self-disclosure in their Sexual Self-Disclosure Questionnaire. Increased feelings of relatedness, through feelings of intimacy and partner responsiveness, would result in higher levels of sexual satisfaction.

Autonomy

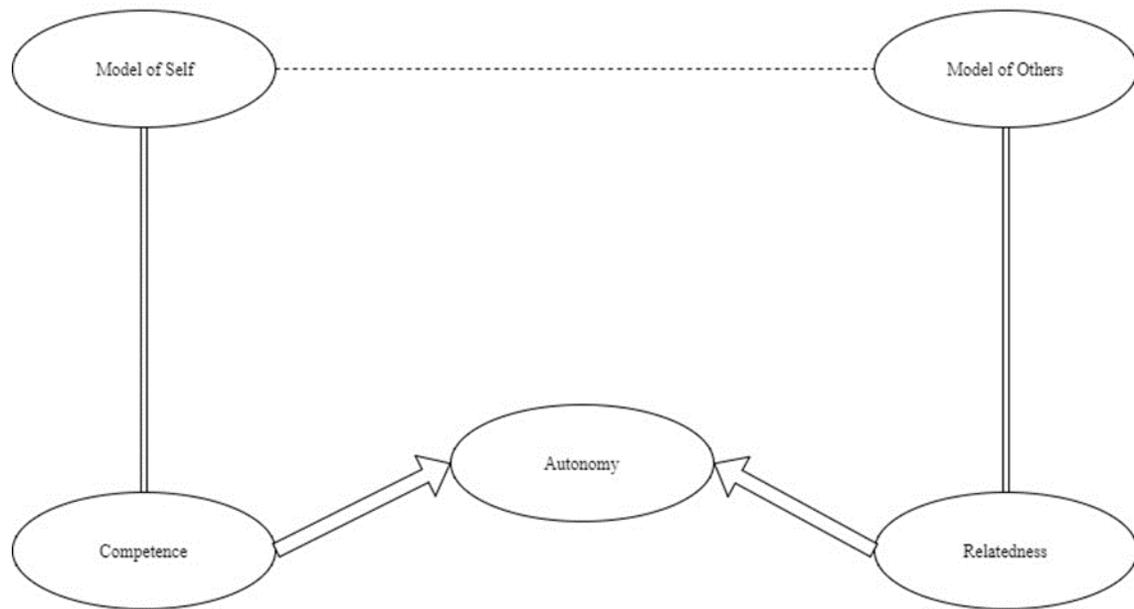
Research points to the conclusion that a key determinant of one's level of sexual satisfaction is the extent to which their sexual locus of control is internalized. The satisfaction one receives from perceiving oneself as highly autonomous is not unique to sexual contexts but extends to all aspects of life, affecting as much as how one copes with stress and how one reacts to change. Terminology for locus of control varies, with common terms such as sexual self-efficacy or sexual autonomy being used interchangeably. Sexual self-efficacy or autonomy measures the level at which an individual believes they can affect their own sexual outcomes or acts to achieve these sexual outcomes. Such measurements should assess one's belief in their ability to "emit behaviors that (a) influence the acquisition and termination of sexual rewards, (b) affect events between these latter two points, and (c) prevent or avoid aversive sexual encounters" (Catania, McDermott, & Wood, 1984, p. 313).

In anticipating a need for situational specificity in LC models, the Dyadic Sexual Regulation (DSR) scale was developed. This differs from the Nowicki-Strickland LC scale (NSLC), which measures LC overall as opposed to sexual LC (Catania, McDermott, & Wood, 1984, 314). The study looked at dyadic, or partnered, sexual encounters, excluding monadic or solitary masturbatory experiences, or those taking place outside of a partnered sexual episode. Aside from validating a need for nuanced measures of LC, the test of the DSR found that an increased perception of one's internal locus of control was associated with "increasing frequencies of intercourse, oral sex from partner, orgasms with a partner, sexual relations (an aggregate of dyadic sexual behaviors), affectionate behaviors, and increasing levels of dyadic sexual satisfaction" and "decreasing anxiety in dyadic sexual situations" (Catania, McDermott, & Wood, 1984, 319-320). Research suggests women with anxious attachment styles often engage in sexual behaviors not out of internal motivation but out of fear of negative outcomes,

such as loss of interest in their partner (Impett & Peplau, 2002). Furthermore, Jenkins (2003) observed a positive association between intrinsic—self-determined—sexual motivations and need satisfaction and personal and relational outcomes. Inversely, Sanchez, Moss-Racusin, Phelan, & Crocker (2011) found associations between external approval-based sexual motivations and lower sexual satisfaction and autonomy, while intimacy-based motivations were associated with higher levels of sexual satisfaction and autonomy. With self-determined sexual motivations contributing to higher need satisfaction and increased sexual satisfaction, it is important to examine the relationship between autonomy, sexual satisfaction, and internal working model organization.

Figure 1

Internal Working Model



Self-Determination Theory

The composition of SDT strikingly resembles the organization of the internal working model. Internal working models “consist of expectations about the self, significant others, and the relationship between the two” (Pietromonaco & Feldman Barrett, 2000, p. 156). Assessments of the needs proposed in SDT would result in the activation of the internal working model, as the organization of the internal working model can inform or inhibit the meeting of each component of the individual’s needs of competence, autonomy, or relatedness. In the meeting of these frameworks, the internal working model would manage expectations about these needs, such as worthiness of the self to have these needs met, the accessibility of the attachment figure and their ability or willingness to meet these needs, one’s own ability to pursue a reality in which these needs are met.

Research on attachment, internal working models, and need satisfaction suggest an interdependent relationship between the three. La Guardia et al. (2000), though examining general relationship need satisfaction, found that “within-person variance in security of attachment was significantly predicted by the degree to which partners satisfy innate psychological needs or autonomy, competence, and relatedness” (p. 380). The same study also found that need fulfillment “positively predicted overall attachment security, model of self, and model of other” (La Guardia et al., 2000, p. 367). While the findings support the relationship between attachment, internal working models, and the Self-Determination Theory’s model of need satisfaction, the relationship between internal working models, attachment, and SDT as a measure of sexual satisfaction has yet to be examined.

Casual Relationships and Attachment

As internal working models and attachment can differ across relationships, research must recognize the different relational frameworks in which internal working models are activated and organized. Limited research on attachment outside of the context of committed, monogamous relationships exists. Claxton and van Dulmen (2013) term these interactions as ‘casual sexual relationships and experiences’ (CSREs), encompassing “hookups, one-night stands, friends with benefit relationships, and booty calls” (p. 138). Recent surveys of sexual activity among young adults affirm the prevalence of noncommittal sexual partnerships and encounters, finding that most have experienced CSREs (Garcia, Reiber, Massey, & Merriweather, 2012). Correlations have been found between a preference or aversion to CSREs and attachment, with research suggesting a preference for CSREs among individuals with a globally avoidant attachment (Tracey, Shaver, Albino, & Cooper, 2003). Alternately, research suggests those with globally anxious attachment reject sex outside of the context of a committed relationship (Brennan & Shaver, 1995). However, the research does not consider within-person variance in attachment and internal working models, instead using global attachment. While studies may cite general measures of satisfaction and intimacy, dynamics of attachment and satisfaction within specific CSREs are not examined.

Sexual partnerships of various kinds are affected by and assist in developing internal working models. Individuals can gauge responsiveness and experience relatedness in all forms of sexual partnerships. For instance, intimacy can be experienced outside of the context of committed, monogamous sexual dyads. According to Schaefer and Olson (1981) an intimate relationship is to be understood as “one in which an individual shares intimate experiences in several areas, and there is the expectation that the experiences and relationship will persist over time” (p. 50). An intimate experience can occur outside of the context of an intimate relationship,

and under Schaefer and Olson's definition, an intimate relationship does not necessitate commitment or monogamy. For instance, in Jonason, Li, and Richardson (2010), within booty call relationships, behaviors appeared to be both emotional and sexual in nature. These findings suggest that the utility of CSREs extends beyond the act of sex. Since feelings of relatedness—feelings of intimacy and anticipations of partner responsiveness—contribute to sexual satisfaction and can be found within varying relationship types, exclusions of CSREs within research create an incomplete picture of relationships and attachment.

Heterosexism and Cisgenderism in Attachment Research

Until this point in the review, readers probably read under the assumption that all previously cited research was conducted with participants in heterosexual, monogamous dyads. These assumptions would likely be correct, as research on populations who do not identify as either heterosexual or cisgender in attachment research is scarce. Allan and Westhaver (2017) cite systematic heterosexism for the lack of representation for gay and lesbian couples in attachment research. In *The Social Organizations of Sex: Sexual Practices in the United States*, Laumann, Gagnon, Michael, & Michaels (1994) reported homosexual desire present in 7.7% of men and 7.5% of women, yet men identifying as gay at 2.4% and women as lesbians at 1.4%. While the presence of desire does not mean the desire was acted out, insufficient means of categorization may account for some of the discrepancy between desire and identification. Recent polls paint a different picture, with 10 million Americans, 4.6% of the population, identifying as LGBT (Gallup, 2016). The report, much like the prior account, found that “direct assessments of same-sex sexual behavior or attraction yield very different (and often larger) population estimates” (Gallup, 2016). While a sexual dyad may be comprised of two members of the same-sex, individuals may identify as heterosexual, bisexual, gay, lesbian, pansexual,

asexual, or any number of diverse sexual identities. Similarly, individuals may not identify themselves by the binary of manhood or womanhood but rather as somewhere on or independent of a gender spectrum. In *The History of Sexuality*, Foucault (1978) frames the terming of 'homosexual' as its invention, arguing that social identities are constructed with the capacity and intent to impose social controls. In acknowledging power structures imposed and maintained by language and dominant definitions of sexuality, it is important to also include terminology respectful of prominent theorists, their work, and individual identity. For this reason and for this literature review, queer is used to convey gender and/or sexual identity, to reject the categorization of gender and/or sexual identity dictated by social norms as nonessential or oppressive, and to collectively refer to identities excluding either heterosexual or cisgender.

Research on queerness and attachment is focused primarily on lesbians and gay men, though the existing research does provide limited insight into internal working models of these populations. In a study on the self-schemas of gay men, a qualitative investigation found that among interviewees, their first relationships were seen as "the first moment they were identifiable as gay by other gay men and others in their lives" (Elder, Morrow, & Brooks, 2015, p. 955). Initial relationships were also viewed as experimental—as a means of understanding how relationships ought to work and what behaviors were acceptable or unacceptable (Elder, Morrow, & Brooks, 2015). Another study examined the relationship between positive feelings about being a lesbian and attachment anxiety and well-being, finding that "positive feelings about being a lesbian was only a significant mediator between attachment anxiety and life satisfaction" (Keleher, Wei, & Liao, 2010, p. 865). The results indicate a relationship between models of self and general satisfaction but provide no insight into the interaction between internal working models and sexual satisfaction. Research often focuses on attachment and the

development of gay or lesbian identity, with exceptions like Weinstein, Katz, Eberhardt, Cohen, & Lejoyeux (2015), which observed the relationship between attachment, sexual orientation, and sexual compulsivity. Sexual satisfaction was not assessed.

Sexual identity and orientation may also affect comfort with sexual self-disclosure or the meeting of relatedness needs. Elder, Morrow, & Brooks (2015), in qualitative interviews of gay men, found varying levels of tolerance and comfort in emotional expression that seemed to depend on cultural backgrounds. Discussion of “femme-phobic” behavior and heteromascularity arose, describing “emotional expressiveness as closely tied to gender performance, specifically as related to effeminate men” (p. 951). Opinions varied on pornography, though with some men, pornography was used as a segue to discussing matters of sex (Elder, Morrow, & Brooks, 2015). As culture and gender may influence comfort with sexual self-disclosure, so might sexual orientation, inviting further research into sexual orientation, attachment, and sexual satisfaction. In accounting for within-person variance and situational specificity, both in the sexual and relational context, attachment research can respect the identities of participants while maintaining the integrity of the research by creating a more concise picture.

Hypotheses

1. The model of self will have a positive relationship with sexual satisfaction.
2. The model of other will have a positive relationship with sexual satisfaction.
3. Subscale relationships (See Figure 1 on p. 15):
 - a. Competence will have a stronger relationship to the model of self than the model of other.
 - b. Relatedness will have a stronger relationship to the model of other than the model of self.

- c. Both competence and relatedness will have a stronger relationship to autonomy than each other.
4. There will be no relationship between relationship type and sexual satisfaction; however, there will be a relationship between the internal working model and sexual satisfaction.

Method

Design

A cross-sectional survey design was used for this study.

Sample

Participants consisted of 162 University of Iowa students and affiliates, concentrated in the departments of social work, psychology, sociology, and gender and women's studies, as well as non-UI affiliates who accessed the survey through social media or its distribution on a human sexuality educator listserv. Demographic information was collected on participants' age, gender, and sexuality. Of the 162 collected responses, only 122 were computed due to incompleteness.

No biases were found for individuals who did not complete the survey. An independent samples t test was used to examine age. A crosstab and Chi Square test were used to for biases for incompleteness for both gender and sexuality.

As Table 1 suggests, most of the participants who completed the survey were 23 or younger, with 37 (30.3%) respondents between the ages of 18 and 20 and 46 (37.7%) of respondents between the ages of 21 and 23.

Table 1
Reported Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-20	37	30.3	30.3	30.3
	21-23	46	37.7	37.7	68.0
	24-27	14	11.5	11.5	79.5
	28+	25	20.5	20.5	100.0
	Total	122	100.0	100.0	

A stark majority of respondents were women, with 102 (83.6%) of respondents women, 18 (14.8%) men, one (.8%) transgender person, and one (.8%) genderqueer person (See Table 2).

Table 3

Reported Gender of Respondents

Table 2		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	18	14.8	14.8	14.8
	Woman	102	83.6	83.6	98.4
	Transgender	1	.8	.8	99.2
	Genderqueer	1	.8	.8	100.0
	Total	122	100.0	100.0	

Sexuality was less homogenous than gender, with 98 (80.3%) of the respondents identifying as heterosexual, 4 (3.3%) as gay, 1 (.8%) as lesbian, 11 (9%) as bisexual, 1 (.8%) as asexual, 5 (4.1%) as queer, and 2 (1.6%) indicated that their sexuality was not represented in the options. Respondents were then given the opportunity to write in their sexuality. Of the respondents who did not list their sexualities, one person reported “gray asexual” (.8%) and one person reported “pansexual” (.8%).

Table 4

Reported Sexuality of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Heterosexual	98	80.3	80.3	80.3
	Gay	4	3.3	3.3	83.6
	Lesbian	1	.8	.8	84.4
	Bisexual	11	9.0	9.0	93.4
	Asexual	1	.8	.8	94.3
	Queer	5	4.1	4.1	98.4
	My sexual orientation is not listed here.	2	1.6	1.6	100.0
	Total	122	100.0	100.0	

From the 122 useable surveys, 94 (58%) participants indicated that their sexual relationship was with a significant other or partner. Of the remaining 28, 13 (8%) considered the sexual relationship a hookup, 12 (7.4%) saw themselves as friends with benefits, and 3 (1.9%) described the relationship as a booty call (See Table 5). Answers identifying a sexual relationship as a hookup, a friend with benefits, or a booty call were recoded as casual sexual relationships.

Table 5

Reported Sexual Relationship Type of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Significant other/Partner	94	58.0	77.0	77.0
	Hookup	13	8.0	10.7	87.7
	Friend with benefits	12	7.4	9.8	97.5
	Booty call	3	1.9	2.5	100.0
	Total	122	75.3	100.0	
Missing	System	40	24.7		
Total		162	100.0		

Data Collection Procedures

The survey tool was hosted on Qualtrics and distributed through a single anonymous link, with informed consent at the beginning after acquiring a waiver of documented consent (See Appendix A). A mass email was delivered to educators in social work, psychology, sociology, and gender and women's studies on the University of Iowa campus requesting they share the link to students in a specific course they taught, either by email or by posting the announcement and link to the course announcements (see Appendix B). No identifying information was collected, and IP addresses were eliminated from the dataset if present. Data collection began upon the approval of the IRB exemption and lasted approximately two weeks.

Human Subjects Procedures

Direct benefits to the subjects. There were no direct foreseeable benefits to the subjects for participating in this survey.

Potential benefits to society. The information obtained about casual and non-casual sexual relationships and encounters, the internal working model, and sexual satisfaction will hopefully contribute to the knowledge base on attachment theory. It is hoped by understanding the way these variables interact, practitioners can better assist clients in addressing attachment-related impediments to sexual satisfaction.

Risks of participation. Because the study dealt specifically with sex and casual relationships and sexual encounters, subjects were at risk of experiencing emotional or psychological discomfort from discussing previous sexual encounters or current ones. There was also a risk of loss of confidentiality.

Controlling for risks. The consent document informed individuals about the risks of the study beforehand and also informed them they could stop at any point. Data was collected and stored using Qualtrics. The primary investigator maintained the security of the information by

being the sole user of the Qualtrics account. The primary investigator and faculty supervisors were the only individuals to view the raw data. Individuals were asked to identify their age group, gender identity, and sexuality. No other identifying information was collected, and IP addresses were eliminated from the dataset if present (See Appendix C for IRB Submission Form).

Measures

Casual and non-casual sexual relationships and encounters. The Oxford Handbook of Emerging Adulthood (2016) defines different types of casual and non-casual sexual relationships. These definitions were augmented to present in the format observed in Appendix D.

Internal working models. Chui and Leung's (2011) Attachment Style Questionnaire Short Form (see Appendix E) assesses for four different attachment styles—secure, anxious-preoccupied, fearful-avoidant, and dismissive-avoidant. The questionnaire consists of 15 items rated on a 5-point Likert scale. To account for context-based within-person variance in the internal working model, the questionnaire was augmented to be sex-specific. The Cronbach Alpha score for the entire Attachment Style Questionnaire Short Form was .698. The internal validity of the measurement was also calculated for each subscale, since the attachment style scores should be heterogeneous by nature. The scores were as follows: the attachment security subscale was a three-item scale with a Cronbach Alpha score of .795; the attachment fearfulness subscale was a five-item scale with a Cronbach Alpha score of .900; the attachment preoccupation subscale was a three-item scale with a Cronbach Alpha score of .688; and the attachment dismissiveness subscale was a four-item scale with a Cronbach Alpha score of .702. To calculate the model of self, the means of the two attachment styles with positive models of

self—secure and dismissive-avoidant— were summed, and the sum of the means of the two attachment styles with negative models of self—anxious-preoccupied and fearful-avoidant—was subtracted from them. To calculate the model of other, the means of the two attachment styles with positive models of other—secure and anxious-preoccupied—were summed, and the sum of the means of the two attachment styles with negative models of other—dismissive-avoidant and fearful-avoidant—was subtracted from them.

Sexual satisfaction. La Guardia et al.'s (2000) Need Satisfaction scale calculates satisfaction through the meeting of three psychological needs—autonomy, competency, and relatedness. The scale was augmented to be sex-specific (see Appendix F). Participants rated their need satisfaction on nine 7-point Likert scales. The subscales were scored by calculating the mean score of the questions pertaining to each need. Overall satisfaction was represented as the mean of the mean scores of the three subscales. The internal validity of the augmented measure was calculated using a Cronbach Alpha, with a score of .906 overall. For each subscale, the Cronbach Alpha scores were as follows: the autonomy subscale was a three-item scale with a Cronbach Alpha score of .738; the competence subscale was a three-item scale with a Cronbach Alpha score of .804; the relatedness subscale was a three-item scale with a Cronbach Alpha score of .893.

Data Analysis

For hypothesis 1, 2 and 3, I used Pearson's correlation. Values between 0 and .30 are considered weak. Values between .30 and .50 are considered moderate. Values between .50 and .70 are considered strong. A value of 1 represents a perfect positive relationship. I tested hypothesis 4 using linear regression analysis.

Results

Preliminary Analysis

When examining attachment scores, attachment security had the highest mean overall at 10.23. Preoccupation scores were the lowest overall, with a mean of 4.47 (See Table 6).

Table 6

Attachment Scores

	Minimum	Maximum	Mean	Std. Deviation
Security	2.33	11.67	10.2306	1.83584
Dismissiveness	3.25	14.00	7.7979	2.63865
Fearfulness	4.20	18.40	7.2817	4.25921
Preoccupation	2.33	11.67	4.4711	2.24997

Scores from the different attachment styles were used to calculate the two components of the internal working model—model of self and model of other. The scoring for the model of self was generally higher than the model of other. The mean for the model of self in participants was 6.35, and the mean for the model of other in participants was -.28 (See Table 7).

Table 7

Internal Working Model Scores

	Minimum	Maximum	Mean	Std. Deviation
Model Of Self	-14.32	17.30	6.3455	6.58878
Model Of Other	-14.52	8.30	-.2845	5.73337

Sexual satisfaction scores were similar overall. The minimum of relatedness (2.33) was slightly lower than those for competence and autonomy, but the means for all three subscales were in close range (See Table 8).

Table 8

Sexual Satisfaction Scores

	Minimum	Maximum	Mean	Std. Deviation
Autonomy	4.33	16.33	13.9689	2.68936
Competence	4.67	16.33	12.9528	3.01793
Relatedness	2.33	16.33	13.1583	3.56923
Total Satisfaction	18.67	49.00	40.2621	7.95905

Hypotheses

Hypothesis 1. For the first hypothesis, I tested the relationship between the model of self and sexual satisfaction. A positive relationship between the model of self, overall sexual satisfaction, and the sexual satisfaction subscales was predicted. There was a moderate positive relationship with the model of self for all three subscales: autonomy ($r = .625$, $p < .001$); competence ($r = .624$, $p < .001$); and relatedness ($r = .517$, $p < .001$). A strong positive relationship is observed for overall sexual satisfaction ($r = .711$, $p < .001$) (See Table 4).

Table 9

Relationship of the Model of Self to Sexual Satisfaction

		Model Of Self	Autonomy	Competence	Relatedness	Overall Satisfaction Mean
Model Of Self	Pearson Correlation	1	.625**	.624**	.517**	.711**
	Sig. (2-tailed)		.000	.000	.000	.000
Autonomy	Pearson Correlation	.625**	1	.684**	.688**	.887**
	Sig. (2-tailed)	.000		.000	.000	.000
Competence	Pearson Correlation	.624**	.684**	1	.601**	.862**
	Sig. (2-tailed)	.000	.000		.000	.000
Relatedness	Pearson Correlation	.517**	.688**	.601**	1	.883**
	Sig. (2-tailed)	.000	.000	.000		.000
Overall	Pearson Correlation	.711**	.887**	.862**	.883**	1

Satisfaction	Sig. (2-tailed)	.000	.000	.000	.000	
Mean						
**= Correlation is significant at the 0.01 level (2-tailed).						

Hypothesis 2. For the second hypothesis, the relationship between the model of other and sexual satisfaction was examined. It was predicted the model of other would have a positive relationship with sexual satisfaction. The relationship of the model of other to autonomy was a weak positive one ($r = .452, p < .001$). The relationship of the model of other to competence was a similar weak positive relationship ($r = .321, p < .001$). The model of other had a moderate positive relationship with relatedness ($r = .580, p < .001$). The relationship of the model of other to overall sexual satisfaction was a moderate positive one ($r = .528, p < .001$) (See Table 10).

Table 10

Relationship of the Model of Other to Sexual Satisfaction

		Model Of Other	Autonomy	Competence	Relatedness	Overall Satisfaction Mean
Model Of Other	Pearson Correlation	1	.452**	.321**	.580**	.528**
	Sig. (2-tailed)		.000	.000	.000	.000
Autonomy	Pearson Correlation	.452**	1	.684**	.688**	.887**
	Sig. (2-tailed)	.000		.000	.000	.000
Competence	Pearson Correlation	.321**	.684**	1	.601**	.862**
	Sig. (2-tailed)	.000	.000		.000	.000
Relatedness	Pearson Correlation	.580**	.688**	.601**	1	.883**
	Sig. (2-tailed)	.000	.000	.000		.000
Overall Satisfaction Mean	Pearson Correlation	.528**	.887**	.862**	.883**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	115	117	117	117	117
**= Correlation is significant at the 0.01 level (2-tailed).						

Hypothesis 3a. For the third hypothesis, there were three predictions about the subscales. The first prediction was that competence would have a stronger relationship to the model of self than to the model of other. The model of self and competence had a moderate uphill relationship ($r = .624, p < .001$) (See Table 9). The model of other and competence had a weak positive relationship ($r = .321, p < .001$) (See Table 10).

Hypothesis 3b. It was predicted relatedness would have a stronger relationship to the model of other than the model of self. Though both demonstrated moderate positive relationships, the analysis revealed the relationship between the model of self and relatedness was slightly weaker than the relationship between the model of other and relatedness. The Pearson Correlation for relatedness and the model of other revealed a moderate positive relationship ($r = .580, p < .001$) (See Table 10). The relationship between relatedness and the model of self was also a moderate positive one ($r = .517, p < .001$) (See Table 9).

Hypothesis 3c. In the final hypothesis about the subscales, I predicted that both competence and relatedness would have a stronger relationship to autonomy than to each other. In the Pearson Correlation tests for both the model of self and the model of other, the relationship between competence and relatedness was a moderate positive one ($r = .601, p < .001$). The relationship between autonomy and competence was also moderately positive but stronger ($r = .684, p < .001$), and the relationship between relatedness and autonomy was also a moderately positive stronger one ($r = .688, p < .001$) (See Table 9). Both are moderate positive relationships, though the relationship to autonomy for competence and relatedness is stronger than the relationship between each other.

Hypothesis 4. In the final hypothesis, it was predicted there would be no relationship between relationship type and sexual satisfaction; however, there would be a relationship

between the internal working model and sexual satisfaction. To test this hypothesis, two different linear regressions were computed. The first one examines the impact of both the type of sexual relationship and the model of self on sexual satisfaction. The linear regression reveals that the type of sexual relationship does not predict sexual satisfaction, when the model of self is included (See Table 11).

Table 11

The Relation of Type of Sexual Relationship and the Model of Self to Sexual Satisfaction
(Linear Regression)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.056	.870		11.552	.000
	Type of Sexual Relationship	.772	.460	.125	1.679	.096
	Model Of Self	.248	.030	.619	8.257	.000
a. Dependent Variable: TotalSatisfactionMEAN						

The second linear regression looks at the impact of both the type of sexual relationship and the model of other on sexual satisfaction. This linear regression also reveals that the type of sexual relationship does not predict sexual satisfaction, while the model of other does (See Table 12).

Table 12

The Relation of Type of Sexual Relationship and the Model of Other to Sexual Satisfaction
(Linear Regression)

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
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		B	Std. Error	Beta		
1	(Constant)	12.985	.552		23.526	.000
	Type of Sexual Relationship	.662	.647	.105	1.023	.308
	ModelOfOther	.213	.047	.463	4.525	.000
a. Dependent Variable: Sexual Satisfaction						

Two statistical regressions were run to assess whether participants’ demographic characteristics accounted for participants’ sexual satisfaction and not model of self. Table 13 demonstrates that only the model of self is significantly related to sexual satisfaction.

Table 13

The Relation of Model of Self, Age, Gender, and Sexuality to Sexual Satisfaction (Linear Regression)

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	10.056	.870		11.552	.000
	Model Of Self	.248	.030	.619	8.257	.000
	Age	.067	.167	.028	.401	.689
	Gender	.667	.501	.093	1.333	.185
	Sexuality	.571	.445	.088	1.282	.202
a. Dependent Variable: Sexual Satisfaction						

The second statistical regression (Table 14) assessed whether demographic characteristics accounted for satisfaction and not model of other. Although the number of men in the study was small, we tested the relationship between gender and sexual satisfaction. The results showed that gender and model of other’s relationship explained sexual satisfaction.

Table 14

The Relation of Model of Other, Age, Gender, and Sexuality to Sexual Satisfaction (Linear Regression)

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.089	1.078		10.288	.000
	Model Of Other	.199	.047	.442	4.242	.000
	Age	.117	.199	.049	.591	.556
	Gender	1.387	.586	.193	2.366	.020
	Sexuality	.533	.533	.082	.999	.320

a. Dependent Variable: Sexual Satisfaction

Discussion

To test 4 different hypotheses, I examined the associations between the type of sexual relationship, the internal working model, and sexual satisfaction across respondents' relationships. It was anticipated that the internal working model and the Self-Determination Theory model of sexual satisfaction would have a parallel relationship. The tests for the first and second hypothesis support this theory. The model of self demonstrated a strong positive relationship with sexual satisfaction, and the model of other demonstrated a moderate positive relationship with sexual satisfaction.

The third hypothesis took a more in-depth look at the internal working model and its relationship to competence, autonomy, and relatedness (See Figure 1). As expected, the model of self was more strongly related to competence than relatedness, and the model of other was more strongly related to relatedness than competence. Finally, competence and relatedness were more strongly related to autonomy than to each other. The findings are reflective of prior studies on the internal working model, such as the one from Collins and Read (1990), except the self-assessments and inter-relational assessments are measured using Self-Determination Theory.

The findings also support Schnarch's (1994) position on the influence of psychological processes on sexual satisfaction.

The fourth and final hypothesis assessed the relationship of type of sexual relationship to sexual satisfaction. The results of the linear regression provided no evidence of a relationship between type of sexual relationship and sexual satisfaction. The linear regression indicated that the relationship was instead between the internal working model and sexual satisfaction. To build on the findings from Jonason, Li, and Richardson (2010), the results indicate that casual sexual relationships and encounters can be as fulfilling as non-casual sexual relationships. The linear regression supports the hypothesis that the internal working model is the determinant of sexual satisfaction, not the type of sexual relationship.

A final linear regression was run to test the effects of age, gender, and sexuality on sexual satisfaction. The analysis revealed evidence of a relationship between gender and sexual satisfaction, though no such evidence was found for the relationship between age or sexuality and sexual satisfaction.

The study results support the supremacy of the internal working model as the determinant of sexual satisfaction. While attachment theorists have asserted the preclusion of casual sexual relationships to attachment security, the findings from all four hypotheses contest this. Hypothesis one, two, and three demonstrate the parallel between the model of self, model of other, and the components of sexual satisfaction. The results from the linear regression of hypothesis four then exclude type of sexual relationship from contributing to sexual satisfaction. Study findings suggest that sexual satisfaction is determined by the composition of the internal working model, demonstrating that under the theoretical model of attachment, a relationship can be simultaneously both secure and casual.

The findings have implications for not only attachment theory but also for social work practice. If people can have satisfying casual sexual relationships based on the composition of their internal working model, it is important to present positive self-worth as not a byproduct of a satisfying sexual relationship but rather an essential piece of the formula for a satisfying sexual relationship. When educators and social work practitioners possess and present stigmatizing beliefs about casual sexual relationships, these messages may affect the way students and clients organize their internal working models within a sexual context. If the internal working model is truly paramount to sexual satisfaction, when a client hopes to increase their sexual satisfaction, social workers have an ethical obligation to partner with said client to assist in reorganizing their internal working model to adhere to evidence-based practice, as opposed to suggesting the client refrain from engaging in casual sexual relationships.

Further research on the topic is necessary. Though no evidence was found suggesting that type of sexual relationship is related to sexual satisfaction, a style of attachment may be more prevalent among certain types of sexual relationships, contributing to or inhibiting sexual satisfaction. Far fewer participants in the study identified their sexual relationship as one of the three casual types than non-casual. With 40 participants stopping the survey before answering the question on type of sexual relationship, an issue of social desirability penalties may have stopped many respondents from answering about their casual sexual relationship. A future study might incentivize participation in hopes of increasing respondents who report on a casual sexual relationship. Future research might also examine the way that language (i.e. the title of a sexual relationship) impacts the organization of the internal working model, such as including a 'no label' option or some variation.

Limitations

The survey was distributed to individuals in social work, psychology, sociology, social justice, and gender and women's studies courses across campus. Because students studying these subjects may have a greater interest in human sexuality, they may also be more proactive in addressing deficiencies in sexual self-efficacy, influencing their answers. While the study is meant to contribute to theory construction, the results are not representative of all people or all college students.

To account for within-person variance and contextual differences in the internal working model, the attachment appendix from Chui & Leung (2016) was augmented to be sex-specific. The Need Satisfaction scale used in La Guardia et al. (2000) was also augmented to be sex-specific. Because the questionnaires already asks some related questions, augmenting the questions to be sex-specific may have made them too similar. The relationship between the results of either survey tool may be impacted by the similarity of the questions.

The research project also does not consider potential confounding barriers such as trauma or how trauma impacts a person's attachment style. Relational and sexual trauma could be a factor in influencing the organization of a person's internal working model or their levels of sexual satisfaction. With results suggesting that individuals can possess both global and relationship-specific internal workings models and even several different models in a single attachment relationship, situational specificity in these assessments is a necessity.

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Appendix A—Informed Consent

We invite you to participate in a research study being conducted by investigators from The University of Iowa. The purpose of the study is **to examine the relationship between casual and non-casual sexual relationships, attachment, and sexual satisfaction.**

If you agree to participate, we would like you to **complete a short survey consisting of questions about a current or previous sexual relationship, your feelings about yourself and that person during sexual encounters with them, and sexual satisfaction.** You are free to skip any questions that you prefer not to answer. It will take approximately **7-10 minutes.**

The survey is anonymous—no identifying information will be collected.

Taking part in this research study is completely voluntary. If you do not wish to participate in this study, **you may indicate so on this page or exit. You may skip any questions you prefer not to answer and can cease participating at any time. Only the research team of the student researcher and the faculty advisor will have access to the individual data and/or summarized results.**

If you have any questions about the research itself, please contact Sadie Elbert at Sadie-Elbert@uiowa.edu or the faculty advisor: Alison Oliver, 308 North Hall, School of Social Work, The University of Iowa, Iowa City, IA, 52242-1223, (319) 335 – 1253.

If you have questions about the rights of research subjects, please contact the Human Subjects Office, 105 Hardin Library for the Health Sciences, 600 Newton Rd, The University of Iowa, Iowa City, IA 52242-1098, (319) 335-6564, or e-mail irb@uiowa.edu.

Thank you very much for your consideration of this research study.

I agree to participate in this survey. _____
I do not agree to participate in this survey. _____

Appendix B—Educator Distribution Inquiry

Hello <first name> <last name>,

My name is Sadie Elbert, and I am an undergraduate student in the School of Social Work at the University of Iowa. In order to attain an Honors Distinction in Social Work, I am conducting a research study. My research tool is a Qualtrics survey, and I was wondering if you would be willing to distribute the link with the included message to your class, <class>, either through their student email or ICON. For the study, I am using the survey tool to examine the relationship between casual and non-casual sexual relationships, attachment, and sexual satisfaction. I wanted to reach out to different departments within the University to access a broader range of students and a more diverse sample. If you are willing to distribute the survey, please respond to this email with your intentions. For that purpose, the distribution link and message are provided below.

Regardless of your answer, I appreciate your time and consideration.

Thank you,

Sadie Elbert

You are invited to participate in a research study being conducted by an undergraduate student at the University of Iowa School of Social Work. The study is being carried out to fulfill course requirements for undergraduate Honors in Social Work.

If you agree to participate, you will be asked to complete a short survey including questions about a current or previous sexual relationship, your feelings about yourself and that person during sexual encounters with them, and sexual satisfaction. It will take 7-10 minutes of your time. Taking part in this research study is completely voluntary, the information is provided anonymously and will be kept confidential. Only the research team (the student researcher and faculty advisor) will have access to the data and/or summarized results.

The survey can be accessed at this link:

https://uiowa.qualtrics.com/jfe/form/SV_6PxXW5HhFfR1vkF

If you have any questions about the research itself, please contact Sadie Elbert at Sadie-Elbert@uiowa.edu or the faculty advisor: Alison Oliver, 308 North Hall, School of Social Work, The University of Iowa, Iowa City, IA, 52242-1223, (319) 471-3764

Appendix C—IRB Submission Form

The Internal Working Model and Sexual Satisfaction: A Self-Determination Approach

PI: Sadie Elbert

IRB ID #: 201802759

Project Details

I. Project Introduction

- I.1** *Project to be reviewed by:*
IRB-02
- I.2** *Project Title:*
The Internal Working Model and Sexual Satisfaction: A Self-Determination Approach
- I.3** *Short Title (optional):*
- I.4** *Provide a short summary of the purpose and procedures of the study proposed in this IRB application.*

- *DO NOT include information on studies not proposed in this application.*
- *Use LAY terminology only. This must be easily understandable by IRB community members and nonscientists.*
- *DO NOT cut and paste technical abstracts from funding applications that may not be understood by a general audience.*

The purpose of the study is to examine the relationship between a person's concept of other and self in the context of sex and sexual satisfaction. The study will also examine the effects of relationship type (casual or non-casual) on attachment and sexual satisfaction.

The Principal Investigator will contact University educators to distribute a survey link to their students via email or ICON. The Principal Investigator will have no interaction with or contact information of the potential participants. The survey tool is a Qualtrics survey utilizing an augmented version of Appendix B of Wing-Yip Chui and Man-Tak Leung's Attachment Style Questionnaire to assess the internal working model of the individual. This portion of the survey examines individuals' feelings about themselves and their sexual partner during sexual encounters. Sexual satisfaction will be assessed using a modified version of La Guardia, Ryan, Couchman, & Deci's Need Satisfaction Scale. The survey also collects demographic info such as gender and sexual orientation. The survey is completely anonymous.

- I.5** *Specify your research question(s), study aims or hypotheses (do not indicate "see protocol")*

Study aims:

- To examine the relationship between the internal working model and sexual satisfaction, using the Self-Determination Theory model of sexual satisfaction

- To examine the relationship between relationship type (casual and non-casual sexual encounters and experiences), the internal working model, and sexual satisfaction

Hypotheses:

- The relationship type will not be related to sexual satisfaction.
- The organization of the internal working model will be related to sexual satisfaction.
- If a relationship is casual but the attachment is secure, then sexual satisfaction will be greater than if casual but not secure.

I.6

Background and significance and/or Preliminary studies related to this project. (do not indicate "see protocol")

Attachment theorists long subscribed to the idea that a person's attachment orientation, or their predisposition to certain behaviors and beliefs within a relationship, was not only determined based on their relationship with parental figures but that this attachment orientation remained the same in all relationships. One of the central tenets of attachment theory is the internal working model, which consists of an individual's self-concept, their attachment figure, and the accessibility and responsiveness of said attachment figure. More recent research has suggested that individuals possess a unique internal working model per relationship or several within one and that these models are dynamic and evolving. Because an individual can have multiple internal working models in a relationship, assessments of the internal working model must be context-specific. If the internal working model does vary based on context, one's perception of their relationship may change within a sexual context, which may affect one's levels of sexual satisfaction. When looking at sexual satisfaction, researchers have suggested that satisfaction is achieved by the fulfillment of psychological needs rather than through physical stimulation. The Self-Determination Theory model of sexual satisfaction posits that sexual satisfaction can be achieved by meeting the three needs of competence, relatedness, and autonomy. In studying the association between the internal working model and sexual satisfaction, it is also important to differentiate between the different types of sexual relationships. Previous research on attachment and sex neglect to examine relationships outside of the context of committed relationships, though research suggests that individuals can experience emotional connections suggestive of an attachment relationship in noncommittal sexual relationships. Though an outstanding amount of research has been done on attachment, an overwhelming majority of it has also neglected to include non-cisgender and non-heterosexual populations in the research.

I.7

Literature cited / references (if attaching a grant or protocol enter N/A).

Bowlby, J. (1973). Attachment and loss, Vol. 2: Separation. New York: Basic Books.

Cassidy, J., & Shaver, P. R. (2016). Handbook of attachment theory, research and clinical applications. New York, NY: The Guilford Press.

Chui, W., & Leung, M. (2016). Adult attachment internal working model of self and other, self-esteem, and romantic relationship satisfaction in Chinese culture: By multilevel-multigroup structural equation modelling. In M. Leung & L. Lang (Eds.), Applied psychology readings: Selected papers from Singapore conference on applied psychology, 2016 (pp. 209-228). Springer.

Claxton, S. E., & van Dulmen, M. H. (2013). Casual sexual relationships and

experiences in emerging adulthood. *Emerging Adulthood*, 1(2), 138-150.

Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52(3), 511-524.

La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology*, 79, 367-384.

Pietromonaco, P. R., & Feldman Barrett, L. (2000). The internal working models concept: What do we really know about the self in relation to others? *Review of General Psychology*, 4(2), pp. 155-175.

Schnarch, D. (1994). Joy with your underwear down. *Psychology Today*, 27, pp. 38-78.

Smith C. V. (2007). In pursuit of “good” sex: Self-determination and the sexual experience. *Journal of Social and Personal Relationships*, 24, 69-85.

II. Research Team

II. *Team Members*

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UI Team Members

Name	E-mail	College	Contact	Key Person	UI COI	VAM C COI	Consent Process Involvement	Deactivated
Sadie Elbert, AA	sadie-elbert@uiowa.edu	College of Liberal Arts and Sciences	Yes	Yes	No			No
Alison Oliver, MSW	alison-oliver@uiowa.edu	College Lib Arts and Sciences	Yes	Yes	No			No

Non-UI Team Members

Name	Institution	Location	FWA	Role	DHS	Contact	Key Person	UI COI	VAM C COI	Consent Process Involvement	Email
Nothing found to display.											

II.3 *The Principal Investigator of this study is:*

Undergraduate student

II.3.a *Select the mentor or faculty advisor:*
Alison Oliver

II.6 *Identify the key personnel. The system will automatically designate the PI and all faculty members on the project as “key personnel.” For information about other team members who should be designated as “key personnel” please click on the help information.*

Name	Is Key Personnel
Sadie Elbert, AA	Yes
Alison Oliver, MSW	Yes

II.5 *Select research team member who is the primary contact for study participants.*
Sadie Elbert

III. Funding/Other Support

III.1 *Funding Sources*

Type	Source	Grant Title	Name of PI on Grant	Status	Status Description
	No Funding				

* new source name

III.3 *Does any member of the research team have a financial conflict of interest related to this project according to the [Conflict of Interest in Research](#) policy? If yes, please indicate which members below.*

Name	Has Conflict of Interest
Sadie Elbert, AA	No
Alison Oliver, MSW	No

IV. Project Type

IV.1 *Do you want the IRB to give this project*
Exempt status

VI. Subjects

VI.1 *How many adult subjects do you expect to consent or enroll for this project?*
115

VI.2 *What is the age of the youngest adult subject?*
18.0

VI.3 *What is the age of the oldest adult subject?*
99.0

VI.4 *What is the percentage of adult male subjects?*
50

VI.5 *What is the percentage of adult female subjects?*
50

VI.6 *How many minor subjects do you expect to consent or enroll for this project?*
0

VI.13 *Describe EACH of your subject populations*

- *Include description of any control group(s)*
- *Specify the Inclusion/Exclusion criteria for EACH group*

- *Studies under IRB-03 enrolling non veterans as part of the subject population must present a compelling argument to the IRB for the inclusion of non-Veterans (e.g., insufficient number of Veterans; survey of VA employees; study of active duty military; study involving Veterans' family members), and the research is relevant to the care of Veterans or active duty military personnel.*
- The subject population is university students with no control groups or inclusion/exclusion criteria.
- VI.14 *Provide an estimate of the total number of subjects that would be eligible for inclusion in each of your study populations (include your control population if applicable)*
The population is 33,334 (or university students).
- VI.15 *Describe how you will have access to each of your study populations in sufficient number to meet your recruitment goals.*
The population will be accessed through university professors. Professors will be asked to distribute the link to their students, via ICON or email. Professors who agree will distribute the link with the message included in the initial email. Researchers will have no access to the email addresses or names of students the survey is distributed to. A question will be asked at the beginning of the survey to screen out University of Iowa students under the age of 18.
- VI.16 *Do you plan to recruit/enroll non-English speaking people?*
No
- VI.18 *Do you propose to enroll any of the following in this study as subjects?*
 - *Employee of the PI or employee of a research team member*
 - *Individual supervised by PI or supervised by member of research team*
 - *Individual subordinate to the PI or subordinate to any member of the research team*
 - *Student or trainee under the direction of the PI or under the direction of a member of the research team*
- No

VII.A. Project Description (A)

- VII.A.1 *Where will project procedures take place (check all that apply)?*
 - Other UI campus site - Qualtrics survey
- VII.A.2 *Is this project also being conducted by other researchers at their own sites (e.g. a multi-site collaborative project)?*
No

VII.D. Project Description (D)

- VII.D.1 *Check all materials/methods that will be used in recruiting subjects (you will need to attach copies of all materials at the end of the application):*
 - E-mail -
 - Other - We will be contacting University of Iowa professors on the included Excel contact sheet to either email students or post the link to ICON with the message included in the attachments.
- VII.D.8 *Will a member of the research team discuss the study with the subject in person prior to*

- the subject agreeing to participate?*
No
- VII.D.10** *Will a member of the research team discuss the study with the subject by phone prior to the subject agreeing to participate?*
No
- VII.D.15** *Check all materials that will be used to obtain/document informed consent:*
- Exempt Information Sheet
- VII.D.29** *Provide a description of the enrollment and consent process for adult subjects*
- *Describe each study population separately including control population*
 - *Include when recruitment and consent materials are used*
 - *Use 3rd person active voice “The Principal Investigator will identify subjects. For example, the principal investigator will identify potential subjects, the study coordinator will discuss the study with subjects over the telephone and schedule the first study visit, etc...”*
 - *Describe the steps that will be taken by the research team to minimize the possibility of coercion or undue influence during the consent process*

The Principal Investigator will contact the University of Iowa educators on the included Excel spreadsheet to distribute the survey to their students, by either email or ICON. The Principal Investigator will email the educators the message included in the "Educator Distribution Inquiry" document. The "Educator Distribution Inquiry" email includes the survey distribution link along with with the specific language to use for survey recruitment when the educator posts to ICON or emails the students.

- The primary investigator and faculty supervisor have requested a waiver of documentation of consent to carry out the study. Consent will be obtained at the beginning of the survey. Participants are provided with the purpose, duration, risks, and benefits of the survey in the form of a survey question. Potential participants are informed that they are able to rescind consent at any time. Potential participants are also provided with the principal investigator and faculty supervisor contact information and with the contact information of the HSO in case they have questions about their rights as a potential subject in human research. In order to access the survey, participants must read this information and then indicate that they consent to participation.

To minimize the possibility of coercion or undue influence during the consent process, the educators will distribute the survey link via ICON or email and indicate that participation is voluntary. Educators will not be able to see whether or not a student participated. The Principal Investigator will have no access to the emails of the students the survey is distributed to or any other identifying information.

VII.E. Project Description (E)

- VII.E.1** *Will subjects be randomized?*
No
- VII.E.3** *Will any questionnaires, surveys, or written assessments be used to obtain data directly from subjects in this study?*
Yes
- VII.E.4** *List all questionnaires, surveys, written assessments and ATTACH each one to the application. (NOTE: You are NOT prohibited from attaching copyrighted materials to this application)*
- Demographic information questions
 - Casual Sexual Relationships and Encounters indication based on definitions from

the Oxford Handbook of Emerging Adulthood (2016)
 - Augmented version of Appendix B of Wing-Yip Chui and Man-Tak Leung's (2011) Attachment Style Questionnaire
 - Augmented version of La Guardia, Ryan, Couchman, & Deci's (2000) Need Satisfaction Scale.
 - Link to the complete, anonymous survey:
https://uiowa.qualtrics.com/jfe/form/SV_6PxXW5HhFfR1vkF

VII.E.5 *Does this project involve creating any audiotapes, videotapes, or photographs?*
 No

VII.E.6 *Provide a detailed description in sequential order of the study procedures following the consent process - DO NOT cut and paste from the Consent Document.*

Describe study populations separately if they will be participating in different procedures - include CONTROL population if applicable.

DESCRIBE:

- *What subjects will be asked to do/what happens in the study (in sequential order)*
- *The time period over which procedures will occur*
- *The time commitment for the subject for individual visits/procedures*
- *Long-term followup and how it occurs*

After reading the required informed consent information preceding the Qualtrics survey, participants will be asked to complete a series of questions to assess their internal working model or attachment orientation during sex with a current or previous sex partner and will then be asked a series of questions to assess their feelings of competency, autonomy, and relatedness during sex with this person to assess their level of sexual satisfaction.

Upon approval from IRB, data collection will begin and last approximately two weeks. The survey will take approximately 7-10 minutes for participants to complete. No followup is necessary.

Activities will only take place once. Educators will only be asked to distribute the survey once.

VII.E.7 *Will you attempt to recontact subjects who are lost to follow-up?*
 No - followup is not required in this study

VII.E.9 *Will subjects be provided any compensation for participating in this study?*
 No

VIII. Risks

VIII.1 *What are the risks to subjects including*
 - *emotional or psychological*
 - *financial*
 - *legal or social*
 - *physical?*

Because the study deals specifically with sex and casual relationships and sexual encounters, subjects may experience emotional or psychological discomfort from discussing previous sexual encounters or current ones. There is also a risk of loss of confidentiality.

VIII.2 *What have you done to minimize the risks?*

- ***If applicable to this study ALSO include:***
 - ***How you (members of your research team at Iowa) will monitor the safety of individual subjects.***
 - ***Include a description of the availability of medical or psychological resources that subjects might require as a consequence of participating in this research and how referral will occur if necessary (e.g. availability of emergency medical care, psychological counseling, etc.)***

The consent document informs individuals about the risks of the study beforehand and also informs them that they are able to stop at any point. The consent document also includes contact information for the Johnson County Crisis Center's Crisis Line in the unlikely event a participant has a strong emotional response to the survey questions.

IX. Benefits

- IX.1** ***What are the direct benefits to the subject (do not include compensation or hypothesized results)?***
There are no direct foreseeable benefits to the subject.
- IX.2** ***What are the potential benefits to society in terms of knowledge to be gained as a result of this project?***
We hope the information obtained about casual and non-casual sexual relationships and encounters, the internal working model, and sexual satisfaction can contribute to the knowledge base on attachment theory. We hope by understanding the way these variables interact, practitioners can better assist clients in addressing attachment-related impediments to sexual satisfaction.

X. Privacy & Confidentiality

- X.1** ***What are you doing to protect the privacy interests of the subjects?***
We are only asking for the amount of information necessary to answer the research questions.
- X.2** ***Are you collecting the Social Security Number of any subjects for any purpose?***
No
- X.4** ***How will information/data be collected and stored for this study (check all that apply):***
- Electronic records (computer files, electronic databases, etc.) - Data will be collected and stored in the Qualtrics database. The primary investigator will maintain the security of the information by being the sole user of the Qualtrics account. The primary investigator and faculty supervisor will be the only individuals to view the raw data, which will be viewed only within the computer lab in North Hall on the primary investigator's UI account. Raw data will not be emailed, circulated, or distributed among any other parties. Individuals are asked to identify their age group, gender identity, and sexuality. No other identifying information is collected.
 - Name - Sadie Elbert
 - Title - Office Work
 - University Job Classification - Faculty/Staff and Student
- X.5** ***Do the confidentiality protections indicated above allow only members of the research team to access the data/specimens?***
Yes
- X.7** ***Does your study meet the NIH criteria for a Certificate of Confidentiality or will you be applying for Certificate of Confidentiality?***

No

XI. Data Analysis

- XI.1** *Describe the analysis methods you will use, including, if applicable, the variables you will analyze*
 The relationship between relationship type (casual and non-casual sexual encounters and experiences) and sexual satisfaction will be tested using an ANOVA. A post hoc evaluation will be conducted to see which of the types is related to sexual satisfaction.
- The relationship between the internal working model and sexual satisfaction will be tested using a bivariate Pearson correlation.
- The relationship between casual but secure attachment, and sexual satisfaction will be tested using a independent samples t-test.
- XI.2** *Provide the rationale or power analysis to support the number of subjects proposed to complete this study.*
 The number of subjects (115) was determined by calculating the minimum number of cases necessary for a bivariate Pearson correlation test with a large effect size (.30; err. prob.: .0). Fewer cases are needed to calculate a F-test (one-way ANOVA) and t-test.

XII. Future Research

- XII.1** *Do you wish to keep any information about subjects involved with this research project so that members of the current research team may contact them in the future for your own research projects?*
 No
- XII.2** *Do you wish to keep any information about subjects involved with this research project so that other researchers may contact them for future research?*
 No

Appendix D—Casual and Non-Casual Sexual Relationships and Encounters

For the purpose of this survey, participants are asked to answer questions with one specific individual in mind that they currently have or have previously had a sexual relationship with and the feelings they experienced during their sexual encounter(s) with that individual. Though some individuals prefer not to use labels to characterize their relationships, for the purpose of the survey, please select the term that most appropriately describes your relationship with this person:

Significant other/Partner: mutually committed relationship. ____

Hookup: noncommittal sexual encounter(s). ____

Friend with benefits: sexual relationship occurring between friends who do not consider the relationship to be romantic. ____

Booty call: non-long-term relationship partner with urgent intent, either stated or implied, of engaging in sexual activity or intercourse. ____

Appendix E—Augmented from Attachment Style Questionnaire Short Form (Chui & Leung, 2011)

	Strongly Disagree				Strongly Agree
1. I trust this person and like when they rely on me during sex.	1	2	3	4	5
2. I feel at ease having intimate sex with this person.	1	2	3	4	5
3. I think it is important that this person and I rely on each other during sex.	1	2	3	4	5
4. I would like to be open during sex with this person, but I feel I can't trust them.	1	2	3	4	5
5. I would like to be sexually close with this person, but I find it difficult to truly trust them.	1	2	3	4	5
6. I'm afraid that my hopes will be deceived when I get too close to this person during sex.	1	2	3	4	5
7. I am wary to become sexually close with this person because I'm afraid to get hurt.	1	2	3	4	5
8. The idea of becoming sexually close or being sexually close with this person makes me uncomfortable.	1	2	3	4	5
9. During sex, I often wonder if this person likes me.	1	2	3	4	5
10. I fear that this person's attention is elsewhere during sex.	1	2	3	4	5
11. During sex, I worry that I am not good enough at sex for this person.	1	2	3	4	5
12. It is important for me to independent in my sexual relationship with this person.	1	2	3	4	5
13. I prefer that during sex this person and I are independent and do not rely on each other.	1	2	3	4	5
14. I like to be self-sufficient when having sex with this person.	1	2	3	4	5
15. I do not worry about my relationship with this person during sex because I do not need them strongly.	1	2	3	4	5

Indicators: Attachment Security (1-3); Attachment Fear/Avoidance (4-8); Attachment Preoccupation/Anxiety (9-11); Attachment Dismissiveness/Avoidance (12-15)

Appendix F—Augmented from Need Satisfaction Scale (LaGuardia, Ryan, Couchman, & Deci, 2000)

	Strongly Disagree						Strongly Agree
1. When I am having sex with this person, I feel free to be who I am.	1	2	3	4	5	6	7
2. When I am having sex with this person, I feel like a competent person.	1	2	3	4	5	6	7
3. When I am having sex with this person, I feel valued and cared for.	1	2	3	4	5	6	7
4. When I am having sex with this person, I often feel inadequate or incompetent.	1	2	3	4	5	6	7
5. When I am having sex with this person, I have a say in what happens, and I can voice my opinion.	1	2	3	4	5	6	7
6. When I have sex with this person, I often feel a lot of distance between us.	1	2	3	4	5	6	7
7. When I am having sex with this person, I feel very capable and effective.	1	2	3	4	5	6	7
8. When I am having sex with this person, I feel a lot of closeness and intimacy.	1	2	3	4	5	6	7
9. When I am having sex with this person, I feel controlled and pressured to be certain ways.	1	2	3	4	5	6	7

Indicators: Autonomy (1, 5, 9 [reverse scoring]); Competence (2, 4 [reverse scoring], 7); Relatedness (3, 6 [reverse scoring], 8)