

SELF-DETERMINATION AND SEXUAL EXPERIENCE IN DATING RELATIONSHIPS

by

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(Under the Direction of W. Keith Campbell)

ABSTRACT

Two studies using a Self-Determination Theory (Deci & Ryan, 1985; 2000) framework tested a model of sexual motivation in dating relationships. The model predicted that autonomous (i.e., intrinsic and identified) motives would be positively associated with need satisfaction (i.e., competence, relatedness and autonomy) during sexual activity and sexual satisfaction and that controlling (i.e., introjected and external) motives would be negatively associated with need satisfaction during sexual activity and sexual satisfaction. Moreover, need satisfaction during sexual activity and sexual satisfaction were predicted to mediate the association between sexual motives and outcome variables, such as psychological well-being, sexual well-being, and relational quality. Study 1 was a questionnaire study designed to test the model by investigating general sexual motivation in dating relationships whereas Study 2 was an interaction diary study designed to test the model by investigating specific sexual interactions. Results from both studies supported predictions. Sexual motives were associated with psychological well-being, sexual well-being, and relational quality; need satisfaction during sexual activity and sexual satisfaction mediated the association between sexual motives and outcome variables. In addition, gender differences in sexual motivation were examined, which revealed that men reported more motives for sexual activity than women did. Self-Determination Theory provided a rich theoretical

perspective for understanding sexual activity in dating relationships. Further, the present studies extend Self-Determination Theory by demonstrating that self-determined behaviors apply to a variety of social contexts, such as sexual relationships.

INDEX WORDS: Self-Determination Theory, Need Satisfaction, Sexual Motivation, Romantic Relationships

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DEDICATION

To my husband, Ken, for your love and encouragement over the course of my graduate career. I truly could not have done it without your support. To my daughter, Alexandria, for reminding me not to take life so seriously. You brighten my day and bring joy to my life. I love you both!

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CHAPTER 1

INTRODUCTION

Overview

Why do individuals engage in sexual activity with their dating partners? Some reasons provided in a survey study (Sprecher & McKinney, 1993) included expressing love for the partner, experiencing physical arousal, wanting to please the partner, feeling peer pressure, and wanting physical pleasure. Despite that sexual activity is commonplace among those involved in a romantic relationship (and even for some who are not romantically involved), it is surprising that sexual motivation is not well understood theoretically. One potentially useful theory that provides a context for understanding sex and relationships is Self-Determination Theory (SDT; Deci & Ryan 1985; 2000). Thus, the purpose of the present dissertation is to use SDT as a framework to better understand sexual motivation in dating relationships. Before explaining SDT, however, I review other theoretical approaches to sexual motivation. I next provide an overview of SDT. Finally, I propose and test a model of sex that incorporates a SDT perspective.

Theories of Sexual Motivation

Drive Models

According to drive models of sexual motivation, sex is an inborn motive; the individual is driven to engage in sexual activity. The most noteworthy theorists on this topic are Freud, Hull, and Maslow, and their theories are described below.

Freud's view was of sexuality as a significant force in individual behavior and society. Freud hypothesized a life instinct, Eros, which he believed was a physiologically-based impulse

that unites and binds individuals to one another. When Eros fails to be gratified, erotic energy, or libido, accumulates, which in turn motivates the individual to discharge the energy, such as through orgasm (Freud, 1915/1990). Put another way, the reason to have sex is for one's own gratification. Freud also noted that the sexual instinct was inhibited and diverted by cultural constraints. Through sublimation and displacement, the energy of the libido is expressed in other socially acceptable ways, such as through artwork or writing a novel. Thus, according to Freud, the sex drive is a basic motive; the individual is driven to release his or her libidinal energy through both sexual and nonsexual expression.

Like Freud, Hull (1943) believed that sex is an inborn drive, and like hunger or thirst, is a need to be met. As hunger deprivation is met by eating, sexual deprivation is met by achieving orgasm. Thus, the viewpoint from the behavioral drive model is also of sex as a basic drive that motivates an individual toward self-gratification. Sexual tensions are reduced through sexual behavior, especially the achievement of orgasm.

Although Maslow (1954) noted sex along with hunger and thirst as a physiological need at the bottom of his hierarchy of needs, the focus of attention on this topic was on how self-actualizing men and women behaved in their sexual relationships. More specifically, Maslow distinguished two forms of love: *D-love and B-love*. D-love, or deficiency-love, is the basic need for love, which Maslow described as a selfish concern with seeking love from others. When D-love is gratified, people become capable of B-love, or Being love. B-love can be found among those moving toward self-actualization. Thus, according to Maslow, people engage in sexual activity with a partner because of the desire for intimacy, to please the partner, to gain fuller knowledge of the partner and to be fully known by the partner. Self-actualized people tend not to seek sex for its own sake but rather want to engage in sexual activity in the context of love and

affection. For this reason, Maslow reported that sexual satisfaction improved along with relationship length.

In summary, proponents of a drive explanation of sexual motivation view sex physiologically. According to these theorists, sex is an inborn motive and the purpose of having sex is for self-gratification.

Evolutionary Models

Another theory of sexual motivation that focuses on innate tendencies to engage in sex is evolutionary psychology. Evolutionary psychology focuses on the psychological mechanisms that are shaped by natural selection (Buss, 1991). If psychological mechanisms that guide behavior have evolved to respond to selective pressures, so too have cognitive and emotional structures. According to evolutionary psychology (e.g., Buss, 1989; 1999), sexual behavior is influenced by strategies to obtain reproductive success. In this view, mating preferences and sexual pleasure are believed to be the essence of human sexuality. A man who accurately judges a mate to be healthy and fertile is going to be more successful at reproducing.

Evolutionary considerations of mate selection date back to Darwin (1871), who theorized that sexual selection could cause evolutionary change. According to Darwin, two processes operate in sexual selection: *intrasexual selection* and *intersexual selection*. Intrasexual selection refers to the tendency of one sex to compete for access to the opposite sex whereas intersexual selection is the tendency of one sex to prefer certain members of the opposite sex as mates. Further, the sex that invests more in offspring (in humans, the female) will be more selective when choosing a mate. Buss and Barnes (1986) argue that mate preferences reflect three levels of analysis. The first level is mate characteristics that are consensually desired but are in short supply. The second level is sex differences, which refers to characteristics that one sex views as

more important than the other sex; men and women with compatible characteristics tend to couple. Finally, individual differences refer to one's preference for certain characteristics. Individuals who have similar preferences will seek out one another. Across two studies, Buss and Barnes found that kindness and understanding, having an exciting personality, and being intelligent were consensual preferences. Men tended to rank physical attractiveness higher than women, who ranked being a college graduate and having high earning capacity higher than did men. Further research (Buss, 1988) demonstrated that men use tactics (such as bragging about their resources) to display their resources to women whereas women use tactics that signal their reproductive value and availability of that value (e.g., wearing makeup and jewelry, dressing provocatively). Examples of individual preferences were having an exciting spouse, being artistic, and being easygoing and adaptable (Buss & Barnes, 1986).

Sex differences are observed because males and females faced different adaptive problems. Parental investment theory (Trivers, 1972), which is closely tied to sexual selection, illustrates how males and females differ in the adaptive problems they need to solve. According to Trivers, one's sexual motivation is contingent on the amount of resources one is required to invest in his/her offspring's survival. Females have a minimal capacity for reproduction and invest more resources due to pregnancy and childbirth. Therefore, women who showed a preference for mates who were willing and able to invest in her offspring had higher reproductive success relative to women who mated indiscriminately. In other words, because females invest more in offspring, natural selection has favored mechanisms designed so that females will be more selective in choosing a mate relative to males. Males, by contrast, have lower mandatory parental investment in offspring as females do. Therefore, natural selection has favored mechanisms designed so that males are less discriminate about choosing a mate relative

to females. According to parental investment, men will therefore compete with each other for access to the females (a limited resource due to their limited capacity for reproduction), and can increase their reproductive success by mating with multiple females.

Finally, a last evolutionary approach to understanding sexual motivation is the investigation of pair-bonding and attachment. When a man and a woman mate, two threats to the offspring are infant vulnerability and maternal death. Infant vulnerability is reduced when a) the mother provides care, such as breastfeeding, and b) the father provides resources and security for the mother and infant. Thus, sociobiologists have identified two mechanisms to facilitate these conditions: the pair-bond between the parents and attachment between the infant and the parent (Miller & Fishkin, 1997). Offspring survival is dramatically increased if the parents are emotionally bonded (e.g., love each other), and if the parents have a predisposition for attachment. The emotional bond between parents is theorized to lead to more frequent sexual interaction, which in turn reinforces the bond. Research with prairie voles, small rodents that are monogamous and demonstrate strong social attachments, have revealed the importance of two neuropeptide hormones in the brain that cause them to form strong pair bonds: oxytocin and vasopressin. Oxytocin is the hormone associated with maternal attachment and lactation, and is triggered in female voles when mating. Males, in contrast, release vasopressin, a hormone associated with male aggression and paternal behavior. When these two hormones are experimentally blocked, prairie vole mates fail to form pair bonds (Curtis & Wang, 2003; Morell, 1998). Two other neurochemicals, dopamine and corticosterone, are also under investigation to explain pair bonding in prairie voles. Researchers claim that the neurochemical basis of pair bonding may be similar among mammals (Curtis & Wang; Fisher, 1998), but research on humans is both lacking and needed (Diamond, 2004; Hiller, 2004).

In summary, proponents of an evolutionary explanation of sexual behavior focus on the psychological mechanisms shaped by natural selection that on average led to greater reproductive success. Particular preferences for mates, attachment among mates, and parental investment are examples of processes that factor into reproductive success.

Cognitive Script Theory

According to Scripting Theory (Gagnon, 1977; 1990; Gagnon & Simon, 1973), sexual behavior becomes scripted as a result of social learning that teaches proper behavior in sexual situations. That is, sex scripts prescribe who individuals should have sex with (i.e., someone of the opposite-sex and approximately the same age and race), what behaviors are acceptable (i.e., kissing, intercourse), when sexual behavior should occur (i.e., in the context of a committed relationship), where sexual behavior should occur (i.e., in the bedroom), and why one should engage in sexual behavior (i.e., for pleasure, to please the partner, to get pregnant).

Gagnon and Simon (1973) explain gender differences in sexual motivation in terms of differences in sexual scripts. Men learn that male sexuality is about achieving orgasm and physical gratification whereas women learn that female sexuality is focused on relationships and is about pleasing her partner rather than pleasing herself. Men's motives for their sexual activity include the verification of their masculine identity, the desire to impress their partner, and to gain social status. Nonrelational sex, or the tendency to pursue sex without love or intimacy, is normative in the American culture (Levant, 1997). Nonrelational sex emphasizes performance instead of emotional connection and the achievement of orgasm instead of sensual pleasure (Brooks, 1997). Women, on the other hand, engage in sexual activity as a means of developing emotional investment, intimacy, love, and commitment (Leigh, 1989). Thus, according to sexual

scripting theory, people engage in sexual activity to express nonsexual motives (Gagnon & Simon, 1973).

In sum, for script theorists, sexual motivation stems from social learning. Sexual behavior is learned from the environment; individuals learn the social dictates for proper sexual behavior and behave accordingly.

Social Exchange Models

According to social exchange models (Lawrance & Byers, 1992; 1995), interpersonal behavior consists of a series of exchanges that individuals put in to and get out of a relationship (Byers & Wang, 2004). Basically, individuals within the dyad engage in diverse interpersonal interactions in order to influence the partner and attain the most favorable outcomes by maximizing rewards and minimizing costs. One investigation of romantic relationships demonstrated that females, compared to males, perceived intimacy, self-growth and understanding, and positive self-esteem as important rewards of the relationship, whereas they viewed loss of identity, increased dependence on their partners, loss of innocence about relationships, and loss of love as costs of the relationship. Men, in contrast, were more likely to perceive sexual activity as a reward and monetary losses as a cost of the relationship (Sedikides, Oliver, & Campbell, 1994).

One example of a social exchange theory of sexuality is the Interpersonal Exchange Model of Sexual Satisfaction (IEMSS; Lawrance & Byers, 1992; 1995). According to Lawrance and Byers, sexual satisfaction should not be conceptualized in behavioral terms, such as frequency of sexual activity, but rather as an affective response to a sexual relationship. The IEMSS expands exchange models of relationship satisfaction and focuses on rewards (e.g., pleasure) and costs (e.g., anxiety about sexual adequacy) partners exchange in the sexual

relationship. Thus, although the IEMSS takes into account the nonsexual aspects in a relationship, it focuses on sexual exchanges in the relationship and how they, in turn, affect sexual satisfaction. The IEMSS includes comparison levels of costs and rewards and the equality of rewards and costs between partners. According to the IEMSS, sexual satisfaction is higher when rewards exceed costs ($REW - CST$), comparison levels for rewards outweigh comparison levels for costs ($CLREW - CLCST$), and rewards and costs are balanced between partners ($EQREW, EQCST$; Lawrance & Byers, 1995). The IEMSS is represented algebraically according to the following formula:

$$\text{Sexual satisfaction} = \sum_{\text{Time}} (REW - CST) + (CLREW - CLCST) + (EQREW, EQCST)$$

Tests of the model support the IEMSS. Individuals who were more sexually satisfied tended to perceive a greater balance of rewards to costs and a higher number of sexual rewards and a lower number of sexual costs (Byers & Demmons, 1999; Lawrance & Byers, 1995). Sexual rewards and costs make a relatively large contribution to sexual satisfaction in long-term relationships (31% in Lawrance & Byers, 1995) and a small contribution in dating relationships (8% in Byers, Demmons, & Lawrance, 1998; 17% in Peck, Shaffer, & Williamson, 2004). Thus, it appears that sexual exchanges contribute more to long-term than to newer relationships. Investigations of equality of sexual rewards and costs on sexual satisfaction (Byers et al., 1998; Lawrance & Byers, 1995; Peck et al., 2004) have revealed that partners who perceive equality of sexual rewards and costs also report higher sexual satisfaction. Further, these studies also reveal that those who evaluate their sexual rewards and costs favorably in comparison to their expectations report higher sexual satisfaction.

Another example of social exchange theory is Baumeister and Vohs's (2004) Female Resource Theory. Specifically, Baumeister and Vohs posit that sex is a female resource because

society treats male sexuality as worthless but endows female sexuality with value. Female sexuality is endowed with value because the potential cost of having sex (i.e., pregnancy, childbirth) is quite high even when pleasure is high whereas men can have sex for little or no cost. Thus, when a man and a woman engage in sex, the man is getting a valuable resource from the woman, and to make the exchange equal, must provide her with something else (e.g., material goods, love and affection) in return. The value of a woman's resource is contingent on both individual and "market" factors. Individual factors include her age, her physical attractiveness, competition with other women for the man, competition among men for the woman, her access to alternative resources, and her prior number of sexual partners. Market factors include the male to female ratio (does supply exceed demand or vice versa?) and permissive versus restrictive sexual norms (permissiveness lowers the value because sex can be had at a low cost). Each couple can negotiate the price for the woman's sex, but whether it's a better deal for the man or the woman depends on the marketplace. Baumeister and Vohs provide a broad range of empirical findings in support of their theory. For example, when dating, men tend to offer women material resources but the reverse is rare. Women are frequently able to attract partners who have slightly higher status, suggesting that the man's status reflects a male contribution for the female's sex. Further, Baumeister and Vohs cite evidence that women, rather than men, appear to be in charge of the suppression of female sexuality because it is important for women to collectively maintain the high value for sex. Finally, the embracing of less restrictive sexual norms, such as the Sexual Revolution, are more likely to occur when women are able to find alternative means to support themselves and consequently do not need to maintain a high price of sex.

In sum, social exchange theories concern maximizing pleasure and minimizing pain. The goal of social exchange in terms of sexual activity is to gain favorable outcomes, such as sexual gratification, resources, and intimacy.

Gender Differences

Although it is not a theory per se, one general approach to understanding sexuality has been to investigate gender differences. Numerous sex differences emerge in the investigation of sexuality. In this section, I provide a brief overview of these differences.

Men think about sex significantly more often (Laumann, Gagnon, Michael, & Michaels, 1994) and report more frequent sexual desire (Beck, Bozman, & Qualtrough, 1991) than women do. Research by Jones and Barlow (1990) revealed that men had significantly more sexual urges each day than women did.

Men and women also differ in terms of how frequently they wish to engage in sexual activity. Investigations of married couples demonstrated that husbands would prefer to have sex more often (Johannes & Avis, 1997) and reported having less sex in their marriages than they wanted (Julien, Bouchard, Gagnon, & Pomerleau, 1992). Although some reports of sexual frequency reveal that women are satisfied with their frequency of sexual activity (e.g., Ard, 1977), other research reveals that women prefer to engage in sex with less frequency (Johannes & Avis, 1997). Even at the beginning of a relationship, men appear to desire sex more frequently than do women. For example, Sprecher and Regan (1996) found that men were more likely than women to report that the reason they were abstaining from sex was that their partners were unwilling. Further, women tend to wait longer to have sex within a dating relationship (e.g., Cohen & Shotland, 1996; Sprecher, Barbee, & Schwartz, 1995). Cohen and Shotland, for example, reported that men expected to have sex after the eighth date whereas women expected

to have sex after 12 dates. Across all types of romantic relationships, men appeared to desire more frequent intercourse whereas women were satisfied with the amount they were having (McCabe, 1987). One reason women may desire having sex less often than men is because of a lack of enjoyment and interest in the activity (Leigh, 1989).

Although women refuse sex more frequently than men do, this is because men initiate sex more frequently than women do (Byers & Heinlein, 1989; O'Sullivan & Byers, 1992).

Controlling for the frequency of sexual initiations, there is actually no gender difference in how likely men and women are to respond positively or negatively to the partner's sexual initiation (Byers & Heinlein, 1989; O'Sullivan & Byers, 1992). Yet men and women agree that there is more pleasure for both themselves and their partners when sexual encounters are initiated by the man (O'Sullivan & Byers, 1992).

Because of such gender differences, Baumeister, Catanese, and Vohs (2001) concluded that men have a stronger sex drive than women do. Of importance to the studies in this dissertation, men appear to be more intrinsically motivated to engage in sexual activity than women are. For example, Laumann et al. (1994) found that men enjoy both giving and receiving oral sex more than women do. One reason for this gender difference could be that men genuinely enjoy the activity whereas women are more likely to perform them out of a sense of obligation or to express affection for their partners. Men are also less likely to engage in unwanted (consensual) sexual activity (Beck et al., 1991; O'Sullivan & Allgeier, 1998; Regan, 1997).

Problems With Existing Models of Sexual Motivation

Each of the theories described above are not without problems. One significant problem with psychoanalytic and drive theory, for example, is that reduction of sexual tension is not the only reason people engage in sexual activity. In fact, research has shown that the relief of sexual

tension was rated the fifth of eight reasons to have sex (Leigh, 1989). In this study, most participants valued something other than orgasm as a reason to have sex and most attributed motivation to something other than “being horny.” This was true of both men and women. Further, Carroll, Volk, and Hyde (1985) reported that approximately a quarter of all participants reported having sex for pleasure, but this is not the same as having sex to reduce sexual tension. Critics have described drive-reduction as being too simplistic because it does not account for the apparent readiness of people to induce physiologic and psychic tensions by seeking out novelty and challenge (Deci, 1975). Finally, drive models appear to overestimate the role of biological urges and underestimate the social context for sexual motivation.

Evolutionary perspectives of sexuality have also been criticized for being essentialist (Baumeister & Tice, 2001; Kilmartin, 2000). That is, they underestimate the role of social contributions to behavior (Baumeister & Tice, 2001). Further, they fail to consider sexual activities that do not increase the chances of reproduction, such as homosexuality (Futuyma & Risch, 1984) and masturbation (Oliver & Hyde, 1993). Finally, to the best of my knowledge, evolutionary approaches do not comment on sexual satisfaction.

Sexual script theory and social exchange theory view sexual behavior within a context of social arrangements such as interpersonal relationships, history, culture, rewards, and punishment. Thus, sex is dependent on social forces; sexual preferences and motives are viewed as part of a negotiation between the individual and the social structure. In this view, sex is purely extrinsic. This view does not leave room for sex as the expression of love, which many people endorse as the reason for engaging in sex (Sprecher & McKinney, 1993).

What is interesting about sexual scripting theory is that sexual thoughts and feelings are all attributed to social learning and leave little room for the influence of biology and emotion

(DeLamater & Hyde, 2004). Yet sexual motivation appears to be more than men pursuing pleasure and women pursuing relationships (Jenkins, 2004). Nonrelational sexuality on the part of men is not about the pursuit of pleasure; it is sex that is performed in an instrumental manner to gain verification of one's adequacy (Levant & Brooks, 1997). Men, too, tend to endorse being motivated by partner demands and the desire to please the partner (Leigh, 1989). Men have also reported engaging in unwanted (but consensual) intercourse (Beck et al., 1991; Muehlenhard & Cook, 1988; O'Sullivan & Allgeier, 1998; Regan, 1997). Further, scripting theory does not comment on sexual satisfaction.

Although it is important to understand gender differences in sexual motivation, simple tests of gender differences in and of themselves have limited, if any, theoretical importance. A rich theoretical context is needed to investigate sexual motivation, which in turn would aid in the understanding of differences between men and women.

Finally, most of the theories of sexual motivation described above (see social exchange theory and Maslow's theory for noteworthy exceptions) fail to take the relationship into account. Indeed, the nature of the relationship between two individuals has been implicated in both sexual motives (e.g., Apt, Hurlbert, Pierce, & White, 1996; Davies, Katz, & Jackson, 1999; Morokoff & Gilliland, 1993) and sexual satisfaction (e.g., Apt, et al., 1996; Lawrance & Byers, 1995; Peck et al., 2004).

The benefit of investigating sexual behavior from the SDT standpoint is that it takes various motives for engaging in sexual activity into account, from sexual desire and the pursuit of pleasure to having sex to enhance relational intimacy or to please the partner. Further, SDT makes predictions about the outcomes associated with various motives. The next section provides an overview of SDT.

Self-Determination Theory

Overview

In the social psychological literature, the term “self-determined” has been used to refer to being relatively self-governing in one’s behavior. That is, according to SDT (Deci & Ryan, 2000), one’s actions are self-determined when they are freely chosen and fully endorsed by the self rather than coerced or pressured by others (Deci & Ryan, 1985; 2000). When applied to interpersonal contexts such as romantic relationships, autonomy refers to fully endorsing one’s involvement in the relationship rather than feeling coerced, guilty, or not knowing why one is involved in the relationship (Knee, Lonsbary, Canevello, & Patrick, 2005). This kind of autonomy orientation is characterized by choice, interest, and growth both in oneself and in others. (Knee, Patrick, Vietor, Nanayakkara, & Neighbors, 2002).

SDT provides an explanation for why people engage in certain behaviors and the outcomes these processes have on growth and well-being. SDT is a macrotheory comprised of four mini-theories (Ryan & Deci, 2002). *Cognitive Evaluation Theory (CET)* investigates how the environment affects the individual’s intrinsic motivation. *Organismic Integration Theory (OIT)* examines how extrinsically motivated behaviors can gradually become more self-determined and the conditions that facilitate this internalization. *Causality Orientation Theory* explains individual differences in motivation across situations. In other words, causality orientation investigates whether individuals are motivated by choicefulness and autonomy or whether they are motivated by pressure and control. Finally, *Basic Needs Theory* addresses individuals’ satisfaction of the innate needs of competence, relatedness, and autonomy, and their association with personal growth and well-being. The present studies investigate Organismic Integration Theory and Basic Needs Theory.

Organismic Integration Theory (OIT)

The basis of OIT is centered upon the premise that self-determination facilitates more positive, open, and honest social interactions, which preclude the use of strategies that defend self-esteem. Indeed, there is evidence that suggests that self-determined motivation is associated with beneficial relationship outcomes (Blais, Sabourin, Boucher, & Vallerand, 1990; Rempel, Holmes, & Zanna, 1985; Seligman, Fazio, & Zanna, 1980). For example, couples that are motivated to be in relationships for their own sake, rather than to obtain extrinsic incentives or avoid negative consequences, reported greater feelings of love and faith in the relationship (Rempel, et al., 1985; Seligman et al., 1980) and greater security of attachment to close others at the relational level (La Guardia, Ryan, Couchman, & Deci, 2000). When self-determined, relational partners view relationship problems more as “challenges” than “hassles” and thus do not experience these events as stress inducing (Blais et al., 1990). Consequently, higher self-determination has been associated with healthy conflict resolution in romantic relationships (Knee et al., 2002). Further, the more self-determined both relationship partners’ motivational style, the greater their perceptions of adaptive couple behavior, which in turn strongly predicted their personal happiness with the relationship (Blais et al., 1990).

Because sexual satisfaction is highly related to couple happiness and adjustment (Byers, Demmons, & Lawrance, 1998; Lawrance & Byers, 1995; Peck et al., 2004), it is important to investigate sexuality. Yet while OIT has been applied to romantic relationships, no published research to date has directly tested the application of OIT to understanding the sexual component of romantic relationships. Previous research has, however, suggested links between sexuality and OIT. For example, Apt et al. (1996) investigated women’s sexual and marital satisfaction and their links to well-being. Women who reported higher marital and sexual satisfaction reported

higher life satisfaction than those who were less satisfied with their marriage and sex lives. Two variables that predicted sexual satisfaction were sexual assertiveness, or expressing sexual desires, and sexual communication, implicating more self-determined reasons for engaging in sex with their husbands. Put another way, these women were likely to be more sexually satisfied because they chose to communicate their feelings to their partners and engaged in sexual activity with their partners because they wanted to. Consequently, these women were more likely to have their needs met by the partner. Further, these women reported happier marriages and less marital conflict.

Additional work highlights the role of autonomy in sexual encounters. For example, O'Sullivan and Allgeier (1998) found that a quarter of the men and half of the women in their sample reported engaging in sexual activity they were not really interested in pursuing. Similarly, Beck et al. (1991) reported that 69% of the men in their sample, and 82% of the women, reported engaging in sexual activity without sexual desire, and Regan (1997) reported that over half of the women and about a quarter of the men in her sample reported engaging in noncoercive but undesired sexual activities. Thus, while this kind of sexual activity is common, it engenders emotional discomforts such as guilt (O'Sullivan & Allgeier, 1998). Thus, when people are less choiceful concerning their sexual encounters (i.e. they do it, but do not *really* want to), they experience less positive outcomes.

According to Deci and Ryan (1985; 2000), *intrinsic* regulation refers to engaging in activities because the process of performing them are chosen and enjoyable ends in themselves. That is, intrinsically motivated individuals are involved in an intimate relationship for the pleasure day-to-day couple activities bring and report greater feelings of love and faith in the relationship (Rempel et al., 1985; Seligman et al., 1980). One such daily activity could be having

intimate contact with one's sexual partner. However, it is important to note that people may not engage in sexual activity simply to connect with the partner or for the pleasure sexual activities provide (cf. Cooper, Shapiro, & Powers, 1998). Consistent with OIT, people may engage in sexual activity for extrinsic reasons as well. For example, sexual activity can be purely *externally* regulated (engaging in activity to obtain external rewards or avoid punishment) as is the case with prostitution, which is an exchange of sex for monetary resources, or when giving in to having sex due to anxiety about losing the partner.

Deci and Ryan (1985; 2000), however, improved the dichotomous view of motivation by distinguishing different kinds of extrinsic motivation that are characterized by various levels of autonomy and contributing the concept of amotivation. According to the theory, *introjected* regulation refers to behaviors that are initiated and regulated by internally controlling demands such as personal obligation. For example, a woman may have sex because "I have to please my partner" (Blais et al., 1990). Previous research has described introjected and external regulation as "controlling motives" for behavior (Hagger, Chatzisarantis, & Biddle, 2002). *Identified* regulation contains more choice because the regulation comes from within and the person values the activity. For example, a person may have sex because they view sex as important for intimacy in a relationship, even if this comes at the expense of an immediate lack of sexual desire. Thus, identified behaviors are highly chosen and endorsed. Researchers have referred to intrinsic and identified regulation as "autonomous motives" for behavior (Hagger et al.). Finally, *amotivation*, or *nonregulation*, is the absence of behavioral intention. Individuals who are amotivated either do not act at all or act passively by going through the motions without a sense of intending to do what they are doing (Ryan & Deci, 2002). For example, a person may not give consent to have sex, or they may not know why they engage in sexual activity.

Basic Needs Theory

Basic Needs Theory proposes that there are three basic psychological needs that humans must have met to experience personal health and well-being (Ryan & Deci, 2002). These three needs are *competence*, *relatedness*, and *autonomy*. According to Ryan and Deci, these three needs are universal and innate. People may not necessarily be conscious of these needs but tend to gravitate to situations where they will be met. Importantly, sexual encounters could provide the conditions for need fulfillment, even if sexual gratification is merely transient.

Competence refers to feeling a sense of confidence and effectance in one's actions. That is, people need to feel effective in their interactions with their environment by exercising and expressing their capacities (Deci, 1975; Ryan & Deci, 2002). The need for competence is what leads people to seek out challenges and to consistently try to maintain and enhance their full capacities while engaging in activity (Ryan & Deci, 2002).

Relatedness refers to the need to belong (Baumeister & Leary, 1995). That is, people need to feel connected to others and to care for and be cared for by others. For example, when individuals behave in a way that is consistent with personally held values instead of external prescriptions for how they "should" behave, they experience higher satisfaction with their interpersonal interactions and relationships (Hodgins, Koestner, & Duncan, 1996). Thus, sexual encounters that are experienced as "lovemaking" should be more likely to meet the need to relate to others.

Autonomy refers to being the source of one's own behavior, experiencing choice, and acting from interest and self-endorsed values (Deci & Ryan, 1985; Ryan & Deci, 2002). For example, work climates that support employees' autonomy have been demonstrated to produce greater job satisfaction (Deci, Connell, & Ryan, 1989). Autonomy is the expression of the self.

When behavior is influenced by external forces, but people endorse these influences, they are behaving autonomously (Ryan & Deci, 2002). It is important to note that autonomy and relatedness are conceptualized as highly compatible and complementary (Guisinger & Blatt, 1994; Hodgins et al., 1996). People typically experience both autonomy and relatedness in their relationships, and when one of these is deficient, the other tends to be deficient as well.

Need satisfaction is directly connected with improved mental health. Research (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon, Ryan, & Reis, 1996) has found that daily fluctuations in emotional well-being are associated with need satisfaction. Need satisfaction has also been found to predict stronger security of attachment (La Guardia et al., 2000). As “a good day” is when these three psychological needs are met, it follows that healthy and satisfying sexual encounters are ones when these three psychological needs are met as well (Jenkins, 2004; Smith, 2004; 2007).

A Model of Self-Determination Theory and Sexual Motivation

Some of the literature reviewed has been suggestive of SDT but not tested the theory directly. For example, Byers and Wang (2004) explain that engaging in sexual activity when it is freely given and enjoyable (i.e., more intrinsic) enhances outcomes such as the experience of love, pleasure, and life satisfaction, whereas engaging in sexual activity when one is truly disinterested is linked to more negative outcomes such as guilt. Further, individuals are more likely to get their needs met when they engage in sexual behaviors that are freely chosen and endorsed (Jenkins, 2004). Consequently, the purpose of the current studies was to examine outcomes from a Self-Determination perspective.

Consistent with previous research, I propose a model of sexual activity in dating relationships that bridges sexual motivation with positive outcomes (See Figure 1). According to

the model, autonomous motives (i.e., intrinsic and identified regulation) are associated with higher reward-based satisfaction described by the IEMSS (Lawrance & Byers, 1992; 1995) and need satisfaction during sexual activity, called *need satisfaction-sex* from this point forward, which reflects getting one's needs for autonomy, competence, and relatedness met through sexual activity. For example, according to the model, an individual who engages in sexual activity to share an intimate experience with the romantic partner is expected to feel sexually satisfied and get their psychological needs met as well. Controlling motives (i.e., introjected and external regulation), according to the model, are associated with lower reward-based satisfaction and need satisfaction-sex. For example, an individual who engages in sexual activity because they feel pressured to do so is not likely to feel sexually satisfied or to get their needs met from sexual activity. Finally, according to the model, reward-based sexual satisfaction and need satisfaction-sex mediate the association between sexual motivation and outcomes such as psychological well-being, sexual well-being, and relational quality. In other words, sexual behavior is likely to be associated with higher well-being and relational quality when the individual is acting out of interest or self-endorsed values rather than when they are acting out of pressure or external demands because they are experiencing greater sexual satisfaction and getting their needs met. I address each of these steps in more detail below.

According to the model, engaging in more self-determined activity (i.e., autonomous motives) is expected to be positively associated with both reward-based satisfaction described by the IEMSS (Lawrance & Byers, 1992; 1995) and to need satisfaction-sex (cf. Ryan & Deci, 2002), whereas engaging in sexual activity for less self-determined reasons (i.e., controlling motives) is predicted to be negatively associated with reward-based and need satisfaction-sex. Although satisfaction of the three basic needs of autonomy, competence, and relatedness are

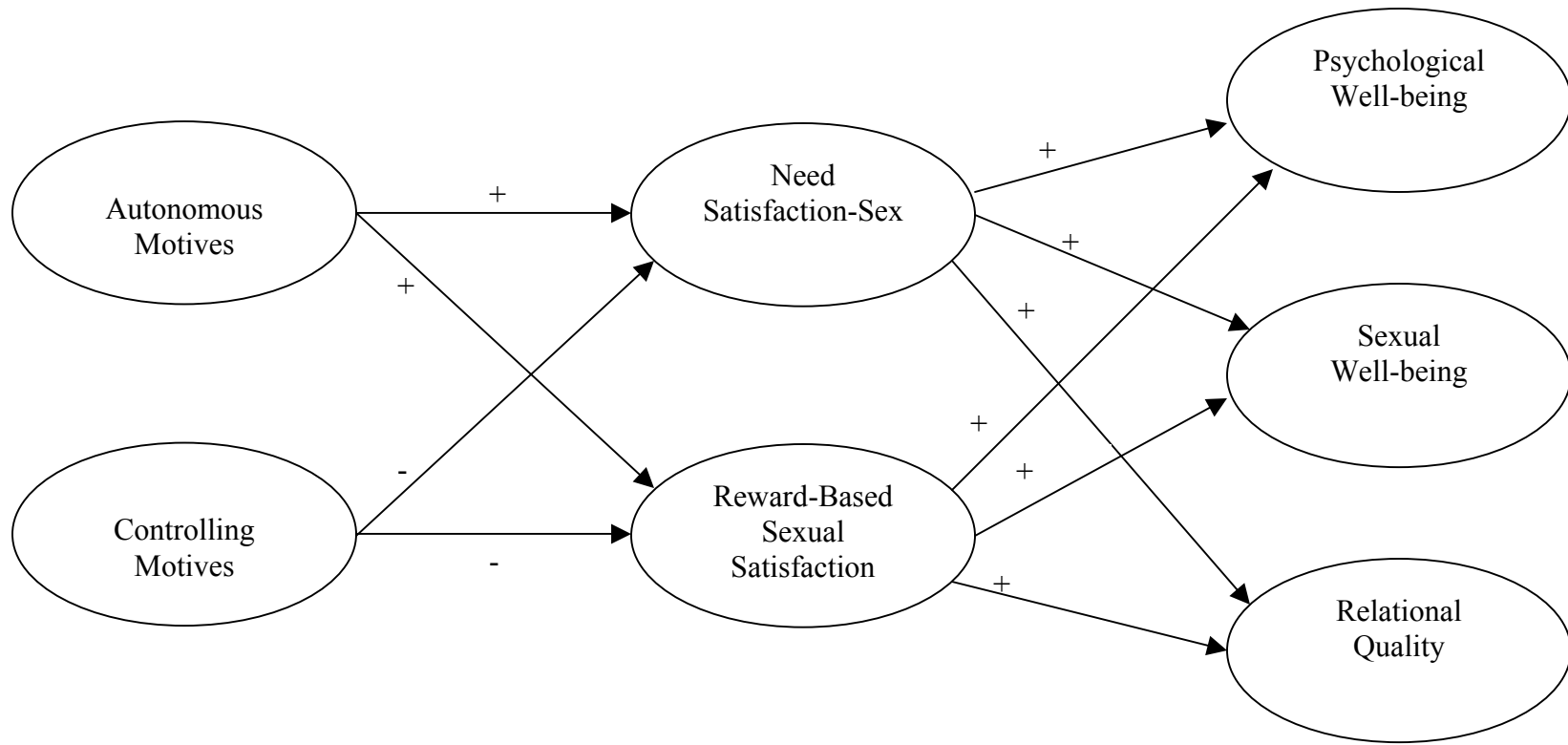


Figure 1: Model of Self-Determined Sexual Motivation.

frequently discussed in the SDT literature as requirements to be met for the integration of extrinsically motivated behaviors into the self and lead to more self-determined regulation, engaging in behavior for more autonomous reasons can provide the environment that allows for the satisfaction of these needs as well (Elliot, McGregor, & Thrash, 2002; Ryan & Deci, 2002). Thus, it stands to reason that autonomous motives for sexual activity will be experienced as more rewarding and less costly (consistent with the IEMSS), and will satisfy the three psychological needs as well.

Work on the IEMSS (i.e., Lawrence & Byers, 1995; Peck et al., 2004) revealed that sexual satisfaction, REW-CST, CL_{REW}-CL_{CST}, and EQ_{REW},EQ_{CST} predict relationship satisfaction. It follows, then, that these variables will predict other relational outcomes as well, such as closeness and dyadic adjustment. Further, when people have rewarding experiences, they tend to feel good about themselves. Thus, after having rewarding sexual experiences, individuals are expected to experience more positive well-being as well.

As previously discussed above, research on Basic Needs Theory has also demonstrated positive outcomes when an individual gets his or her needs met (Jenkins, 2004; La Guardia et al., 2000; Reis et al., 2000; Sheldon et al., 1996; Smith, 2004; 2007). For this reason, the model predicts more positive psychological well-being (i.e., self-esteem, vitality, life satisfaction), sexual well-being (i.e., sexual esteem, sex life satisfaction), and relational quality (relationship satisfaction, closeness, dyadic adjustment) for those who get their needs met during sexual activity.

Overview of the Present Studies

The studies explained below were designed to test the model shown in Figure 1. Study 1 was a questionnaire study designed to assess how individuals felt about their sexual relationship

in general. Study 2 was a diary study that asked participants to record their sexual interactions and their feelings about them over the course of two weeks. Studies 1 and 2 are described in detail in the following two chapters.

CHAPTER 2

STUDY 1

Study 1 provides a one-time test of how individuals perceive themselves, their sexual activity, and their relationships as a whole. Hypotheses for Study 1 were as follows:

Hypothesis 1a: Higher autonomous (i.e., intrinsic and identified) motives for engaging in sexual activity would be linked to higher sexual satisfaction (based on rewards and costs) and need satisfaction-sex.

Hypothesis 1b: Higher controlling (i.e., introjected and controlling) motives for engaging in sexual activity would be linked to lower sexual satisfaction and need satisfaction-sex.

Hypothesis 2: Men would report lower controlling motives for sexual activity than women would.

Hypothesis 3: Sexual satisfaction and need satisfaction-sex would both be positively associated with psychological well-being, sexual well-being, and relational quality.

Hypothesis 4: Sexual satisfaction and need satisfaction-sex would mediate the association between self-determined motivation and outcomes such as increased psychological well-being (i.e., higher self-esteem, greater life satisfaction), sexual well-being (e.g., higher sexual esteem and sex life satisfaction) and relational quality (e.g., greater relationship satisfaction, commitment, closeness).

Method

Participants

Participants were 202 (42 male and 160 female) Introductory Psychology students who were given partial course credit for their participation. On average, participants were about 19 years old ($M = 18.81$, $SD = 2.09$). Of these participants, 12 were African American, 13 were Asian American, 164 were Caucasian, 6 were Hispanic, and 7 described themselves as “Other.” Participants were required to be in a dating relationship for at least 4 weeks ($M = 18.37$, $SD = 7.10$). 91% reported that they were in an exclusive relationship.

Materials

Sexual Motivation was assessed using an adapted version of the *Perceived Locus of Causality for Sex Scale* (PLOC-s) from Jenkins’ (2004) study. In the original scale, respondents used a 5-point scale (0 = Not at all for this reason, 4 = Very much for this reason) to indicate if each of the 52 reasons provided was a reason they engaged in their most recent sexual activity, whereas in the present study respondents were asked to use the scale to report if each of the reasons was a reason they tend to engage in sexual activity in general with their romantic partners. Scores were computed by averaging participants’ responses to each subscale. For the present sample, $\alpha = .91$ for personal intrinsic ($M = 2.46$, $SD = .93$), $\alpha = .90$ for relational intrinsic ($M = 2.84$, $SD = .87$), $\alpha = .88$ for identified ($M = 1.54$, $SD = 1.03$), $\alpha = .86$ for introjected ($M = .63$, $SD = .62$), $\alpha = .77$ for external ($M = .35$, $SD = .49$), $\alpha = .62$ for amotivation ($M = .43$, $SD = .60$), and $\alpha = .84$ for sex drive motivation ($M = 1.03$, $SD = .88$). See Appendix A.

Reward-based sexual satisfaction was investigated using the *Interpersonal Exchange Model of Sexual Satisfaction* (IEMSS; Lawrance & Byers, 1992; 1995). The *Exchanges Subscale* is a 6-item measure. The first three items ask respondents to reflect about their sexual

relationship over the previous month and to indicate (a) how rewarding their sexual relationship has been, (b) how their level of rewards compares to their own expectations about how rewarding their sexual relationship should be, and (c) how their level of rewards compares with the level of rewards their partner receives in the sexual relationship. The next three items assess costs using the same format. Level of rewards (REW) and costs (CST) were rated on 9-point scales such that 1 = not at all rewarding [costly] and 9 = extremely rewarding [costly]. Relative reward level (CL_{REW}) and cost level (CL_{CST}) were rated using 9-point scales (1 = much less rewarding [costly] in comparison, 9 = much more rewarding [costly] in comparison). Perceived equality of rewards (EQ_{REW}) and costs (EQ_{CST}) were also rated using 9-point scales (1 = my rewards [costs] are much higher, 9 = my partner's rewards [costs] are much higher). The REW-CST ($M = 3.11, SD = 3.13$) and the $CL_{REW} - CL_{CST}$ scores ($M = 1.70, SD = 2.97$) were calculated by subtracting the cost score from the reward score. See Appendix B.

The *Global Measure of Sexual Satisfaction* (GMSEX) subscale assessed sexual satisfaction. Participants rated their sexual relationship on five 7-point bipolar scales: good-bad, pleasant-unpleasant, positive-negative, satisfying-unsatisfying, valuable-worthless. Higher scores indicate higher sexual satisfaction ($M = 29.30, SD = 5.04, \alpha = .91$ for the present sample).

Need satisfaction during sexual activity (i.e., need satisfaction-sex) was assessed using a modified version of the *Need Satisfaction Scale* (La Guardia et al., 2000). Items were changed from “When I am with my mother, I feel free to be who I am” to “When I engage in sexual activity with my partner, I feel free to be who I am.” Items assess experiences of autonomy (e.g., “I feel free to be who I am”), competence (“I feel like a competent person”), and relatedness (“I feel loved and cared about”). Respondents used 7-point scales to rate the extent to which each

statement was true of them (1 = “Not at all true,” 7= “Very true”). Internal consistency for the present sample was adequate ($\alpha = .80$, $M = 53.70$, $SD = 7.10$). See Appendix C.

Self-esteem was assessed with the *Rosenberg Self-Esteem Inventory* (RSE; Rosenberg, 1965). The RSE contains 10 items that measure self-esteem (e.g., I feel like a person who has a number of good qualities). Items were assessed using 5-point scales, such that 1 = strong disagreement and 5 = strong agreement. Higher scores represent higher self-esteem. The RSE is a valid and commonly used measure of self-esteem ($M = 41.00$, $SD = 6.13$, $\alpha = .84$ for the present sample). See Appendix D.

Affect was assessed using Brunstein’s (1993) measure of affect-balance. The *Affect Balance Scale* reflects the extent that participants experience various positive (happy, excited) and negative (upset, anxious) emotions in general. Responses were made on 5-point scales, (1 = “Very slightly, or not at all” to 5 = “Extremely”). Internal consistency for these measures in the present sample was adequate ($\alpha = .83$, $M = 37.06$, $SD = 5.63$ for positive affect and $\alpha = .83$, $M = 21.83$, $SD = 6.23$ for negative affect). See Appendix E.

Life Satisfaction was measured using Diener, Emmons, Larsen, and Griffin’s (1985) measure of life satisfaction. This 7-item measure assesses how satisfied individuals feel about their lives in general (e.g., “My life is close to my ideal”). Responses were made on 7-point scales, (1 = “Strongly disagree” to 7 = “Strongly agree.”) and summed so that higher scores reflect higher life satisfaction ($M = 34.08$, $SD = 7.55$, $\alpha = .88$ for the present sample). See Appendix F.

Participants completed a 7-item measure of subjective vitality (Ryan & Frederick, 1997), which assesses the degree to which participants feel physically and mentally vigorous and alert. Sample items include “I feel alive and vital” and “I feel energized.”

Responses were made on 7-point scales (1 = “Not at all true”, 7 = “Very true”) and summed so that higher scores reflect higher vitality ($M = 32.84$, $SD = 7.24$, $\alpha = .86$). See Appendix G.

Following Jenkins (2004), the life satisfaction scale described above was modified to reflect the extent to which participants feel satisfied with their sex lives in general ($M = 34.50$, $SD = 9.05$, $\alpha = .91$ for the present sample). See Appendix H.

In the sexuality literature, one construct that appears to be highly related to feelings about sexuality is sexual esteem and depression (Snell & Papini, 1989). Items on the *Sexual Esteem* subscale of the *Sexuality Scale* measure the extent to which the individual feels that he or she is a good sexual partner and has high sexual skill.

Examples include “I am a good sexual partner” and “I am confident about myself as a sexual partner.” Responses were made on 5-point scales (-2 = “Disagree”, 2 = “Agree”).

Internal consistency was high ($\alpha = .90$, $M = 6.67$, $SD = 6.01$). Items on the *Sexual Depression* subscale of the *Sexuality Scale* measures the extent to which the individual feels saddened and discouraged about his or her capacity to relate sexually to others.

Example items are “I feel sad when I think about my sexual experiences” and “I feel unhappy about my sexual relationships.” Internal consistency was adequate ($\alpha = .85$, $M = 9.42$, $SD = 5.66$). See Appendix I.

In order to assess closeness in the relationship, the *Inclusion of Other in the Self Scale* (IOS; Aron, Aron, & Smollan, 1992) was used. Participants select one of seven Venn diagrams that best represents their relationship. Each diagram depicts two circles in various stages of overlap. Numerical scores between 1 and 7 are assigned to each diagram, such that a score of 7 represents the greatest possible amount of overlap and a score of 1 indicates no overlap. Circles

that overlap to a greater extent indicate more closeness (For the present sample, $M = 4.94$, $SD = 1.56$). See Appendix J.

Participants completed the *Dyadic Adjustment Scale* (DAS; Spanier, 1976), which was modified for dating samples. The DAS assesses affectional expression, dyadic cohesion, dyadic consensus, and dyadic satisfaction. (For the present sample, $M = 106.72$, $SD = 13.08$, $\alpha = .88$.) See Appendix K.

Two measures were used to assess relationship satisfaction. The first was the *Global Measure of Relationship Satisfaction* (GMREL) subscale of the IEMSS, which uses the same format as the GMSEX except that participants rated their overall relationship instead. ($M = 30.39$, $SD = 4.40$, $\alpha = .93$ for the present sample.) See Appendix L.

Second, participants were administered a measure of commitment and satisfaction based on Rusbult's (1983) research. Participants used 9-point scales (0 = "Do not agree at all" and 8 = "Agree completely") to assess the extent to which they agreed or disagreed with statements concerning commitment to the relationship and satisfaction with the relationship. Examples of statements measuring commitment are "I am committed to maintaining my relationship with my partner" and "I want our relationship to last forever." For the present sample, internal consistency was high ($\alpha = .92$, $M = 5.54$, $SD = 1.43$). Examples of statements measuring relationship satisfaction are "I feel satisfied with our relationship" and "Our relationship makes me very happy." Internal consistency was high for the current sample ($\alpha = .92$, $M = 6.35$, $SD = 1.47$). See Appendix M.

Finally, a demographic questionnaire was administered to assess participant gender, age, race, relationship length, and relationship exclusivity. See Appendix N.

Procedure

Upon arrival to the study, the researcher reminded all participants that they must be in a dating relationship in order to be eligible for the study and explained that they would be completing a packet of questionnaires about personality and their relationship. Participants then completed the packet of questionnaires described above. Participants were debriefed upon completion of the questionnaires.

Results

Creation of Composite Measures

Based on prior research (Hagger et al., 2002), *autonomous motives* were computed by combining the personal intrinsic, relational intrinsic, and identified subscales of the PLOC-s ($\alpha = .84$, $M = 2.28$, $SD = .80$). *Controlling motives* were computed by combining the introjected and external subscales of the PLOC-s ($\alpha = .89$, $M = .49$, $SD = .52$). Autonomous and controlling motives were positively and significantly correlated ($r = .34$, $p < .001$).

Reward-based sexual satisfaction was computed by standardizing the REW-CST, $CL_{REW-CST}$, and the 5 items from the GMSEX measure and adding them together ($\alpha = .85$). From this point forward I will call this variable *sexual satisfaction*.¹

Next, I computed net positive affect by subtracting negative affect scores from the positive affect scores. I then created a variable, *psychological well-being*, by standardizing and adding net positive affect, self-esteem, life satisfaction, and vitality ($\alpha = .84$).

Sexual well-being was created by standardizing and adding sexual esteem, sexual depression (reversed) and sex life satisfaction ($\alpha = .77$).

¹EQ_{REW} and EQ_{CST} were not added to the Sexual Satisfaction measure because these items lacked internal consistency with the other items assessing sexual satisfaction.

Finally, I created the variable, *relational quality*, by standardizing and adding the IOS, the two measures of satisfaction, the dyadic adjustment scale, and commitment ($\alpha = .88$).²

Is Sexual Motivation linked to Sexual Satisfaction and Need Satisfaction-Sex?

Hypothesis 1a was that autonomous motives for engaging in sexual activity would be linked to higher sexual satisfaction and need satisfaction-sex. Hypothesis 1b was that controlling motives would be linked to lower sexual satisfaction and need satisfaction-sex. Intercorrelations for these variables are displayed on Table 1. Consistent with expectations, autonomous motives were positively associated with both sexual satisfaction and need satisfaction-sex, and controlling motives were negatively associated with both sexual satisfaction and need satisfaction-sex.

Table 1. Correlation matrix among variables.

	1	2	3	4	5	6	7
1. Autonomous Motives	-----						
2. Controlling Motives	.34***	-----					
3. Sexual Satisfaction	.36***	-.23***	-----				
4. Need Satisfaction-Sex	.28***	-.32***	.56***	-----			
5. Psychological Well-being	-.003	-.26***	.33***	.42***	-----		
6. Sexual Well-being	.44***	-.12 [#]	.66***	.56***	.44***	-----	
7. Relational Quality	-.04	-.39***	.53***	.53***	.36***	.41***	-----

Note: [#] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Gender Differences in Sexual Motivation

Hypothesis 2 was that men would be less likely to report controlling motives for engaging in sexual activity with their romantic partners. Contrary to expectations, a marginally significant result revealed that men reported more controlling motives ($M = .62$, $SD = .48$) than

² All composites were also subjected to a principal components analysis. Inspection of eigenvalues and scree plots revealed one factor solutions for each composite measure.

women did ($M = .46$, $SD = .48$), $t(201) = 1.74$, $p < .10$. Analyses also revealed, however, that men also reported more autonomous motives ($M = 2.60$, $SD = .76$) in general than women did ($M = 2.20$, $SD = .79$), $t(201) = 2.93$, $p < .01$.

Does Sexual Satisfaction and Need Satisfaction-Sex Mediate the Association between Sexual Motivation and Outcomes?

Hypothesis 3 was that need satisfaction-sex and sexual satisfaction would be positively associated with outcome variables. Hypothesis 3 was supported; need satisfaction-sex and sexual satisfaction were both positively associated with psychological well-being, sexual-well-being, and relational quality. (See Table 1.)

Hypothesis 4 was that sexual satisfaction and need satisfaction-sex would mediate the association between sexual motivation and outcomes such as increased psychological well-being, sexual well-being, and relational quality. Analyses described below controlled for gender. According to MacKinnon, Krull, and Lockwood (2000) mediation implies that the predictor variable causes the mediating variable, which in turn causes the outcome variable. One assumption of mediation analysis is that inclusion of the mediator in the model reduces the magnitude of the association between the predictor and the outcome variable.

In order to assess if mediation occurred in the present study, bootstrapping techniques were used, as described by Preacher and Hayes (2004; 2007). This method estimates indirect effects by estimating the distribution of a test statistic from the available data by sampling with replacement. In the present sample, test statistics estimated total effects (i.e., the relationship between predictor and criterion variables), direct effects (i.e., the relationship between predictor and criterion variables controlling for mediators) and indirect effects (i.e., the relationship of mediators on criterion variables) and provides a direct test of mediation through the investigation

of confidence intervals. This analytic strategy replaces the former Baron and Kenny (1986) and Sobel (1982) approaches, which are sensitive to the violation of statistical assumptions (i.e., normality) and provide inflated rates of both Type I and Type II errors. Tests for statistical significance for the direct and indirect effects were determined by the distributional properties of the bootstrapped parameter estimates ($p < .05$). The direct effects were computed to determine the association between sexual motivation and outcome variables (i.e., psychological well-being, sexual well-being, and relational quality). Indirect effects were computed to determine whether need satisfaction-sex and sexual satisfaction served as mediators of these associations. When confidence intervals contain 0, the variable is not a significant mediator. Like the Sobel (1982) test, mediation using the Preacher and Hayes (2004; 2007) techniques implies that the influence of the independent variable is transferred to the dependent variable by the mediator.

Psychological Well-being

Consistent with hypotheses, controlling motives negatively predicted psychological well-being. When need satisfaction-sex and sexual satisfaction were included in the model, need satisfaction-sex remained significant whereas sexual satisfaction was marginally significant. Controlling motives remained negatively associated with psychological well-being, but dropped in magnitude. Examination of the confidence intervals indicated that need satisfaction-sex (but not sexual satisfaction) partially mediated the association between controlling motives and psychological well-being. (See Figure 2.) In other words, controlling motives were negatively associated with psychological well-being, and this association was explained, in part, by the association between controlling motives and need satisfaction-sex. Autonomous motives alone did not predict psychological well-being. (See Table 1.) Gender was not a significant control variable in either of these models.

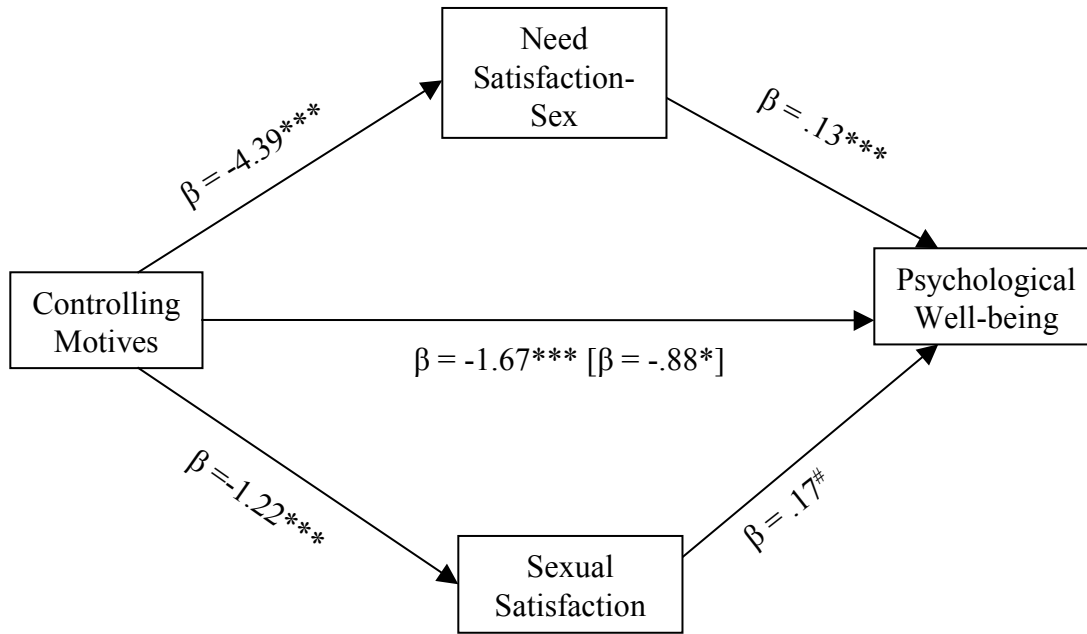


Figure 2. Mediation model of controlling motives and psychological well-being.
 (Total effects for sexual motivation are outside brackets.)
 $*p < .05$, $**p < .01$, $***p < .001$, $^{\#}p < .10$

Sexual Well-being

Figure 3 displays the path analysis for sexual motivation and sexual well-being. Autonomous motives (Effect A) alone positively predicted sexual well-being, and when need satisfaction-sex and sexual satisfaction were included in the model, autonomous motives remained statistically significant, but decreased in magnitude. Examination of the confidence intervals revealed that sexual satisfaction and need satisfaction-sex were mediating variables of the association between autonomous motives and sexual well-being. Thus, the association between autonomous motives and sexual well-being was explained, in part, by the relationship between autonomous motives and both need satisfaction-sex and sexual satisfaction. Controlling motives (Effect B), by contrast, were negatively associated with sexual well-being. When need satisfaction-sex and sexual satisfaction were added to the model, both variables remained

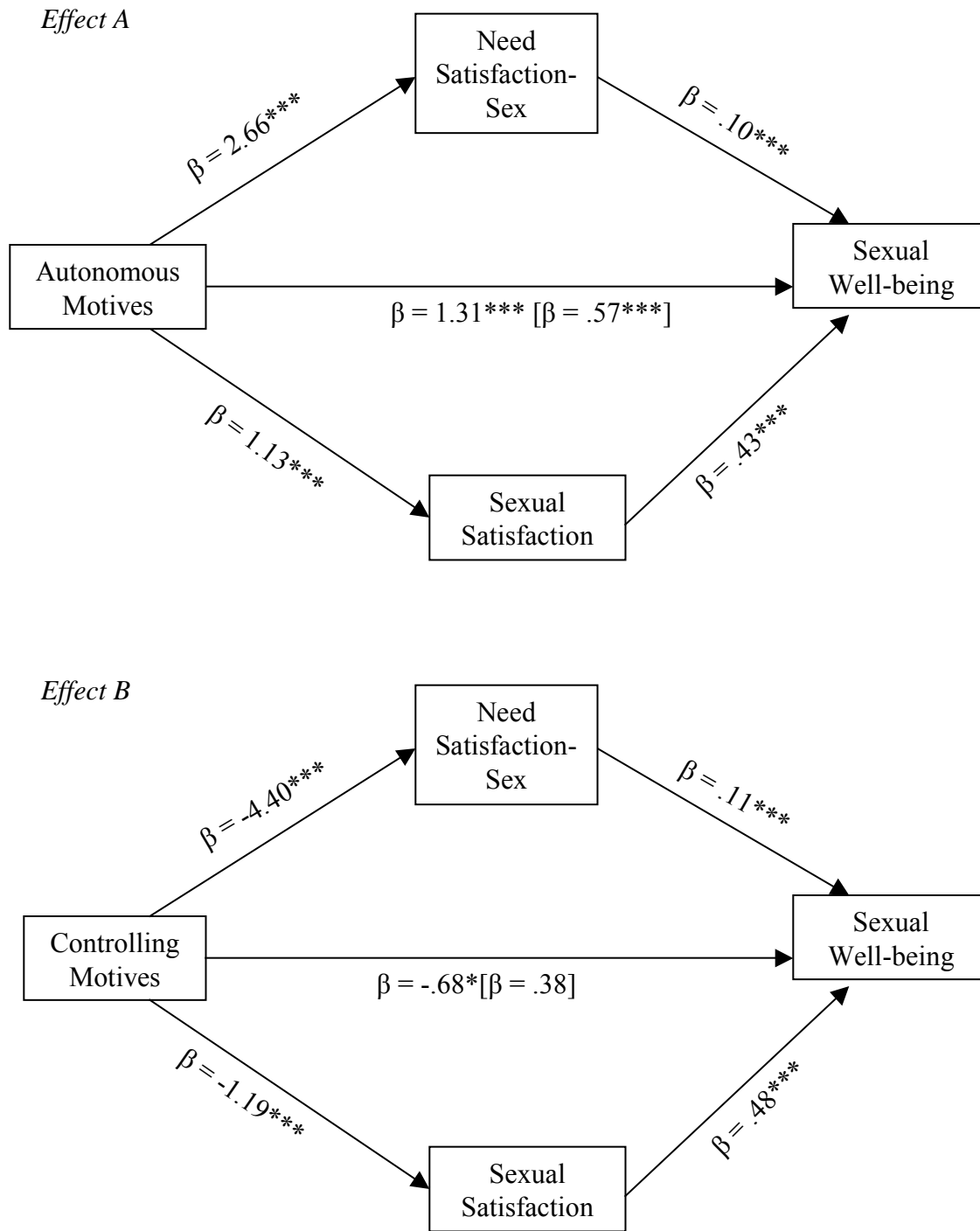


Figure 3: Mediation models of sexual motivation and sexual well-being.
 (Total effects for sexual motivation are outside brackets.)
 $*p < .05$, $**p < .01$, $***p < .001$, $^{\#}p < .10$

significant whereas controlling motives dropped to non-significance. The confidence intervals assessing mediation revealed that both need satisfaction-sex and sexual satisfaction were significant mediators of the controlling motives → sexual well-being association. Thus, the association between controlling motives and sexual well-being is accounted for by the association between controlling motives and both need satisfaction-sex and sexual satisfaction. Gender was a significant control variable in these models; men were more likely to report higher sexual well-being than women were ($\beta = .86, t = -2.79, p < .01$).

Relational Quality

Controlling motives negatively predicted relational quality. When need satisfaction-sex and sexual satisfaction were included in the model, controlling motives were negatively associated with relational quality but reduced in size. Examination of the confidence intervals revealed that need satisfaction-sex and sexual satisfaction partially mediated the association between controlling motives and relational quality. (See Figure 4.) In other words, the association between controlling motives and relational quality was explained by the relationship between controlling motives and need satisfaction-sex as well as the relationship between controlling motives and sexual satisfaction. Autonomous motives, by contrast, were not significantly related to relational quality. (See Table 1.) Gender was a significant control variable in these models; women were more likely to report higher relational quality than men were ($\beta = 1.26, t = 2.14, p < .05$).

Ancillary Analyses

Gender as a Moderator Variable

Additional analyses were computed to determine whether gender moderated the relationship between need satisfaction-sex, sexual satisfaction and outcome variables by

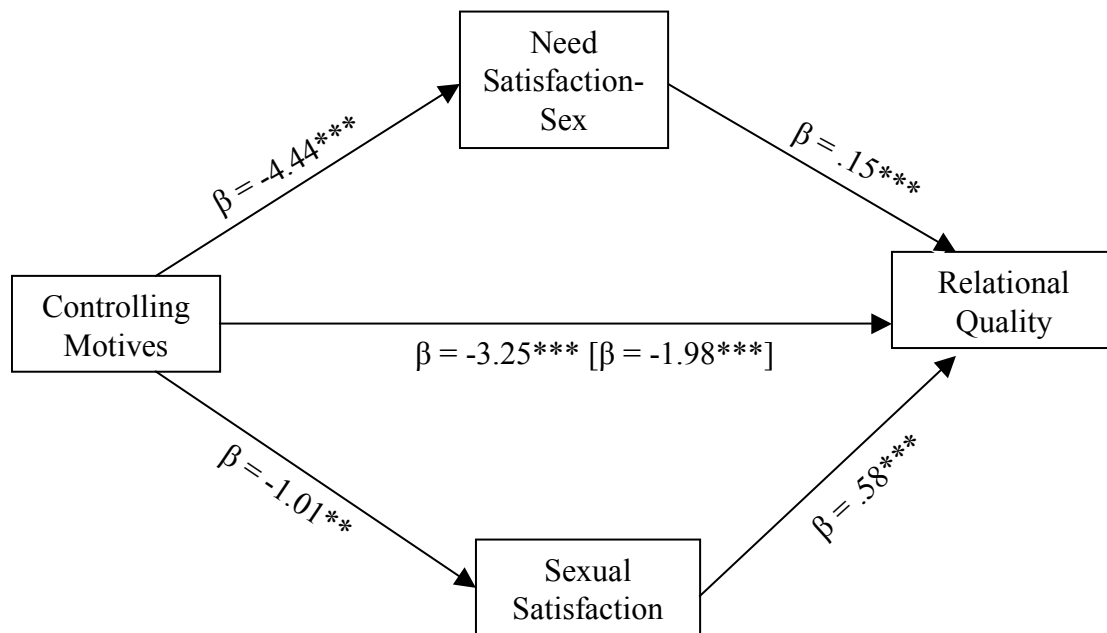


Figure 4. Mediation model of controlling motives and relational quality.

(Total effects for sexual motivation are outside brackets.)

* $p < .05$, ** $p < .01$, *** $p < .001$, # $p < .10$

regressing gender, sexual satisfaction, need satisfaction-sex, gender x sexual satisfaction, and gender x need satisfaction-sex into a regression model for each outcome variable. Gender did not moderate the association between need satisfaction-sex, sexual satisfaction, and outcome variables.

Sexual Satisfaction as an Outcome Variable

Further analyses were conducted to investigate sexual satisfaction as an outcome variable of sexual motives. In these models, need satisfaction-sex and relational quality were examined as mediators of the association between sexual motives and sexual satisfaction. (See Figure 5.)

Autonomous motives (Effect A) were positively associated with sexual satisfaction. When need satisfaction-sex and relational quality were included in the model, autonomous motives was smaller in magnitude but remained statistically significant. Autonomous motives

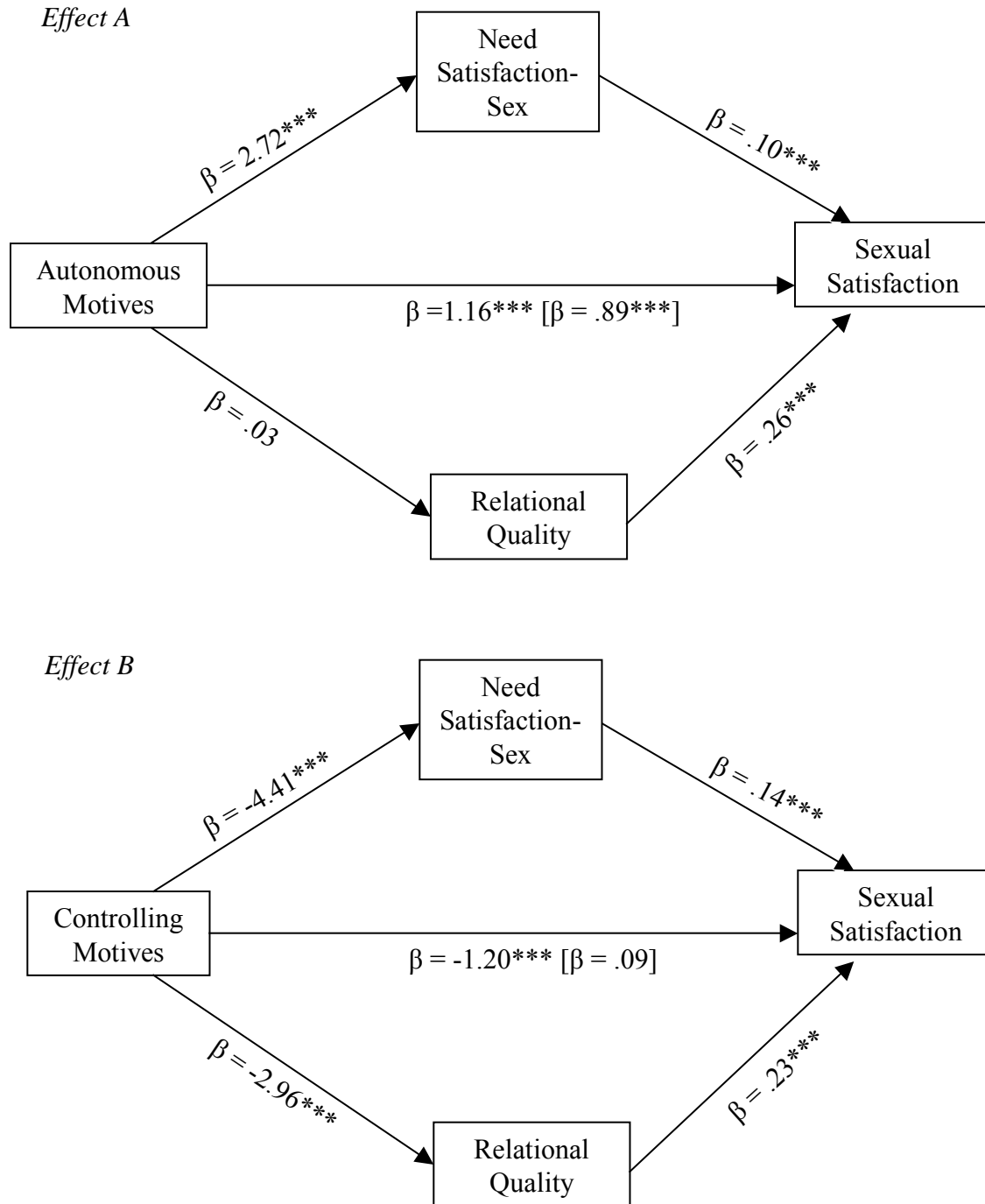


Figure 5: Mediation models of sexual motivation and sexual satisfaction.
 (Total effects for sexual motivation are outside brackets.)
 $*p < .05$, $**p < .01$, $***p < .001$, $^{\#}p < .10$

were positively associated with need satisfaction but not associated with relational quality. Need satisfaction-sex and relational quality were both positively related to sexual satisfaction. Examination of the confidence intervals revealed that need satisfaction-sex partially mediated the effect. That is, the association between autonomous motives and sexual satisfaction was explained, in part, by the association between autonomous motives and need satisfaction-sex. Effect B reveals that controlling motives alone negatively predicted sexual satisfaction. When need satisfaction-sex and sexual satisfaction were included in the model, controlling motives were no longer significant. In this model, the confidence intervals revealed that sexual satisfaction and need satisfaction-sex served as mediating variables. In other words, the association between controlling motives and sexual satisfaction was due to the association between controlling motives and need satisfaction-sex as well as the association between controlling motives and relational quality. Gender was not a significant control variable in either of these analyses.

In order to determine if gender served as a moderator variable of sexual satisfaction, a regression equation was computed incorporating gender, relational quality, need satisfaction-sex, gender x relational quality, and gender x need satisfaction-sex as predictors of sexual satisfaction. In this model, gender did not serve as a moderator variable.

Relationship Length

Correlation analyses were computed to determine whether relationship length was correlated with sexual motivation, need satisfaction-sex, sexual satisfaction, and outcome variables. None of these correlations were statistically significant.

Personal Intrinsic Motivation and Sex Drive as Predictors of Need Satisfaction-Sex, Sexual Satisfaction, and Outcomes

In order to understand the unique contribution of personal intrinsic motivation and sex drive motivation, personal intrinsic and sex drive subscales were entered into a series of equations to determine their simultaneous prediction of need satisfaction-sex, sexual satisfaction, and outcome variables. When entered simultaneously into a regression equation, personal intrinsic motivation positively predicted need satisfaction-sex ($\beta = .37, t = 3.74, p < .001$) whereas the sex drive subscale negatively predicted need satisfaction-sex ($\beta = -.26, t = -2.61, p < .01$). The same pattern existed for sexual satisfaction. Personal intrinsic motivation positively predicted sexual satisfaction ($\beta = .32, t = 3.22, p < .001$) whereas the sex drive subscale negatively predicted sexual satisfaction ($\beta = -.20, t = -2.01, p < .05$). For psychological well-being, personal intrinsic motivation was not significantly related to psychological well-being ($\beta = .15, t = 1.52, p = ns$) whereas the sex drive subscale negatively predicted psychological well-being ($\beta = -.26, t = -2.66, p < .01$). For sexual well-being, by contrast, personal intrinsic motivation positively predicted sexual well-being ($\beta = .41, t = 4.33, p < .001$) whereas the sex drive subscale was not significantly related to sexual well-being ($\beta = -.10, t = -1.08, p = ns$). Finally, personal intrinsic motivation was not significantly related to relationship quality ($\beta = .04, t = .45, p = ns$) whereas the sex drive subscale negatively predicted relationship quality ($\beta = -.25, t = -2.51, p < .05$). Taken together, it appears that personal intrinsic motivation is positively related to need satisfaction-sex, sexual satisfaction, and outcomes whereas sex drive motivation was negatively related to these variables.

Keeping Track of Sexual Rewards and Costs

An item was given to participants to assess the extent to which they keep track of rewards and costs in their sexual relationships (1 = I never keep track and 5 = I always keep track). The mean was 2.43 ($SD = 1.01$), reflecting that participants reported almost never keeping track of rewards and costs in their sexual relationship. However, this variable was positively associated with both autonomous motives ($r = .14, p = .05$) and controlling motives ($r = .25, p < .001$).

Discussion

According to the Model of Self-Determined Sexual Motivation, autonomous motives were expected to be positively associated with sexual satisfaction and need satisfaction-sex whereas controlling motives were expected to be negatively associated with need satisfaction-sex and sexual satisfaction. The data in the present study supported these expectations. Engaging in sexual activity because sex and intimacy is viewed as fun and enjoyable or as an important activity in their relationship was associated with higher sexual satisfaction and higher need fulfillment of the psychological needs for competence, autonomy, and relatedness during sexual activity. Engaging in sexual activity due to guilt, anxiety, or pressure was associated with lower need fulfillment of the psychological needs and less rewarding and satisfying sexual activity.

Sexual satisfaction and need satisfaction-sex were expected to be positively associated with psychological well-being, sexual well-being, and relational quality. Further, sexual satisfaction and need satisfaction-sex were hypothesized to mediate the association between sexual motivation and these three outcomes. Results revealed that both sexual satisfaction and need satisfaction-sex were both positively associated with psychological and sexual well-being as well as relational quality. When individuals reported higher fulfillment of their psychological

needs during sexual activity and experienced higher sexual satisfaction, they reported higher levels of psychological well-being, sexual well-being, and relational quality as well.

An investigation of whether autonomous and controlling motives were directly associated with outcomes depended on the form of motivation and the specific outcome. Autonomous motives were not directly associated with psychological well-being, but controlling motives did negatively predict psychological well-being, as had been expected. Further, need satisfaction-sex, but not sexual satisfaction, served as a mediator of the relationship between controlling motives and psychological well-being. In other words, higher motivation for sexual activity due to guilt, anxiety, or pressure was associated with lower psychological well-being, and this association was partially accounted for by lower need satisfaction-sex during sexual activity.

Autonomous motives were positively associated with sexual well-being; higher self-determined motivation for sexual activity was associated with feeling better about one's sex lives and about oneself as a sexual partner. This relationship was accounted for, in part, by higher need satisfaction-sex and sexual satisfaction. Controlling motives, by contrast, were negatively associated with sexual well-being, indicating that engaging in sexual relationships for more pressured reasons predicted lower sex life satisfaction and viewing oneself less positively as a sex partner. Again, this relationship was explained by the intercorrelations between controlling motives and need satisfaction-sex as well as controlling motives and sexual satisfaction.

Contrary to expectations, autonomous motives did not predict relational quality. Controlling motives, however, negatively predicted relational quality, indicating that higher controlling motives for sexual activity was associated with lower relational quality. Both need satisfaction-sex and sexual satisfaction were mediators of the relationship between controlling motives and relational quality. Put another way, the association between higher controlling

motives and lower relational quality is explained, in part, by experiencing lower need satisfaction-sex and sexual satisfaction during sexual activity.

Sexual satisfaction was also explored as an outcome variable of sexual motivation, and need satisfaction-sex and relational quality were investigated as mediators of this relationship. The association between autonomous motives and sexual satisfaction was accounted for by getting one's needs met during sexual activity. That is, higher self-determined reasons for engaging in sexual activity was associated with higher sexual satisfaction because of the association between self-determined motivation and higher need fulfillment of the psychological needs of competence, relatedness, and autonomy during sexual activity. By contrast, higher controlling motives for sexual activity was associated with less rewarding and satisfying sexual activity, and this appears to be due to the association between controlling motives and lower need fulfillment of the psychological needs during sexual activity as well as the association between controlling motives and lower relational quality. It is likely that relational quality partially explained the association between controlling motives and sexual satisfaction due to the relational aspects of sexual motivation. The tendency to engage in sexual activity because one feels obligated to please the partner or experiences pressure from the partner predicted lower relational quality, which in turn spilled over into less rewarding and satisfying sexual experiences.

One question concerned how personal intrinsic motivation was distinguished from sex drive motivation. Thus, regression analyses were conducted with personal intrinsic motivation composites and sex drive motivation composites as simultaneous predictors of need satisfaction-sex, sexual satisfaction, psychological well-being, sexual well-being, and relational quality. Results revealed that the role of personal intrinsic motivation (engaging in sexual activity

because it is fun and enjoyable) was primarily positive whereas the role of sex drive motivation was primarily negative. That is, when individuals endorsed personal intrinsic motivation for sexual activity, they reported higher need satisfaction-sex, higher sexual satisfaction, and higher sexual well-being. Personal intrinsic motivation was not associated with psychological well-being or relational quality. Sex drive motivation, by contrast, was negatively associated with need satisfaction-sex, sexual satisfaction, psychological well-being, and relational quality. It was not associated with sexual well-being. Thus, having sex due to “feeling horny,” or experiencing sexual urges appears to be negative for the way individuals feel about themselves and their relationship with their partners, whereas having sex for the fun and pleasure of the activity appears to be positive for the way individuals feel about themselves and their relationship with their partners.

When participants were asked the extent to which they keep track of sexual rewards and costs in their relationship, participants reported that they almost never keep track. Despite this, keeping track of sexual rewards and costs was positively associated with both autonomous and controlling motives, indicating that engaging in self-determined motivation for sexual activity does not mean that individuals are immune from keeping track of rewards and costs in their sexual relationship.

One surprising finding concerned gender differences in sexual motivation. Men reported both more autonomous motives and more controlling motives than women did. Thus, it appears that men, in general, may have more motives for sexual activity in general.

Another unexpected finding was that autonomous motives were positively associated with controlling motives. One possibility for this finding is that participants may not have been able to distinguish the difference between questions assessing identified regulation and those

assessing introjected regulation. If these questions were conceptualized the same way, then it follows that they would be positively correlated, which in turn would cause the composites of autonomous and controlling motives to be positively associated as well. The possible inability of the participants to distinguish the difference between items assessing identified and introjected regulation is a limitation to the present investigation.

A second limitation was that autonomous motives were not significantly associated with psychological well-being and relational quality, as had been expected. One potential explanation is that the negative is stronger than the positive. In other words, it is possible that the consequences of engaging in sexual activity due to pressure or control are stronger than the consequences of engaging in sexual activity out of self-endorsed values and interest. Another possibility is that the autonomous motives → psychological well-being links and the autonomous motives → relational quality links were suppressed by unknown third variables.

Another limitation to the present study was that the questionnaires were all administered at the same time. Thus, the statistical models tested here were correlational and alternative theoretical models could have also been supported by the data.

Finally, a last limitation to the current study was that participants were asked to respond to questionnaires concerning their sexual relationships in general. The weakness of this method is that participants have to reflect on their experiences over a long period of time. Thus, responses may be biased by memory or reflect a selected sample of experiences, such as the most recent experiences. The diary technique, which is described in detail in the next chapter, addresses concerns raised by questionnaire studies.

CHAPTER 3

STUDY 2

Study 1 examined sexual motivation in relationships in general. In contrast, Study 2 is a diary study designed to examine specific sexual interactions and how they relate to outcome variables, such as psychological well-being and relational quality. The advantages of using a diary format are plentiful, and build on Study 1 in meaningful ways. First, diary procedures enable the investigation of the quantity and quality of certain kinds of interactions, how certain characteristics, such as gender and personality, are related to these interactions, and how these interactions are related to other variables, such as psychological adjustment (Reis & Wheeler, 1991; Smith, 2004). Second, diaries enable participants to more accurately report their interactions without having to rely on memory for a large number of incidents over a long period of time. In other words, participants do not have to aggregate across their experiences or select from a sample of possible events (Smith, 2004) and difficulties with estimates are not problematic. Finally, an important advantage of an interaction diary is the wealth of data they provide. The diary method in the investigation of sexuality is rare (Christopher & Sprecher, 2000), but needed in sexuality research.

Hypotheses for the diary study were as follows:

Hypothesis 1a: Sexual interactions in which people endorsed more autonomous reasons for engaging in sexual activity would be associated with higher sexual satisfaction, whereas engaging in sexual interactions for more controlling reasons would be associated with lower sexual satisfaction.

Hypothesis 1b: Higher autonomous reasons for engaging in sexual activity would be associated with higher need satisfaction-sex, whereas higher controlling reasons would be associated with lower need satisfaction-sex.

Hypothesis 2: Sexual interactions that were more sexually satisfying and met one's psychological needs would result in higher psychological well-being (e.g., higher self-esteem and life satisfaction), higher sexual well-being (e.g., higher sexual esteem, lower sexual depression, and higher sex life satisfaction), and higher relational quality (e.g., higher closeness, commitment, and relationship satisfaction).

Hypothesis 3: Sex satisfaction and need satisfaction-sex would mediate the association between sexual motives and outcomes.

Hypothesis 4: Men would be less likely to endorse controlling motives than women would.

Method

Participants

Participants were 147 Introductory Psychology students (34 males, 112 females, 1 participant did not indicate his/her sex) who were given partial course credit for their participation. Of these participants, 6 were African American, 7 were Asian American, 119 were Caucasian, 5 were Hispanic American, 1 was Native American, and 6 identified themselves as "Other." (One participant did not indicate his/her race.) On average, participants were 19.10 years old ($SD = 1.76$). Participants were required to be in a dating relationship for at least 4 weeks ($M = 19.07$ months, $SD = 16.14$) and must live within 25 miles of their partner. 95.2% of the participants indicated that they were in an exclusive relationship.³

³ Data from an additional 31 participants were not used in the data analysis. Of these participants 8 (1 male, 6 female, 1 unknown sex) were dropped because they did not complete the study, 16 (2 male, 14 female) for failure to follow directions about diary completion, and 9 (2 males, 5 females) for indicating during debriefing that they were not completely honest when completing the diary.

As in Study 1, a demographic questionnaire was administered to assess participant gender, age, race, relationship length, and relationship exclusivity. An additional item asked participants for the initials of their primary dating partner.

Intimate Interaction Diary Form

An adapted version of the Rochester Interaction Record (RIR; Wheeler & Nezlek, 1977) was used to record participants' sexual interactions. This scale has traditionally been used to measure daily social interactions, but has been used successfully to assess sexual interactions in the past (Smith, 2004; 2007). The fixed-format diary enables participants to record various aspects of their interactions, such as behaviors that occur and emotional responses to the interaction, as is the case for typical social interactions. Following Smith (2004; 2007), participants were instructed to record every sexual interaction, defined as "any interaction that lasts 10 minutes or longer in which a person is physically intimate with another person." The term "intimate interaction" was used instead of sexual interaction in order to incorporate a range of interactions that may include sexual activity but not vaginal intercourse per se. Thus, "making out" would be an intimate interaction but cuddling or a peck on the lips would not. Participants were instructed to complete the form as soon as possible after the event occurred but were told not to let recording the event interfere with the interaction itself.

A copy of the interaction record can be found in Appendix O. For each interaction, participants provided situational information such as when the interaction occurred, how long it lasted, and behaviors engaged in. The form also incorporated questions assessing motivation for engaging in sexual activity, selected from Jenkins' (2004) Perceived Locus of Causality for Sex Scale (PLOC-s) described in Study 1. Need satisfaction-sex during the interaction was assessed by modifying the La Guardia et al. (2000) Need Satisfaction Scale described in Study 1 to fit a

diary format. The questions from the Interpersonal Exchange Model of Sexual Satisfaction (IEMSS; Lawrance & Byers, 1992; 1995) were also modified to accommodate a diary format. Participants responded to questions assessing how rewarding, costly, and satisfying their interaction was. Finally, several questions assessed outcomes of the interaction by asking the participant how they feel “right now.” These questions include a) an adapted version of the Global Measure of Sexual Satisfaction (Lawrance & Byers, 1992; 1995) to reflect present feelings about the relationship, b) a modified version of the IOS (Aron et al., 1992) to reflect present feelings of closeness, c) two items to reflect state self-esteem (“Right now I take a positive attitude toward myself” was adapted from Rosenberg’s (1965) Self-Esteem Inventory and “Right now I have high-self-esteem” was modified from Robins, Hendin, and Trzesniewski’s (2001) single-item measure of self-esteem.), d) one item to assess commitment, e) two items to assess sexual esteem and sex life satisfaction adapted from Snell and Papini’s (1989) Sexuality Scale, and f) one item adapted from Diener et al.’s (1985) measure of life satisfaction.⁴

Procedure

Participants attended an initial session where they were informed that they would be filling out a questionnaire and keeping a diary of their intimate interactions over the course of two weeks. The researcher told participants that they had to be in a dating relationship and live within 25 miles of their partners in order to be eligible for the study. Participants were then given the demographic questionnaire to complete.

⁴ At the end of the study, questionnaires assessing general need satisfaction-sex, sexual satisfaction, psychological well-being, sexual well-being, and relational quality were also administered. These questionnaires were not described here because they were not used in the following multi-level analyses; Level 2 data cannot be modeled as outcomes in multi-level models. However, correlations among these variables replicated the data presented in Study 1.

Upon completion of the questionnaire, participants were given a packet containing a) instructions for completing the interaction diary, b) a sample scenario and completed diary form, and c) a calendar of drop off and pick up times. At this time, the researcher explained the procedure for completing the interaction form, explained terms in the diary itself, and reviewed the sample. Participants were asked to privately complete the form as soon as possible after the interaction occurred to insure accuracy in the recording. On average, participants reported that the longest period of time that elapsed between having a sexual interaction and completing the interaction form was 5.58 hours ($SD = 4.78$ hours).

During debriefing, participants were then told the hypotheses of the study, asked about the truthfulness of the completion of the interaction forms (on a 10-point scale such that 1 = not at all honest and 10 = completely honest, $M = 9.46$, $SD = .76$), and given an opportunity to ask questions about the study. Participants reported spending about 10 minutes ($M = 9.36$, $SD = 4.98$) completing the diary. On a 5-point scale (1 = Not at all and 5 = Very much), participants revealed that completing the interaction diary form did not really interfere with the interaction itself ($M = 1.48$, $SD = .72$) nor with their daily lives ($M = 1.40$, $SD = .66$). While 17% of participants revealed that it was more difficult to complete the interaction form during the weekend than during the week, participants reported that responses were not less accurate ($M = 3.13$, $SD = .60$) during these days (1 = Much less accurate, 3 = About the same accuracy, 5 = much more accurate).

Results

Overview of the Results Section

The first section, “Interaction Descriptive Analyses” provides an overview of the frequency and descriptive analyses obtained from the interaction records. The second section,

“Creation of Interaction Composite Measures,” describes the variables that were used to create the interaction composite measures in all of the following analyses. “Interaction Diary Scale Exploration” examines these interaction composite measures and their intercorrelations. Finally, “Multilevel Analyses” used multilevel random coefficient modeling (MRCM) to investigate hypotheses.

Interaction Descriptive Analyses

Over a two-week period, 147 participants described 930 physically intimate interactions. The number of interactions per person ranged from 1 to 24 ($M = 6.32$, $SD = 3.90$). Interactions ranged in length from 10 minutes to 6.5 hours ($M = 45.02$ minutes, $SD = 34.64$). 56.8% of these interactions involved vaginal intercourse, 33% involved giving oral sex, and 27.5% involved receiving oral sex. 43.9% of these encounters were initiated by both partners, 21.1% were initiated by the participant, and 30.9% were initiated by the participants’ partner.

Interaction-level means and standard deviations can be found in Table 2. In general, interactions were rated positively.

Creation of Interaction Composite Measures

See Table 3 for intercorrelations among sexual motivation variables. From these variables, interaction sexual motivation composites were created. Autonomous motives were created by combining the items assessing personal intrinsic, relational intrinsic, and identified motivation. Controlling motives were created by combining the items assessing introjected motivation and external motivation.

Interaction GMREL and GMSEX composites were created by reverse-scoring each of the five items and averaging them together (such that higher scores reflect higher satisfaction). Internal consistencies were high ($\alpha = .93$ for GMREL and $\alpha = .92$ for GMSEX). The need

Table 2. Means and standard deviations for interaction ratings.

	<i>M</i>	<i>SD</i>
Sexual Motivation:		
Relational Intrinsic	4.33	.85
Personal Intrinsic	3.91	1.21
Identified	3.94	1.04
Introjected 1 (wanting partner to be pleased)	1.74	1.09
Introjected 2 (feel better about oneself)	1.50	.90
External 1 (Felt pressured)	1.34	.80
External 2 (Feared punishment)	1.16	.53
Amotivated	1.69	1.07
Sex Drive	3.75	1.26
REW-CST	2.27	1.56
CL _{REW} -CL _{CST}	1.19	1.50
Interaction GMSEX	4.53	.67
Need Satisfaction-Sex	4.48	.56
Interaction GMREL	4.69	.55
IOS	5.13	1.52
Committed	4.58	.79
Positive Attitude about Self	4.46	.75
Self-Esteem	4.32	.79
Life Satisfaction	4.18	.91
Good Sex Partner	4.37	.87
Sex Life Satisfaction	4.34	.89

Table 3. Intercorrelations among sexual motivation variables.

	1	2	3	4	5	6	7
1. Relational Intrinsic	-----						
2. Personal Intrinsic	.29***	-----					
3. Identified	.41***	.28***	-----				
4. Introjected 1 (Wanted partner to like me better)	-.14***	-.08*	.002	-----			
5. Introjected 2 (To feel better about myself)	-.25***	.08**	-.01	.33***	-----		
6. External 1 (Felt pressured)	-.38***	-.25***	-.17***	.41***	.23***	-----	
7. External 2 (Worried about punishment)	-.25***	-.14***	-.10**	.38***	.30***	.51***	-----

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

satisfaction-sex measure was derived by reverse-scoring the item “inadequate” and by averaging all six items ($\alpha = .77$).

Sexual satisfaction was computed by standardizing the REW-CST, CL_{REW-CST}, and the 5 items from the GMSEX measure and adding them together ($\alpha = .91$).⁵

Psychological well-being was computed by combining the items which assessed taking a positive attitude toward oneself, experiencing high self-esteem, and feeling that life conditions are excellent ($\alpha = .83$).

Sexual well-being was computed by combining the items that assessed feeling like a good sexual partner and feeling pleased with one’s sex life ($\alpha = .78$).

Finally, *relational quality* was computed by standardizing and adding together the IOS, the GMREL measure, and the item assessing commitment ($\alpha = .88$).

⁵ EQ_{REW} and EQ_{CST} were not added to the Sexual Satisfaction measure because these items lacked internal consistency with the other items assessing sexual satisfaction.

Interaction Diary Scale Exploration

Table 4 displays the correlations between sexual motivation and outcome variables. Autonomous motives were positively correlated with sexual satisfaction, need satisfaction-sex, psychological well-being, sexual well-being, and relational quality whereas controlling motives were negatively correlated with these variables. Inspection of this correlation matrix reveals that outcome variables were all positively intercorrelated. Length of the interaction was positively correlated with both autonomous and controlling motives. Length of the interaction was weakly, but positively, associated with sexual well-being and negatively associated with relational quality.

Table 4. Correlation matrix for sexual motivation and outcome variables.

	1	2	3	4	5	6	7	8
1. Autonomous Motives	-----							
2. Controlling Motives	-.20***	-----						
3. Length of Interaction	.11***	.17***	-----					
4. Sexual Satisfaction	.48***	-.34***	.04	-----				
5. Need Satisfaction-Sex	.44***	-.38***	.01	.65***	-----			
6. Psychological Well-being	.25***	-.23***	.01	.48***	.51***	-----		
7. Sexual Well-being	.31***	-.26***	.08*	.55***	.49***	.61***	-----	
8. Relational Quality	.36***	-.36***	-.09**	.59***	.57***	.54***	.51***	-----

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

Multilevel Analyses

This data set consists of a multilevel data structure because events (i.e., sexual interactions) are at one level of analysis, which were nested in a second level of analysis (i.e.,

individuals). For this reason, the data were analyzed using a series of multilevel random coefficient models (MRCM) using the HLM program (Raudenbush, Bryk, & Congdon, 2000; Version 6.0, Student Edition). For a discussion of using this analytic strategy for social interaction data sets, see Nezlek (2001). The advantages of using MRCM are its accuracy estimating parameter estimates and its ability to model within and between-person relationships simultaneously. Analyses were conducted using two levels of analysis: Sexual interactions (level 1) nested within individuals (level 2).

Before examining hypotheses, a set of analyses was computed to examine the between- and within-person variance in each of the outcome variables. These models are called, “totally unconditional models” because outcome variables are not modeled as a function of other variables. An unconditional model was computed for sexual satisfaction, need satisfaction-sex, psychological well-being, sexual well-being, and relational quality. The basic level 1 (interaction level) model was:

$$Y_{ij} = \beta_{0j} + r_{ij}$$

According to this model, β_{0j} is a random coefficient representing the mean of Y (e.g., relational quality) for person j, across i interactions, and r_{ij} represents the error associated with each measure of Y. The basic level 2 (between-person) model was:

$$\beta_{0j} = \gamma_{00} + \mu_{0j}$$

In this model, γ_{00} is a random coefficient that represents the grand mean of all the person level means that were created in the level 1 model. The μ_{0j} coefficient represents the error associated with β_{0j} .

In addition to the mean and error coefficients, variance values are also provided for each of the error coefficients (r_{ij} and μ_{0j}), which represent the error variance for both interaction and

person level variables. These values provide information about the amount of variance that exists between individuals and within individuals. The examination of these values determine whether there is adequate variance to model at any given level. By dividing the interaction level variance by the sum of the interaction-level and person-level variance, the percentage of total variance explained by the interaction level can be computed. For example, 55.37% of the variance of sexual satisfaction can be explained by interaction predictors whereas 44.63% of the variance can be explained by individual differences. Table 5 displays the variances for need satisfaction-sex, sexual satisfaction, psychological well-being, sexual well-being, and relational quality and suggests that there is adequate variance to investigate both levels of analysis.

Table 5. Variance components for interaction diary variables.

	Level 1 (Interaction level)	Level 2 (Individual level)	% Variance Explained by Level 1
Sexual Satisfaction	19.42	12.62	55.37%
Need Satisfaction-Sex	.17	.15	53.02%
Psychological Well-being	3.10	4.05	43.36%
Sexual Well-being	1.01	1.78	36.28%
Relational Quality	11.75	23.47	41.44%

Sexual Motivation, Sexual Satisfaction, and Need Satisfaction-Sex

The first hypothesis (Hypothesis 1a) was that when individuals engaged in sexual activity with their partners for more autonomous reasons, they would feel more sexually satisfied. This hypothesis was tested using a series of models such as the one below:

$$Y_{ij} \text{ (Sexual Satisfaction)} = \beta_{0j} + \beta_{1j} \text{ (Autonomous Motives)} + r_{ij}$$

The first model examined the association between autonomous motives and sexual satisfaction. In this model, β_{0j} is a random coefficient representing the intercept of Y (sexual satisfaction) for person j. β_{1j} is a random coefficient representing the association between endorsing autonomous

motives for sexual activity and sexual satisfaction for person j . r_{ij} represents error. β_{1j} was entered into the model group-mean centered, which means that each coefficient represented an individual's mean response to engaging in sexual activity for autonomous reasons and deviations from that mean (See Nezlek, 2001 for an explanation of this procedure).

The level 2 model is below:

$$\beta_{0j} = \gamma_{00} + \mu_{0j}$$

$$\beta_{1j} = \gamma_{10} + \mu_{1j}$$

In this model, a significant γ_{10} indicates that on average, autonomous motives is associated with one's sexual satisfaction.

Autonomous motives were positively associated with sexual satisfaction. This analysis was repeated with controlling motives (Hypothesis 1b), which revealed that controlling motives were associated with lower sexual satisfaction. When these analyses were repeated with need satisfaction-sex instead of sexual satisfaction, the same pattern of results emerged (See Table 6). Thus, Hypothesis 1a and Hypothesis 1b were supported.

Table 6. Sexual satisfaction and need satisfaction-sex as a function of sexual motives.

	Sexual Satisfaction		Need Satisfaction-Sex	
	Coefficient	<i>t</i> -ratio	Coefficient	<i>t</i> -ratio
Autonomous Motives	3.25	12.65***	.28	11.77***
Controlling Motives	-2.11	-5.25***	-0.23	-6.06***

Note: [#] $p < .10$, $*p < .05$, $**p < .01$, $***p < .001$

Sexual Satisfaction, Need Satisfaction-Sex, and Outcomes

The next series of analyses assesses sexual satisfaction and need satisfaction-sex as predictors of each outcome variable (Hypothesis 2). (See Table 7.) As predicted, both sexual satisfaction and need satisfaction-sex were significant predictors of psychological well-being.

Further, a model was computed in order to examine if each predictor remained significant when they were both included simultaneously in the model. Both predictors remained significant and positive. Increases in sexual satisfaction ($\gamma_{10} = .12, t = 6.72, p < .001$) and need satisfaction-sex ($\gamma_{20} = .58, t = 3.17, p < .01$) were associated with increases in psychological well-being. When added to the model at level 2, gender was not a significant predictor of the association between psychological well-being and sexual satisfaction ($\gamma_{11} = -.02, t = -1.07, p = ns$) nor between psychological well-being and need satisfaction-sex ($\gamma_{21} = -.20, t = -1.00, p = ns$). When added to the model, relationship length was a significant predictor of the association between sexual satisfaction and psychological well-being ($\gamma_{11} = -.002, t = -2.44, p < .05$), indicating that among those with longer relationships, the association between sexual satisfaction and psychological well-being is decreased. Relationship length was not a predictor of the association between need satisfaction-sex and psychological well-being ($\gamma_{21} = .01, t = .78, p = ns$).

Table 7. Sexual satisfaction and need satisfaction-sex as predictors of outcome variables.

Outcome		Coefficient	t-ratio
Psychological Well-being:	Sexual Satisfaction	.14	10.41***
	Need Satisfaction-Sex	1.35	8.79***
Sexual Well-being:	Sexual Satisfaction	.08	10.26***
	Need Satisfaction-Sex	.68	7.62***
Relational Quality:	Sexual Satisfaction	.33	13.04***
	Need Satisfaction-Sex	3.41	11.84***

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

Both sexual satisfaction and need satisfaction-sex were significant predictors of sexual well-being. Again, a model was computed in order to examine if each predictor remained significant when they were both included in the model. Both predictors remained significant and positive. Increases in sexual satisfaction ($\gamma_{10} = .07, t = 6.86, p < .001$) and need satisfaction-sex

($\gamma_{20} = .22, t = 2.03, p < .05$) were associated with increases in sexual well-being. When added to the model, gender was a significant predictor of the association between sexual well-being and sexual satisfaction ($\gamma_{11} = -.06, t = -4.77, p < .001$), indicating that the association between sexual satisfaction and sexual well-being was increased for men. Gender was not a significant predictor of the association between sexual well-being and need satisfaction-sex ($\gamma_{21} = .06, t = .50, p = ns$). When added to the model, relationship length was a marginally significant predictor of the association between sexual well-being and sexual satisfaction ($\gamma_{11} = -.001, t = -1.91, p < .10$), indicating that the relationship between sexual satisfaction and sexual well-being is decreased for longer relationships. Relationship length was not a significant predictor of sexual well-being and need satisfaction-sex ($\gamma_{21} = .01, t = 1.18, p = ns$).

Sexual satisfaction and need satisfaction-sex were both significant predictors of relational quality. A model was computed to examine if sexual satisfaction and need satisfaction-sex remained significant when they were both included in the model. Both predictors remained significant and positive. Increases in sexual satisfaction ($\gamma_{10} = .28, t = 8.89, p < .001$) and need satisfaction-sex ($\gamma_{20} = 1.50, t = 4.47, p < .001$) were associated with increases in sexual well-being. When added to the model, gender was a marginally significant predictor of the association between sexual satisfaction and relational quality ($\gamma_{11} = -.08, t = -1.91, p = .06$), indicating that the association between sexual satisfaction and relational quality was increased for men. Gender was not a significant predictor of the need satisfaction-sex \rightarrow relational quality association ($\gamma_{21} = -.09, t = -.26, p = ns$). When added to the model, relationship length was a marginally significant predictor of the association between sexual satisfaction and relational quality ($\gamma_{11} = .003, t = 1.93, p < .10$), indicating that the association between sexual satisfaction and relational quality was slightly increased for those in longer relationships. Relationship length was not a significant

predictor of the association between need satisfaction-sex and relational quality ($\gamma_{21} = -.01, t = -.64, p = ns$).

Sexual Motivation and Outcome Variables

Hypothesis 3 was that need satisfaction-sex during sexual activity and sexual satisfaction would mediate the association between sexual motivation and outcomes. When psychological well-being was the outcome variable, autonomous motives were positively associated with psychological well-being whereas controlling motives were negatively associated with psychological well-being (See Table 8, Model 1). When need satisfaction-sex and sexual satisfaction were added to the models, both autonomous and controlling motives dropped to non-significance whereas need satisfaction-sex and sexual satisfaction remained both positive and statistically significant (See Table 8, Model 2). This pattern of results indicates that need satisfaction-sex and sexual satisfaction mediate the association between sexual motives and psychological well-being. These analyses were repeated with sexual well-being and relational quality as outcome variables, and revealed the same pattern of results. Thus, consistent with Hypothesis 3, sexual satisfaction and need satisfaction-sex appear to mediate the association between sexual motivation and outcomes.

Gender and Sexual Motivation

I hypothesized that men would be less likely to endorse controlling motives than women would (Hypothesis 4). In order to assess these gender differences, a set of analyses was computed in which the level 1 was unconditional and gender was added to the level 2 model. For example, to examine the role of gender on autonomous motives, the level 1 model would look like the following:

$$\text{Autonomous Motives} = \beta_{0j} + r_{ij}$$

Table 8. Outcomes as a function of autonomous versus controlling motives, need satisfaction-sex, and sexual satisfaction.

<i>Psychological Well-being</i>				
	Model 1		Model 2	
	Coefficient	<i>t</i> -ratio	Coefficient	<i>t</i> -ratio
Autonomous Motives	0.57	5.39***	.045	0.37
Need Satisfaction-Sex	-----	-----	.64	3.41***
Sexual Satisfaction	-----	-----	.11	6.24***
Controlling Motives	-0.50	-3.22**	-.18	-1.10
Need Satisfaction-Sex	-----	-----	.64	3.42***
Sexual Satisfaction	-----	-----	.11	6.43***
<i>Sexual Well-being</i>				
	Model 1		Model 2	
	Coefficient	<i>t</i> -ratio	Coefficient	<i>t</i> -ratio
Autonomous Motives	.35	5.84***	.07	1.02
Need Satisfaction-Sex	-----	-----	.26	2.33*
Sexual Satisfaction	-----	-----	.06	6.23***
Controlling Motives	-.33	-3.72***	-.09	-0.95
Need Satisfaction-Sex	-----	-----	.27	2.49*
Sexual Satisfaction	-----	-----	.07	6.61***
<i>Relational Quality</i>				
	Model 1		Model 2	
	Coefficient	<i>t</i> -ratio	Coefficient	<i>t</i> -ratio
Autonomous Motives	1.32	6.56***	-.08	-0.39
Need Satisfaction-Sex	-----	-----	1.58	4.68***
Sexual Satisfaction	-----	-----	.26	8.10***
Controlling Motives	-1.03	-2.19*	-.13	-0.45
Need Satisfaction-Sex	-----	-----	1.54	4.63***
Sexual Satisfaction	-----	-----	.25	8.21***

Note: # $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

At level 2, gender would be added:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Gender}) + \mu_{0j}$$

A significant γ_{01} coefficient would suggest an association between gender and autonomous motives. Gender ($\gamma_{01} = .04, t = .71, p = ns$) was not a significant predictor of autonomous motives. Gender was, however, associated with controlling motives ($\gamma_{01} = -.14, t = -2.88, p < .01$). Consistent with Study 1, men tended to endorse controlling motives more than women did.

Ancillary Analyses

Gender, Need Satisfaction-Sex, and Relational Quality as Predictors of Sexual Satisfaction

When a model was assessed including autonomous motives, need satisfaction-sex, and relational quality as predictors of sexual satisfaction, all three predictors were positive and significantly associated with sexual satisfaction (see Table 9). However, note that the magnitude of autonomous motives is reduced from the original model (see Table 6) that assessed autonomous motives as a predictor of sexual satisfaction, indicating that need satisfaction-sex and relational quality partially mediate the association between autonomous motives and sexual satisfaction. When this model was repeated using controlling motives as a predictor of sexual satisfaction, controlling motives was no longer statistically significant whereas need satisfaction-sex and relational quality remained significant, indicating that need satisfaction-sex and relational quality mediated the relationship between controlling motives and sexual satisfaction. Gender was only significant when predicting the relationship between need satisfaction-sex and sexual satisfaction ($\gamma_{11} = 1.95, t = 4.87, p < .001$), indicating that the association between need satisfaction-sex and sexual satisfaction was increased for women.

Table 9. Sexual motivation, relational quality and need satisfaction-sex as predictors of sexual satisfaction.

	Coefficient	<i>t</i> -ratio
Autonomous Motives	1.57	5.59***
Need Satisfaction-Sex	3.24	8.08***
Relational Quality	.40	7.65***
Controlling Motives	-.61	-1.65 [#]
Need Satisfaction-Sex	3.97	9.89***
Relational Quality	.42	7.68***

Note: [#]*p* < .10, **p* < .05, ***p* < .01, ****p* < .001

Personal Intrinsic Motivation and Sex Drive as Predictors of Outcome Variables

Multilevel models were run to examine personal intrinsic motivation and sex drive as simultaneous predictors of the outcome variables. In terms of need satisfaction-sex, the item assessing the sex drive was positively associated with getting one's psychological needs met whereas the item assessing personal intrinsic motivation was marginally significant. In terms of sexual satisfaction, the sex drive did not significantly predict sexual satisfaction whereas the item assessing personal intrinsic motivation was positive, but marginally significant. Both the items assessing intrinsic motivation and sex drive positively predicted psychological well-being. The sex drive item also positively predicted sexual well-being whereas personal intrinsic motivation was positive, but marginally significant. Finally, sex drive positively predicted relational quality whereas personal intrinsic motivation was not statistically significant. See Table 10.

Sexual Motivation and Keeping Track of Rewards/Costs

An item was given to participants to assess the extent to which they keep track of rewards and costs in their sexual relationships (1 = I never keep track and 5 = I always keep track). The mean was 2.30 (*SD* = .79), reflecting that participants reported almost never keeping track of rewards and costs in their sexual relationship. However, when entered into a multilevel model, this

Table 10. Personal intrinsic motivation and sex drive as predictors of outcome variables.

Outcome		Coefficient	<i>t</i> -ratio
Need Satisfaction-Sex:	Personal Intrinsic	.03	1.66 [#]
	Sex Drive	.08	4.45***
Sexual Satisfaction	Personal Intrinsic	.13	1.73 [#]
	Sex Drive	.06	.84
Psychological Well-being	Personal Intrinsic	.87	4.60***
	Sex Drive	.87	4.57***
Sexual Well-being	Personal Intrinsic	.07	1.67 [#]
	Sex Drive	.15	3.45***
Relational Quality	Personal Intrinsic	.03	.20
	Sex Drive	.60	4.02***

Note: [#]*p* < .10, **p* < .05, ***p* < .01, ****p* < .001

variable was a marginally significant predictor of autonomous motives ($\gamma_{01} = .11, t = 1.89, p < .10$), indicating that people who reported higher autonomous motives were more likely to report keeping track of the rewards and costs of sexual activity. This analysis was not significant at predicting controlling motives ($\gamma_{01} = .06, t = 1.06, p = ns$).

Discussion

According to hypotheses, sexual interactions reflecting autonomous motives would be associated with higher sexual satisfaction and need satisfaction-sex whereas sexual interactions reflecting controlling motives would be associated with lower sexual satisfaction and need satisfaction-sex. The data from this diary study supported these hypotheses. When individuals endorsed autonomous motives for sexual activity, they also reported that the interaction met their psychological needs and that they felt sexually satisfied. When individuals endorsed controlling motives for the sexual interaction, they tended to report that the interaction met their needs less and that they experienced the interaction as less sexually rewarding and satisfying.

I also hypothesized that sexual interactions that were sexually satisfying and met one's psychological needs would be associated with higher psychological well-being, sexual well-being, and relational quality. Analyses supported these hypotheses. When participants reported that sexual interactions were more rewarding and satisfying and that their psychological needs were met, they also reported higher psychological well-being, sexual well-being, and relational quality.

Further, I expected that need satisfaction-sex and sexual satisfaction would mediate the association between sexual motivation and outcome variables. Results supported this expectation. When individuals endorsed autonomous motives, they also reported higher psychological well-being, sexual well-being, and relational quality; higher need satisfaction-sex and sexual satisfaction mediated these associations. When individuals reported that they felt pressured and controlled to engage in sexual activity with their partners, they reported lower psychological well-being, sexual well-being, and relational quality. These links were explained by lower need satisfaction-sex and sexual satisfaction.

Again, sexual satisfaction was explored as an outcome variable of sexual motivation, and need satisfaction-sex and relational quality were investigated as mediators of this relationship. The association between sexual motivation and sexual satisfaction was explained by need satisfaction-sex and higher relational quality. This implies that when individuals engage in sexual activity for more self-determined reasons, they experience sexual activity as more rewarding and satisfying, and this association is explained by the association between self-determined motivation and getting one's needs met during sexual activity as well as the association between self-determined motivation and higher relational quality. By contrast, when individuals endorse controlling motives for sexual activity, they are less likely to get these

psychological needs met and also experience lower relational quality. Thus, the association between higher controlling motives and lower sexual satisfaction is due to the association between controlling motives and lower need satisfaction during sexual activity as well as the association between controlling motives and lower relational quality. Put another way, engaging in sexual activity with one's partner to connect with the partner or because sexual activity is viewed as a valuable aspect of a relationship is associated with both higher need satisfaction during sexual activity and higher relational quality, which appears to spill over into higher sexual satisfaction. Engaging in sexual activity because one needs to please the partner or experiences pressure from the partner predicts lower need satisfaction during sexual activity and lower relational quality, which in turn appears to spill over into less rewarding and satisfying sexual experiences.

In order to examine the individual contribution of personal intrinsic motivation and sex drive motivation, both predictors were entered simultaneously into multi-level models to assess need satisfaction-sex, sexual satisfaction, psychological well-being, sexual well-being, and relational quality. Interestingly, both personal intrinsic motivation and sex drive motivation were positively (and uniquely) associated with these variables, with a few exceptions. Sex drive motivation did not predict sexual satisfaction whereas personal intrinsic motivation was positive and significant. Personal intrinsic motivation did not predict relational quality whereas sex drive motivation positively predicted relational quality. Thus, engaging in sexual activity with one's partner because one thinks it will feel good or because one "feels horny" was associated with positive experiences at the interaction level.

Although men were expected to be less likely to endorse controlling motives than women would, men actually reported both more autonomous and more controlling motives than women

did. This finding is consistent with Study 1 and suggests that men are more sexually motivated than women are. The only other gender difference in the present study was that sexual satisfaction → sexual well-being slopes and the sexual satisfaction → relational quality slopes were steeper for men, indicating that for men, experiencing rewarding and satisfying sexual activity was more strongly linked to experiencing a more positive view of the sexual aspects of the self and higher relational quality.

An interesting finding concerned relationship length. The association between sexual satisfaction and well-being was stronger for shorter relationships whereas the association between sexual satisfaction and relational quality was stronger for longer relationships. Perhaps the association between sexual satisfaction and well-being is stronger for shorter relationships because individuals in newer relationships are self-expanding at a more rapid rate than those in longer relationships and sexual activity is part of this self-expansion (Aron, 2003). The association between sexual satisfaction and relational quality for longer relationships, by contrast, implies that satisfying sexual activity is a mechanism for maintaining higher quality relationships.

When participants were asked the extent to which they keep track of sexual rewards and costs in their relationship, participants reported that they almost never keep track. Despite this, keeping track of sexual rewards and costs was positively associated with autonomous motives, indicating that individuals who report more autonomous motives for sexual activity are more likely to keep track of rewards and costs in their sexual relationship.

The benefits of the present study over other studies investigating sexual relationships are numerous. First, it provided demographic information about the frequency and quality of sexual interactions among dating college students. Second, given that participants reported specific

interactions, the data provided are likely to be much more accurate than data provided by large questionnaire studies. Further, the present study enabled the investigation of the quality of specific interactions and how they relate to outcomes such as psychological well-being and relational quality.

CHAPTER 4

GENERAL DISCUSSION

According to the Model of Self-Determined Sexual Motivation, autonomous motives were predicted to be positively associated with need satisfaction-sex and sexual satisfaction, whereas controlling motives were expected to negatively associated with need satisfaction-sex and sexual satisfaction. Need satisfaction-sex and sexual satisfaction, in turn, were expected to mediate the association between sexual motivation and outcome variables of psychological well-being, sexual well-being, and relational quality. Across two studies, a questionnaire study concerning general sexual activity in dating relationships and a diary study concerning specific sexual interactions in dating relationships, I found support for this model. In both studies, autonomous motives were positively associated with need satisfaction-sex and sexual satisfaction, indicating that when individuals engaged in sexual activity with their partners out of interest or self-endorsed values, they were more likely to report that they get their needs met during sexual activity and that they feel that sexual activity is rewarding and satisfying. Both studies also revealed that controlling motives were negatively associated with need satisfaction-sex and sexual satisfaction, indicating that when individuals engage in sexual activity out of pressure or external control, they were less likely to report that they get their needs met during sexual activity and experience sexual activity as less rewarding and satisfying. This finding fits in with prior research on sexual behavior, which has shown that sexual autonomy is positively associated with sexual pleasure (Byers & Wang, 2004; Sanchez, Crocker, & Boike, 2005). It is also consistent with research on SDT and relationships more generally, which has demonstrated

that when individuals' behavior reflects personal choices and values rather than external demands for how to behave, they report higher satisfaction with their interpersonal interactions (Hodgins et al., 1996). Thus, it follows that when sexual behavior reflects personal values rather than external demands, sexual experiences are perceived as rewarding and satisfying.

Across both studies, need satisfaction-sex and sexual satisfaction were positively associated with psychological well-being, sexual well-being, and relational quality. When participants experienced sexual activity as meeting their psychological needs and felt sexually satisfied, they reported higher psychological well-being, sexual well-being, and relational quality. This finding is consistent with prior research on need satisfaction-sex during sexual activity, which demonstrated that when individuals get their psychological needs met during sexual activity, they also tend to report more positive outcomes such as higher satisfaction with the interaction, higher relaxation, and lower guilt and regret (Smith, 2007). In addition, these findings fit in with prior research on sexual satisfaction, which has revealed, for example, that when women feel sexually satisfied, they tend to experience higher psychological well-being and life satisfaction as well (e.g., Apt et al., 1996; Lewis & Borders, 1995), and among couples, sexual satisfaction has been found to be positively associated with relational quality (Lawrance & Byers, 1995; Peck et al., 2004).

Both studies also explored autonomous and controlling motives for sexual activity in relation to psychological well-being, sexual well-being, and relational quality. In the questionnaire study, autonomous motives were only associated with sexual well-being. That is, when individuals were motivated for sexual activity because they thought it was fun and enjoyable or wanted to connect with their partners, they viewed themselves more favorably as sex partners and felt more satisfied with their sex lives. The association between autonomous

motives and sexual well-being was mediated by need satisfaction-sex and sexual satisfaction, indicating the link between autonomous motives and sexual well-being was explained by greater sexual satisfaction and experiencing the activity as meeting one's needs. However, when these relationships were explored at the interaction level, autonomous motives not only predicted sexual well-being, but psychological well-being and relational quality as well. Again, experiencing more positive psychological well-being and relational quality was explained by getting one's needs met during sexual activity and experiencing sexual activity as rewarding and pleasurable. This finding was consistent with prior research, which demonstrated that freely engaging in sexual activity for enjoyment enhances both well-being and relational quality (e.g., Byers & Wang, 2004). Further, it follows that need satisfaction-sex was positively associated with outcomes because in the literature, need satisfaction has been associated with well-being (Reis et al., 2000; Sheldon et al., 1996) and relationship quality (La Guardia et al., 2000).

Controlling motives, by contrast, were negatively associated with all three outcome variables. In the questionnaire study, the association between controlling motives and psychological well-being was accounted for by need satisfaction-sex only, whereas the controlling motives → sexual well-being and the controlling motives → relational quality links were explained by both need satisfaction-sex and sexual satisfaction. In the diary study, both need satisfaction-sex and sexual satisfaction explain the association between controlling motives and outcomes. In other words, when individuals experienced higher pressure and external control to engage in sexual activity with their partners, they reported lower psychological well-being, viewed the sexual aspects of their lives less favorably, and reported lower relational quality. The association between controlling motives and less positive outcomes is explained by lower need satisfaction-sex and sexual satisfaction. Put another way, when sex is given out of obligation or

pressure, individuals report that their needs are less likely to be met and experience the activity as less sexually rewarding and satisfying. This, in turn, spills over into having less positive outcomes. These findings are supported by prior research which has indicated that when individuals are truly disinterested in having sex but agree to sexual activity anyway, they experience more negative emotions such as guilt (Byers & Wang, 2004).

In both studies, models were investigated with sexual satisfaction as an outcome variable and need satisfaction-sex and relational quality as mediators of the link between sexual motivation and sexual satisfaction. The positive link between autonomous motives and sexual satisfaction was mediated by both need satisfaction-sex and relational quality and the negative link between controlling motives and sexual satisfaction was also mediated by need satisfaction-sex and relational quality. In other words, when individuals engage in sexual activity out of interest or self-endorsed values, they are more likely to get their needs met and to experience higher relational quality. Further, consistent with prior research, need satisfaction-sex (e.g., Sanchez, Crocker, & Boike, 2005; Smith, 2007) and relational quality (e.g., Lawrance & Byers, 1992; 1995; Peck, 2004) spill over into feeling that the sexual interaction was rewarding and satisfying. When individuals engage in sexual activity due to pressure and control, they are less likely to get their needs met and experience lower relational quality, and this spills over into feeling that the sexual interaction was less rewarding and satisfying.

Gender Differences

An investigation of gender differences revealed that across studies, men reported more autonomous motives and more controlling motives as well. The consistency across studies implies that men, in general, are more motivated to engage in sexual activity with their romantic partners than women are. Further, the finding that men report higher controlling motives is

intriguing because it implies that even though men appear to have a higher sex drive than women do (Baumeister et al., 2001), they also experience significant pressure from external demands, such as the desire to prove their adequacy (Levant & Brooks, 1997), meeting partner demands, and trying to please the partner (Leigh, 1989). Although the finding that men endorse controlling motives was not entirely novel, a review of the existing literature on sex differences in sexual behavior implied that women would report the experience of pressure and control more than men would. Future research is needed to examine gender differences in autonomous and controlling motives for sexual activity among men and women to better understand this gender difference.

In the questionnaire study, men reported higher sexual well-being whereas women reported higher relational quality. However, in the interaction diary study, the link between sexual satisfaction and sexual well-being and the link between sexual satisfaction and relational quality were increased for men. In other words, higher sexual satisfaction and higher sexual well-being were evident for both men and women, but this association was stronger for men. Likewise, the association between having rewarding and satisfying sex and higher relational quality was evident for both men and women, but this link was stronger for men. Thus, sexual satisfaction in dating relationships has implications for how individuals feel about themselves and their relationships. Perhaps these links are stronger for men because men to be “in charge” of pursuing sex in the relationship (e.g., Byers & Heinlein, 1989; O’Sullivan & Byers, 1992).

Relationship Length

Relationship length was also explored as a predictor variable. Relationship length was not associated with any variables in the questionnaire study, but it was a significant predictor in the diary study. Relationship length was negatively associated with the link between sexual satisfaction and psychological well-being and the link between sexual satisfaction and sexual

well-being. In other words, the link between sexual satisfaction and well-being was increased for shorter relationships. Relationship length positively predicted the association between sexual satisfaction and relational quality, indicating that the link between sexual satisfaction and relational quality was increased for longer relationships. Perhaps sexual satisfaction is associated with higher well-being more strongly for shorter relationships because rewarding and satisfying sexual interactions with one's dating partner functions as a component of self-expansion, which is theorized to occur more rapidly in early stages of relationship development and has been found to be associated with higher psychological well-being (e.g., Aron, Paris, & Aron, 1995). The association between sexual satisfaction and relationship quality may be stronger for longer relationships because sex may function as a relationship maintenance mechanism for longer relationships. This finding is somewhat inconsistent with previous research, however, which indicated that sexual satisfaction accounted for more variance in relational quality in a dating sample than in a long-term cohabiting or married sample (Byers et al., 1998). Thus future research is needed to examine the role of relationship length in the understanding of sexual behavior in relationships.

Self-Determined Motivation and Sex Drive Motivation

One question that arises when investigating sexual motivation is what about the sex drive? More importantly, how does it fit in with self-determined motivation? In order to address this question, I included questions assessing the sex drive in both the questionnaire and the diary study. This enabled me to address both kinds of motivation simultaneously. In the questionnaire study, the sex drive composite, which reflected bodily urges to have sex, was *negatively* associated with outcomes whereas personal intrinsic motivation, which reflected viewing sex as fun and enjoyable, was positively associated with outcomes. In other words, a general tendency

to engage in sexual activity to release sexual tension is not about connecting with others. Therefore, it follows that generally experiencing sexual activity for this reason is related to lower need satisfaction-sex, sexual satisfaction, psychological well-being and relational quality. Although the items assessing personal intrinsic motivation did not have a relational component to them, wanting a fun and enjoyable experience probably implies sharing this fun and enjoyable experience with another person. When people talk about sexual desire, they usually have a target person in mind as in “I desired him/her.” Thus, it appears that general personal intrinsic motivation is about connecting with other people, and therefore associated with need satisfaction-sex, sexual satisfaction, and feeling good about the sexual aspects of one’s life.

Yet when the sex drive was investigated at the interaction level, it was positively associated with need satisfaction-sex, psychological and sexual well-being, and relational quality. This finding could have occurred for several reasons. First, motivation for a specific interaction is different than general motivation, and it is possible that individuals feel positively when they engage in specific sexual interactions due to the sex drive (because they may inadvertently get their needs met during the interaction, for example), but negatively when the general reason for engaging in sexual activity is due to the sex drive. However, this inconsistent finding across studies could also be due to accuracy in reporting. Reports in the diary study are expected to be more accurate because participants were responding to a specific situation, whereas in general questionnaire studies participants have to collapse across their experiences over time. It is possible that when participants responded to the items assessing the sex drive in the questionnaire study, they were selecting from a subset of experiences that were not entirely positive, and therefore sex drive motivation was negatively associated with evaluations of the sexual experience. Another possibility was that the item assessing the sex drive in the diary

functioned like the item assessing personal intrinsic motivation (diary items were correlated; $r = .61, p < .001$). That is, perhaps the item, “because I felt horny,” reflected sexual desire for one’s partner (i.e., personal intrinsic motivation) rather than having sex from sexual urges or sexual tension (i.e., the sex drive). If this were the case, it follows that sex drive motivation in the diary study was associated with more positive sexual experiences.

Limitations and Future Directions

One limitation is that questionnaire and diary data are correlational. It is possible, for example, that people with higher psychological well-being or relational quality behave in more self-determined ways. The model tested here was derived from theory, but experiments are needed in order to shed light on causal pathways. One possible experiment would be to provide participants with a scenario in which a target person is described as having autonomous motives or controlling motives for sexual activity. Participants could then complete questionnaires that assess the extent to which they believe the target would experience need satisfaction-sex, sexual satisfaction, and positive outcomes. This kind of experiment would lend some insight into the causal nature of sexual motivation.

A second limitation is that the samples investigated here raise a few concerns. First, the sample contained significantly more female participants than male participants. Although some gender differences were obtained in the data, it is possible that some findings concerning gender differences were null because the ratio of males to females was not balanced. However, although gender differences in sexuality are frequently discussed in the literature (see Oliver & Hyde, 1993), SDT does not make predictions between the sexes concerning the outcomes that are associated with sexual motivation. In other words, if a male or a female is intrinsically motivated to engage in sexual relations, the outcomes associated with this motivation are predicted to be the

same. A second concern comes from convenience sampling. Participants were recruited through a website and were compensated with research participant credit. For this reason, it is possible that those who decided to sign up for the present studies were those who a) had more liberal attitudes concerning sex, b) were more comfortable sharing their sexual experiences, and/or c) were more likely to be physically intimate than those in dating relationships who did not sign up to participate in the study. Despite this possible limitation, it remains likely that the experiences reported in these studies are no different from experiences among young adult dating couples in general. Finally, another limitation concerning the sample is that it is only generalizable to young adult dating relationships. Given that the mean age of respondents was about 19 in both samples, the findings here concerning sexual activity in dating relationships may not generalize to older dating couples (e.g., couples in their 30's). Again, despite this limitation, the Model of Self-Determined Sexual Motivation is theorized to generalize to older dating couples as well. Replicating the present studies with an older sample would lend support for the Model.

Future research is also needed to investigate the couple level of analysis. For example, perhaps variables such as need satisfaction-sex, sexual satisfaction, well-being, and relational quality may be a function of the *partner's* motivation. For example, a person may feel like their needs are getting met through sexual activity when they experience their partner's motivation for sex as a means of developing closeness and intimacy rather than as personal obligation.

Importantly, future research should compare dating couples and married couples. It is possible, for example, that sex in a relationship functions as relationship development in dating couples and as a relationship maintenance mechanism for married couples. Comparing dating and married samples is rare in relationships research, but research is needed to determine if experiences in relationships function the same way for both types of couples.

Finally, future research should investigate the role of individual differences in terms of sexual motivation in relationships. For example, when partners engage in mutually communal behaviors in their dating relationship, they report higher sexual satisfaction and relational satisfaction (Peck et al., 2004). Perhaps partners are more likely to engage in more self-determined sexual motivation and experience higher need satisfaction-sex when their dating relationships are characterized by mutually communal behaviors.

Likewise, partner autonomy support is another variable that could predict sexual motivation. That is, relationship partners can be responsive and encourage the other to be choiceful (i.e., autonomy supportive), or they can be more controlling. Previous research investigating friendships has found that receiving autonomy support predicted getting one's needs met in the friendship, relational quality, and psychological well-being (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006). Giving autonomy support was also associated with higher relational quality. Autonomy support is expected to be beneficial for a relationship because the individual feels that he/she is free to be him/herself (e.g., La Guardia, et al., 2000) and is more likely to be more autonomously motivated in the relationship (e.g., Blais et al., 1990), which, in turn, has been associated with higher need satisfaction-sex and more positive outcomes (Deci et al., 2006). Thus, additional research should investigate the role of autonomy support in sexual relationships. Perhaps when individuals receive autonomy support from their partners, they are more likely to behave more autonomously in the sexual relationship; partner autonomy support is likely to contribute to the experience of need satisfaction-sex and sexual satisfaction in the relationship.

Another variable that may also play a role in sexual activity is attachment style. Recent research (Birnbaum, 2007) revealed that attachment anxiety among women was related to

increased guilt about sexual activity, lower sexual satisfaction, lower intimacy during sexual activity, and feeling that the partner was less caring and responsive to one's needs during sexual activity. Further, sexual satisfaction mediated the association between attachment anxiety and relationship satisfaction. Women who reported higher attachment avoidance, by contrast, reported less intimacy during sexual activity, felt that sex was less likely to promote closeness and intimacy, and were less likely to feel that their partners were caring and responsive to their needs. It is possible that one's motives for engaging in sexual activity explain these findings. For example, it is possible that anxious-ambivalent partners are more likely to engage in sexual activity out of fear of losing the partner, whereas secure lovers are more likely to engage in sexual activity to connect with the partner. Avoidant lovers may be more likely to engage in sexual activity as a means of self-gratification rather than as a way of developing closeness and intimacy. Thus, the Model of Self-Determined Sexual Motivation may be useful for understanding the role of romantic attachment in sexual functioning.

Conclusion

The present set of studies supports the notion that sexuality is a central aspect of romantic relationships. When individuals are self-determined with respect to engaging in sexual activity with their partners, they also experience sexual activity more positively, which appears to have consequences for one's personal and relational outcomes.

Sexual behaviors were examined using an interaction diary technique which enables the investigation of the quantity and the quality of specific kinds of interactions, and how these interactions are associated with outcomes. Such investigations are rarely done (see Smith, 2007 for an exception) but are sorely needed in the sexuality literature to better understand day-to-day sexual experiences.

Finally, sexuality research has been criticized as lacking a theoretical context (i.e., Baumeister & Tice, 2001; Weis, 1998). The advantage of the present studies is that it incorporated a rich theoretical context for understanding sexual motivation in relationships. Further the studies presented here provide additional support for Deci and Ryan's (1985; 2000; Ryan & Deci, 2002) Self-Determination Theory by demonstrating that self-determined behaviors apply to a variety of social contexts, such as sexual relationships. Additional research incorporating a Self-Determination Theory framework for understanding sexual relationships is needed in the sexuality literature.

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APPENDIX A

Perceived Locus of Causality for Sex Scale (PLOC-S)

People usually have many different reasons for engaging in sexual activity. Listed below are several statements that describe reasons you might have engage in sexual activity. For this task, we would like you to think about why you generally engage in sexual activity with your partner. Use the scale below to indicate the extent to which each of the following statements reflects why you have sex with your partner. Please use the following scale:

0	1	2	3	4
Not at all for this reason	A little for this reason	Somewhat for this reason	Quite a bit for this reason	Very much for this reason

I engage in sexual activity...

- _____ 1. Because I expect it to be interesting and exciting.
- _____ 2. For the pleasure of sharing a special and intimate experience.
- _____ 3. Because I value sex as part of a full life.
- _____ 4. Because my sex drive is high, and I feel like I need to have sex.
- _____ 5. Because I feel pressured by my partner to have sex.
- _____ 6. Because I want sex to be a celebration of the feelings between my partner and me.
- _____ 7. Because I expect the pleasure of physical satisfaction.
- _____ 8. Because I think my partner will like me better, or be happier with me.
- _____ 9. Because I want to feel more powerful or dominant.
- _____ 10. Because I think it feels good.
- _____ 11. Because I feel it is exciting to be sexually intimate with my partner.
- _____ 12. But I do not feel like I am in control of my own behavior.
- _____ 13. Because I feel it is stimulating and enjoyable.
- _____ 14. Because my body aches to have sex.
- _____ 15. Because I feel anxious or guilty if I don't go along.
- _____ 16. Because it helps me relax or get to sleep.
- _____ 17. Because sex is an important part of my relationship.
- _____ 18. Because I don't want to say no to my partner.
- _____ 19. Because I expect a satisfyingly deep connection with my partner during sex.
- _____ 20. Because I need to relieve myself of the tension and stress of the day.
- _____ 21. Because I see sex as a healthy activity.
- _____ 22. Because I want to enjoy the physical sensations.
- _____ 23. Because I want to show that I am capable of performing.
- _____ 24. Because I enjoy knowing and loving my partner this way.
- _____ 25. Because I see sex as an important part of who I am.
- _____ 26. Because I worry I will be punished or neglected by my partner if I don't.
- _____ 27. Because I feel driven to have sex.
- _____ 28. Because the proposition makes me feel more attractive.
- _____ 29. Because I want a fun experience.
- _____ 30. Because I think having sex will get me something I want later.
- _____ 31. But I don't know why. It just happens.

- _____ 32. Because I want to share a mutually pleasurable activity with my partner.
- _____ 33. Because I think it is a healthy aspect of my relationship.
- _____ 34. Because I want another person to be under my control.
- _____ 35. Because I think sex is an enjoyable way to share our feelings.
- _____ 36. Because I worry my partner might leave or reject me if I don't have sex.
- _____ 37. Because I would feel bad to withhold from my partner.
- _____ 38. Because I want to enjoy being close to my partner.
- _____ 39. Because I need to orgasm.
- _____ 40. Because I enjoy being sexual.
- _____ 41. Because I value sex as an important part of maintaining a good relationship.
- _____ 42. Because I think my partner will treat me better afterward.
- _____ 43. Because I want to enjoy the closeness of being physically joined with my partner.
- _____ 44. Because I think sex makes me feel better about myself.
- _____ 45. Because I want to show how good I am in bed.
- _____ 46. Because I think saying no will start a conflict with my partner.
- _____ 47. Because alcohol makes me lose control.
- _____ 48. Because I think sex will make me feel more secure.
- _____ 49. Because I value how sex can bring me closer to another person.
- _____ 50. Because my sexual desire is high.
- _____ 51. Because I need to relieve myself of sexual tension.
- _____ 52. But I have no idea why I have sex.

Subscales

Personal Intrinsic Motivation: Sex is fun and enjoyable.

- 1. Because I expect it to be interesting and exciting.
- 7. Because I expect the pleasure of physical satisfaction.
- 10. Because I think it feels good.
- 13. Because I feel it is stimulating and enjoyable.
- 22. Because I want to enjoy the physical sensations.
- 29. Because I want a fun experience.
- 40. Because I enjoy being sexual.
- 50. Because my sexual desire is high.

Relational Intrinsic Motivation: The intimacy of sex is fun and enjoyable.

- 2. For the pleasure of sharing a special and intimate experience.
- 6. Because I want sex to be a celebration of the feelings between my partner and me.
- 11. Because I feel it is exciting to be sexually intimate with my partner.
- 19. Because I expect a satisfyingly deep connection with my partner during sex.
- 24. Because I enjoy knowing and loving my partner this way.
- 32. Because I want to share a mutually pleasurable activity with my partner.
- 35. Because I think sex is an enjoyable way to share our feelings.
- 38. Because I want to enjoy being close to my partner.
- 43. Because I want to enjoy the closeness of being physically joined with my partner.
- 49. Because I value how sex can bring me closer to another person.

Identified Regulation: Sex is a valuable activity or part of a larger scheme of values.

- 3. Because I value sex as part of a full life.
- 17. Because sex is an important part of my relationship.
- 21. Because I see sex as a healthy activity.
- 25. Because I see sex as an important part of who I am.
- 33. Because I think it is a healthy aspect of my relationship.
- 41. Because I value sex as an important part of maintaining a good relationship.

Introjected Regulation: Motivated by guilt, shame, anxiety, pride, or grandiosity.

- 8. Because I think my partner will like me better, or be happier with me.
- 9. Because I want to feel more powerful or dominant.
- 15. Because I feel anxious or guilty if I don't go along.
- 18. Because I don't want to say no to my partner.
- 23. Because I wanted to show that I was capable of performing.
- 28. Because the proposition makes me feel more attractive.
- 34. Because I want another person to be under my control.
- 37. Because I would feel bad to withhold from my partner.
- 44. Because I think sex makes me feel better about myself.
- 45. Because I want to show how good I am in bed.
- 48. Because I think sex will make me feel more secure.

Extrinsic Regulation: Motivated by desire for rewards or fear of punishment

- 5. Because I feel pressured by my partner to have sex.
- 16. Because it helps me relax or get to sleep.
- 26. Because I worry I will be punished or neglected by my partner if I don't.
- 30. Because I think having sex will get me something I want later.
- 36. Because I worry my partner might leave or reject me if I don't have sex.
- 42. Because I think my partner will treat me better afterward.
- 46. Because I think saying no will start a conflict with my partner.

Amotivation: No autonomy of sexual engagement.

- 12. I do not feel like I am in control of my own behavior.
- 31. But I don't know why. It just happens.
- 47. Because alcohol makes me lose control.
- 52. But I have no idea why I have sex.

Drive Motivation: Compelled by urges in the body.

- 4. Because my sex drive is high, and I feel like I need to have sex.
- 14. Because my body aches to have sex.
- 20. Because I need to relieve myself of the tension and stress of the day.
- 27. Because I feel driven to have sex.
- 39. Because I need to orgasm.
- 51. Because I need to relieve myself of sexual tension.

APPENDIX B:

Interpersonal Exchange Model of Sexual Satisfaction Questionnaire (IEMSS)

On the next few pages are some questions about your SEXUAL relationship with your partner. Before answering them, it is important that you carefully read the information on this page.

Think about your *job*.

If you're like most people, you can give concrete examples of positive, pleasing things you like about your job. These are "*rewards*."

Most people can also give concrete examples of negative, displeasing things they don't like about their job. These are "*costs*."

Below are some rewards and costs that could be associated with a job.

- rate of pay
- level of responsibility
- interactions with your boss
- the hour at which you start work
- opportunity for advancement

"Rate of pay" would be a reward if you felt that you were being *paid well* ... but it would be a *cost* if you felt that you were being *underpaid*.

"Level of responsibility" would be a reward if you had *just enough* responsibility at work ... but it would be a cost if you had either *too much* or *too little* responsibility.

"Interactions with your boss" would be neither a reward nor a cost if you really didn't interact much with your boss.

"The hour you start work" would be both a reward and a cost if you liked starting work at that time, but disliked the rush-hour traffic at that time.

Now, instead of thinking about your job, *think about the reward and costs associated with your sexual relationship with your partner*, and answer the questions below.

Remember, things that are positive, pleasing, "*just right*", are *rewards*. Things that are negative, displeasing, "*too little/too much*," are *costs*.

6. How does the level of *costs* that you incur in your sexual relationship with your partner compare to the level of costs that your partner seems to incur in the relationship? (Circle a number)

My costs are much higher							Partner's costs are much higher
1	2	3	4	5	6	7	8 9

7. Overall, how would you describe your sexual relationship with your partner? For each pair of words, circle the number which best describes your sexual relationship.

Very good							Very bad
7	6	5	4	3	2		1
Very pleasant							Very unpleasant
7	6	5	4	3	2		1
Very positive							Very negative
7	6	5	4	3	2		1
Very satisfying							Very unsatisfying
7	6	5	4	3	2		1
Very valuable							Worthless
7	6	5	4	3	2		1

APPENDIX C

Need Satisfaction during Sexual Activity Scale

Please respond to each statement by indicating how true it is for you. Use the following scale.

1	2	3	4	5	6	7
not at all			somewhat			very
true			true			true

When I engage in sexual activity with my partner...

- _____ 1. I feel free to be who I am.
- _____ 2. I feel like a competent person.
- _____ 3. I feel loved and cared about.
- _____ 4. I feel inadequate or incompetent.
- _____ 5. I feel I have a say in what happens.
- _____ 6. I feel a lot of distance from my partner.
- _____ 7. I feel very capable and effective.
- _____ 8. I feel a lot of closeness and intimacy.
- _____ 9. I feel controlled and pressured to be certain ways.

Scoring Information

The subscales are:

Autonomy: 1, 5, 9(R)

Competence: 2, 4(R), 7

Relatedness: 3, 6(R), 8

APPENDIX D

Rosenberg Self-Esteem Scale

Please indicate the degree of your agreement or disagreement with each of the 10 statements listed below. You should indicate your agreement or disagreement by placing a number in the blank space preceding each statement. The number should be anywhere from 1 to 9, according to the following scale:

- 1 = strong disagreement**
2 = disagreement
3 = neither agreement nor disagreement
4 = agreement
5 = strong agreement

1. ____ I feel that I'm a person of worth, at least on an equal basis with others.
2. ____ I feel that I have a number of good qualities.
3. ____ All in all, I am inclined to feel that I am a failure.
4. ____ I am able to do things as well as most other people.
5. ____ I feel I do not have much to be proud of.
6. ____ I take a positive attitude toward myself.
7. ____ On the whole, I am satisfied with myself.
8. ____ I wish I could have more respect for myself.
9. ____ I certainly feel useless at times.
10. ____ At times I think I am no good at all.

APPENDIX F

Life Satisfaction Scale

Please indicate how well each statement describes how you feel about your life in general.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

___ 1. In most ways, my life is close to my ideal.

___ 2. The conditions of my life are excellent.

___ 3. I am satisfied with my life.

___ 4. If I could live my life over, I would change almost nothing.

___ 5. So far, I have gotten the important things I want in life.

___ 6. At present, I am completely satisfied with my life.

___ 7. In the near future, a lot of things will have to change before I feel satisfied with my life.

APPENDIX G

Vitality Scale

Please respond to each of the following statements by indicating the degree to which the statement is true for you in general in your life. Use the following scale:

1	2	3	4	5	6	7
Not at all			Somewhat			Very True
True			True			

- _____ 1. I feel alive and vital.
- _____ 2. I don't feel very energetic.
- _____ 3. Sometimes I feel so alive I just want to burst.
- _____ 4. I have energy and spirit.
- _____ 5. I look forward to each new day.
- _____ 6. I nearly always feel alert and awake.
- _____ 7. I feel energized.

APPENDIX H

Sexual Life Satisfaction Scale

Please indicate how well each statement describes how you feel about your sex life in general.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

___ 1. In most ways, my sex life is close to my ideal.

___ 2. The conditions of my sex life are excellent.

___ 3. I am satisfied with my sex life.

___ 4. If I could live my sex life over, I would change almost nothing.

___ 5. So far, I have gotten the important things I want in my sex life.

___ 6. At present, I am completely satisfied with my sex life.

___ 7. In the near future, a lot of things will have to change before I feel satisfied with my sex life.

APPENDIX I

Sexuality Scale

Please use the following scale to indicate the extent to which you agree or disagree with each statement below:

-2	-1	0	1	2
Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree

- _____ 1. I am a good sexual partner.
- _____ 2. I feel sad when I think about my sexual experiences.
- _____ 3. Thinking about sex makes me happy.
- _____ 4. I would rate my sexual skill quite highly.
- _____ 5. I feel unhappy about my sexual relationships.
- _____ 6. I am better at sex than most other people.
- _____ 7. I feel pleased with my sex life.
- _____ 8. I derive pleasure and enjoyment from sex.
- _____ 9. I sometimes have doubts about my sexual competence.
- _____ 10. I am not very confident in sexual encounters.
- _____ 11. I feel good about my sexuality.
- _____ 12. I think of myself as a very good sexual partner.
- _____ 13. I am disappointed about the quality of my sex life.
- _____ 14. I am not discouraged about sex.
- _____ 15. I would rate myself low as a sexual partner.
- _____ 16. I am confident about myself as a sexual partner.
- _____ 17. I feel down about my sex life.
- _____ 18. I am not very confident about my sexual skill.
- _____ 19. I sometimes doubt my sexual competence.
- _____ 20. I am depressed about the sexual aspects of my life.

Sexual Esteem Items

- 1. I am a good sexual partner.
- 4. I would rate my sexual skill quite highly.
- 6. I am better at sex than most other people.
- 9. I sometimes have doubts about my sexual competence. (R)
- 10. I am not very confident in sexual encounters. (R)
- 12. I think of myself as a very good sexual partner.
- 15. I would rate myself low as a sexual partner. (R)
- 16. I am confident about myself as a sexual partner.
- 18. I am not very confident about my sexual skill. (R)
- 19. I sometimes doubt my sexual competence. (R)

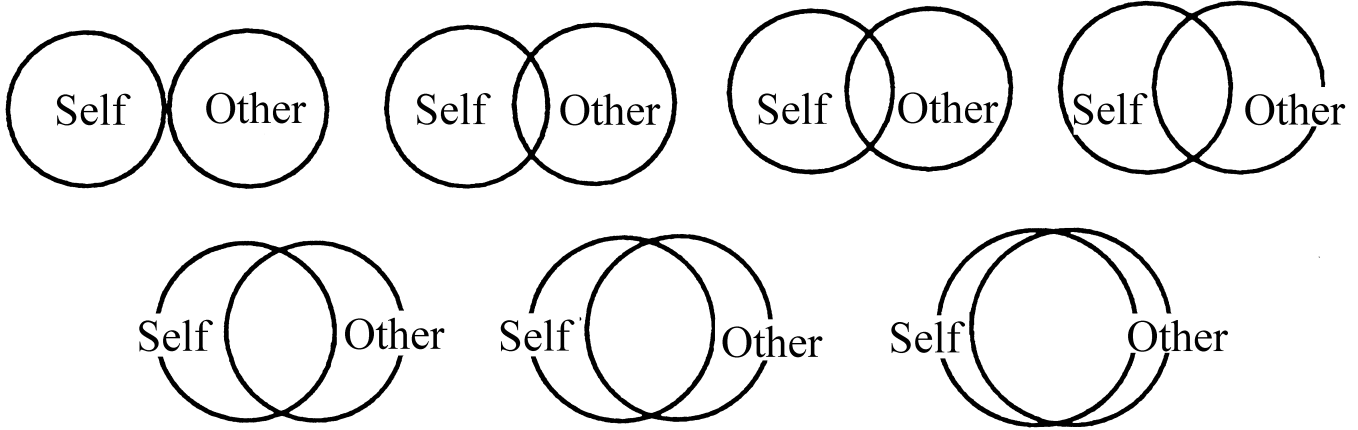
Sexual Depression Items

- 2. I feel sad when I think about my sexual experiences.
- 3. Thinking about sex makes me happy. (Filler item)
- 5. I feel unhappy about my sexual relationships.
- 7. I feel pleased with my sex life. (R)
- 8. I derive pleasure and enjoyment from sex. (Filler item)
- 11. I feel good about my sexuality. (R)
- 13. I am disappointed about the quality of my sex life.
- 14. I am not discouraged about sex. (R)
- 17. I feel down about my sex life.
- 20. I am depressed about the sexual aspects of my life.

APPENDIX J

Inclusion of Other in the Self Scale

Please circle the picture below that best describes your current relationship with your partner.



APPENDIX K

Dyadic Adjustment Scale

Attitudes About My Relationship

Most people have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
1. Matters of recreation & leisure	_____	_____	_____	_____	_____	_____
2. Religious matters	_____	_____	_____	_____	_____	_____
3. Demonstrations of affection	_____	_____	_____	_____	_____	_____
4. Friends	_____	_____	_____	_____	_____	_____
5. Sex relations	_____	_____	_____	_____	_____	_____
6. Conventionality (proper behavior)	_____	_____	_____	_____	_____	_____
7. Philosophy of life	_____	_____	_____	_____	_____	_____
8. Ways of dealing with parents or families	_____	_____	_____	_____	_____	_____
9. Whether to marry	_____	_____	_____	_____	_____	_____
10. Aims, goals, things believed important	_____	_____	_____	_____	_____	_____
11. Amount of time spent together	_____	_____	_____	_____	_____	_____
12. Making major decisions	_____	_____	_____	_____	_____	_____
13. Career and/or graduate school decisions	_____	_____	_____	_____	_____	_____

	All the Time	Most of the Time	More Often than Not	Occasionally	Rarely	Never
1. How often do you discuss or have you considered ending your relationship?	_____	_____	_____	_____	_____	_____
2. How often do you or your partner leave the room after a fight (walk away from the issue/partner)?	_____	_____	_____	_____	_____	_____
3. How often do you think things are going well between you and your partner?	_____	_____	_____	_____	_____	_____
4. Do you confide in your partner?	_____	_____	_____	_____	_____	_____
5. Do you ever regret that you became involved with your partner?	_____	_____	_____	_____	_____	_____
6. How often do you quarrel?	_____	_____	_____	_____	_____	_____
7. How often do you "get on each other's nerves?"	_____	_____	_____	_____	_____	_____

How often do you and your partner. . .

	Never	Less Than Once a Month	Once or Twice a Month	Once or Twice a Week	Once a Day	More Often
1. Have a stimulating exchange of ideas	_____	_____	_____	_____	_____	_____
2. Laugh together	_____	_____	_____	_____	_____	_____
3. Calmly discuss something	_____	_____	_____	_____	_____	_____
4. Work together on a project	_____	_____	_____	_____	_____	_____

	Everyday	Almost Everyday	Occasionally	Rarely	Never
Do you kiss your partner?	_____	_____	_____	_____	_____

	All of Them	Most of Them	Some of Them	Few of Them	None of Them
Do you and your partner engage in outside interests together?	_____	_____	_____	_____	_____

There are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (circle yes or no)

Yes	No	Being too tired for affection (physical or verbal)
Yes	No	Not showing love

The dots on the following line represent different degrees of happiness in your relationship. The middle point “happy” represents the degree of happiness of most relationships. Please circle the dot that best describes the degree of happiness – all things considered – of your relationship.

0	0	0	0	0	0	0
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

Which of the following statements best describes how you feel about the future of your relationship?

- _____ I want desperately for my relationship to succeed, and would go to almost any length to see that it does.
- _____ I want very much for my relationship to succeed, and will do all I can to see that it does.
- _____ I want very much for my relationship to succeed, and will do my fair share to see that it does.
- _____ It would be nice if my relationship succeeded, but I can’t do much more than I am doing now to help it succeed.
- _____ My relationship can never succeed, and there is no more that I can do to keep the relationship going.

APPENDIX L

The Global Measure of Sexual Satisfaction

In general, how would you describe your *overall* relationship with your partner? For *each* pair of words below, circle the number which best describes your relationship, as a whole.

Very good							Very bad
7	6	5	4	3	2	1	
Very pleasant							Very unpleasant
7	6	5	4	3	2	1	
Very positive							Very negative
7	6	5	4	3	2	1	
Very satisfying							Very unsatisfying
7	6	5	4	3	2	1	
Very valuable							Worthless
7	6	5	4	3	2	1	

APPENDIX M

Commitment and Satisfaction Measures

Describing My Relationship COMMITMENT AND SATISFACTION

0 1 2 3 4 5 6 7 8
Do Not Agree *Agree*
At All *Somewhat* *Completely*

My Commitment to my Relationship

- _____ 1. I want our relationship to last a very long time.
- _____ 2. I am committed to maintaining my relationship with my partner.
- _____ 3. I would feel very upset if our relationship were to end in the near future.
- _____ 4. It is likely that I will date someone other than my partner within the next year.
- _____ 5. I feel very attached to our relationship – very strongly linked to my partner.
- _____ 6. I want our relationship to last forever.
- _____ 7. I am oriented toward the long-term future of my relationship (for example, I imagine being with my partner several years from now).

My Feelings About My Relationship

- _____ 1. I feel satisfied with our relationship.
- _____ 2. My relationship is much better than others' relationships.
- _____ 3. My relationship is close to ideal.
- _____ 4. Our relationship makes me very happy.
- _____ 5. Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.

APPENDIX N

Demographic Questionnaire

- 1) What is your sex (please check one)?:
 Male Female
- 2) What is your age (please fill in)?: _____
- 3) What is your race (please check one)?:
 African American Asian American Caucasian
 Hispanic Native American Other (specify)
- 4) What is the status of your relationship (check one)?:
 Friendship Dating Casually Dating Regularly
 Dating steadily Engaged or married Other (specify: _____)
- 5) For how long have you been involved with your partner (please fill in)?:
 Years and Months
- 6) How exclusive is your relationship (please check one)?:
 Neither I nor my partner date others
 My partner dates others but I do not
 I date others but my partner does not
 Both my partner and I date others
- 7) About how many days per month do you see your partner, on average (please fill in)?:
 Days per month, on average
- 8) Do you and your partner live within 75 miles of each other (please check one)?:
 Yes (within 75 miles) No (not within 75 miles)
- 9) In the last month, how often have you and your partner engaged in sexual activities (of any type) with each other? (Circle one)
 1. rarely, or never
 2. once a month
 3. 2 or 3 times a month
 4. once or twice a week
 5. 3 or 5 times a week
 6. once a day, or more

APPENDIX O

Interaction Diary Form

ID: _____

1. When did the interaction occur? Date: _____ Time: _____

2. Initials of interaction partner: _____

3. About how long did this interaction last? _____ hrs _____ min

4. Who initiated, or started, this interaction?

- a. I did. b. My partner did.
c. We both did. d. Not sure

5. What behaviors were engaged in? (Please circle all that apply)

- a. Kissing b. "Making out" above the waist
c. "Making out" below the waist d. Gave oral sex
e. Received oral sex f. Had vaginal sex
g. Had anal sex

6. Did you have at least one orgasm?

- a. Yes b. No c. Not sure/Don't know

7. Did your partner have at least one orgasm?

- a. Yes b. No c. Not sure/Don't know

For #8 and #9, please use the following scale to rate the extent that you agree or disagree with each statement below.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree

8. Why did you engage in this intimate interaction?

- _____ a. Because I wanted to have an intimate experience/feel close to my partner.
_____ b. Because I felt pressured by my partner/thought saying no would start a conflict.
_____ c. Because I thought my partner would like me better, or be happier with me.
_____ d. Because I desired sex/thought it would feel good
_____ e. Because I valued it as an important part/healthy aspect of my relationship
_____ f. Because I worried I would be punished/left by my partner if I didn't.
_____ g. I wasn't in control/it just happened.
_____ h. Because I thought sex would make me feel better about myself
_____ i. Because I felt horny
_____ j. Other (Please describe) _____

9. During the interaction I felt...

- _____. Choiceful
- _____. Competent
- _____. Connected to my partner
- _____. A lot of closeness and intimacy
- _____. My feelings and wishes were respected
- _____. Inadequate

For items #10-17, please circle the number that corresponds to your answer.

10. How rewarding was your interaction with your partner?

Not at all Extremely
rewarding 1 2 3 4 5 rewarding

11. Based on your own expectation about how rewarding your interactions with your partner “should be,” how did your level of rewards compare to that expectation?

Much less Much more
rewarding 1 2 3 4 5 rewarding

12. How did the level of rewards that you got from your interaction with your partner compare to the level of rewards that your partner seemed to get?

My rewards Partner’s rewards
were much were much
higher 1 2 3 4 5 higher

13. How costly was your interaction with your partner?

Not at all Extremely
costly 1 2 3 4 5 costly

14. Based on your own expectation about how costly your interactions with your partner “should be,” how did your level of rewards compare to that expectation?

Much less Much more
costly 1 2 3 4 5 costly

15. How did the level of costs that you got from your interaction with your partner compare to the level of costs that your partner seemed to get?

My costs Partner’s costs
were much were much
higher 1 2 3 4 5 higher

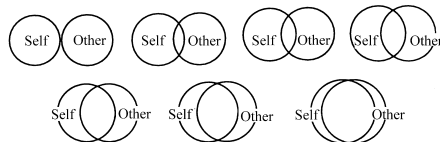
16. How would you describe your interaction with your partner?

Very good	1	2	3	4	5	Very bad
Very pleasant	1	2	3	4	5	Very unpleasant
Very positive	1	2	3	4	5	Very negative
Very satisfying	1	2	3	4	5	Very unsatisfying
Very valuable	1	2	3	4	5	Worthless

17. How would you describe your relationship with your partner right now?

Very good	1	2	3	4	5	Very bad
Very pleasant	1	2	3	4	5	Very unpleasant
Very positive	1	2	3	4	5	Very negative
Very satisfying	1	2	3	4	5	Very unsatisfying
Very valuable	1	2	3	4	5	Worthless

18. Please circle the picture below that best describes your relationship with your partner right now.



Please use the following scale to answer questions #19-24 below.

1	2	3	4	5
Strongly Disagree		Neither Agree Nor Disagree		Strongly Agree

_____ 19. Right now I take a positive attitude toward myself.

_____ 20. Right now I have high self-esteem.

_____ 21. Right now I feel committed to my partner.

_____ 22. Right now I feel like I am a good sexual partner.

_____ 23. Right now I feel pleased with my sex life.

_____ 24. Right now, the conditions of my life are excellent