

Towards an Understanding of Sexual Desire Discrepancy in Couples

by

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### Author's Declaration

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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## Statement of Contributions

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## Abstract

Sexual desire is deeply embedded in interpersonal relationships and cannot be fully understood outside of this context. As such, research that focuses on sexual desire problems at the level of the couple is critical for more fully understanding the nature and consequences of such difficulties. In this research, I focus on one interpersonal aspect of desire termed sexual desire discrepancy, or the difference between two romantic partners' sexual desire levels. Given that desire levels tend to fluctuate over time, discrepancies in sexual desire are an inevitable feature of sexual relationships. However, we know little about how such desire discrepancies relate to sexual outcomes for couples. Past studies that have examined the association between sexual desire discrepancy and sexual satisfaction in college/university samples have had inconsistent findings. Also, the results may not generalize to more established romantic relationships. The current study compared two different conceptualizations of sexual desire discrepancy; perceived sexual desire discrepancy was assessed by asking a participant to subjectively compare his/her own level of sexual desire to that of his/her partner. Actual desire discrepancy was computed by subtracting the female partner's score on a self-report measure of sexual desire from the male partner's score on the same measure. In Sample 1, I examined the relationship between actual sexual desire discrepancy and sexual satisfaction for 82 couples in committed, long-term relationships. In Sample 2, I investigated the association between perceived sexual desire discrepancy and sexual satisfaction for 191 individuals in committed, long-term relationships. Results showed that higher perceived, but not actual, desire discrepancy was associated with lower sexual satisfaction. Additionally, I found that perceived desire discrepancy outcomes differed when measured using different

response scales. Findings highlight methodological issues to consider when measuring sexual desire discrepancy and extend the literature by showing that perceived sexual desire discrepancy is associated with sexual satisfaction for couples in committed, long-term relationships. Limitations of the current study and implications for future research are discussed.

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## Table of Contents

Author’s Declaration.....	ii
Statement of Contributions.....	iii
Abstract.....	iv
Acknowledgements.....	vi
List of Figures.....	ix
List of Tables.....	x
General Introduction.....	1
Defining Sexual Desire.....	2
Sexual Desire and Relationship Dynamics.....	3
Sexual Desire and the Relationship Cycle.....	5
Sexual Desire and Attachment Style.....	8
Gender Differences in Sexual Desire.....	10
Sexual Desire Discrepancies Between Partners.....	13
Introduction to the Current Study.....	16
Method.....	22
Participants.....	22
Measures.....	24
Procedure.....	26
Results.....	27
Descriptive Statistics for Actual Desire Discrepancy.....	27
Descriptive Statistics for Perceived Desire Discrepancy.....	28
Actual Desire Discrepancy and Sexual Satisfaction.....	30
Perceived Desire Discrepancy and Sexual Satisfaction.....	31
Discussion.....	37

References .....	44
Appendix A .....	53
Appendix B .....	54
Appendix C .....	55

## List of Figures

Figure 1. Scatter plot of Item 3 perceived sexual desire discrepancy and GMSEX sexual satisfaction scores.....	36
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## List of Tables

Table 1. Results for Item 1.....	35
Table 2. Results for Item 2.....	35
Table 3. Results for Item 3.....	35

## General Introduction

At its core, sexual desire is a fundamentally interpersonal process (Fish, Busby, & Killian, 1994). As French philosopher Jean-Paul Sartre (1966) asserts in his work, *Being and Nothingness*, sexual desire involves a hunger for another and is ideally fulfilled through reciprocal relations with that person. Research shows that both men and women view sexual desire in relational terms. In particular, one study showed that men experience sexual desire as a wish to please and be pleased by a partner, while women experience desire as a longing for relational intimacy (Mark, Herbenick, Fortenberry, Sanders, & Reece, 2014). While sexual desire can also be a solitary or spontaneous feeling, it is generally triggered by an interpersonal stimulus (e.g., a memory of previous sexual experiences or thoughts of an attractive person; Regan & Berscheid, 1996). Thus, sexual desire is “inextricably woven into the fabric of the relationship” (Stuart, Hammond, and Pett, 1987, pg. 93) and cannot be fully understood devoid of this context.

With growing interest in understanding the interpersonal context of desire, there has been an increasing focus on examining how differences between romantic partners’ levels of sexual desire influence relationship and sexual outcomes (Byers & Rehman, 2014). In the current study, I investigate how such differences in sexual desire, termed sexual desire discrepancy, influence sexual satisfaction. Before discussing the specifics of this research, however, it is necessary to define the current conceptualization of sexual desire and to more fully describe the intricacies of sexual desire in the interpersonal realm. To do this, I review the literature on: (a) the association between sexual desire and relationship and sexual satisfaction; (b) how desire changes over the course of a romantic relationship; (c) attachment style as a theoretical framework for understanding how

relationship context influences desire; and (d) gender differences in sexual desire. I conclude by examining past work on the construct of central importance to my research, sexual desire discrepancy.

### **Defining Sexual Desire**

The relational nature of sexual desire makes it inherently complex. Like the associated (yet distinct) construct of romantic love, sexual desire is notoriously difficult to define (Levine, 2003) in part because feelings of sexual desire involve an elaborate interplay of psychological processes, previous experiences, external cues, and interpersonal dynamics. This said, sexuality scholars suggest that sexual desire is made up of two distinct components: biological drive and psychological motivation (Levine, 2003). Biological drive is the physiological aspect of desire that is generally associated with hormonal fluctuations (Fisher, 1998). While this drive is consistently linked to testosterone in men, research on the association between hormones and female desire has been inconsistent (Basson, 2000; Brotto, Petkau, Labrie, & Basson, 2011), leading some researchers to postulate that female sexual desire may not relate significantly to specific hormones (Regan, 1996). Others argue, however, that estrogen is associated with enhanced sexual desire in women (e.g., Cappelletti & Wallen, 2016). The second component of sexual desire, psychological motivation, pertains to subjective urges or cravings for sexual activity. The motivation to pursue sexual activity is determined by both intrapsychic factors, including stress levels, psychopathology, and attachment style, as well as interpersonal factors, which include relationship conflict and relationship stage (Basson, 2001; Brezsnyak & Whisman, 2004). With these concepts in mind, in this research sexual desire is defined as having an interest in sexual activity that leads the

individual to seek out sexual activity and/or be pleurably receptive to a partner's initiation (Basson, 2008).

### **Sexual Desire and Relationship Dynamics**

One relationship dynamic that is receiving increasing attention in the sexual desire literature is intimacy, or feelings of deep connection and closeness between partners (Acker & Davis, 1992). Mixed theories on how intimacy relates to sexual desire have sparked interest in the empirical investigation of this construct. On the one hand, some researchers suggest that feelings of sexual desire require an element of psychological distance between partners and that reductions in sexual desire throughout the course of a relationship may be explained by increased intimacy (e.g., Ferreira, Narciso, & Novo, 2012; Štulhofer, Ferreira, & Landripet, 2014). In contrast, others hypothesize that intimacy serves to enhance sexual desire by increasing feelings of warmth and openness between partners (e.g., Birnbaum & Reis, 2012; Levine, 2003). The empirical research has largely supported the latter claim. For example, Birnbaum, Cohen, and Wertheimer (2007) found that the relationship between aging and low sexual desire among middle-aged women is mediated by decreases in relational intimacy. With regards to male sexual desire, Štulhofer and colleagues (2014) found a strong positive relationship between desire and intimacy such that men with high levels of intimacy with their partners report greater sexual desire. Notably, this research was correlational in nature and, thus, the authors make no claims as to the directionality of this relationship. Nonetheless, the research shows that intimacy in close relationships is associated with enhanced experiences of sexual desire for both men and women.

Another relational factor that plays a prominent role in the experience of sexual

desire is satisfaction with sexual and non-sexual aspects of one's relationship, referred to as sexual and relationship satisfaction, respectively. With respect to relationship adjustment, studies have shown a consistent link between relationship satisfaction and sexual desire (Brezsnyak & Whisman, 2004; Impett, Strachman, Finkel, & Gable, 2008; Trudel, Landry, & Larose, 1997). Though this research is also correlational and causality cannot be assumed, scholars hypothesize that the direction of the effect operates such that problems in the relationship may detract from the desire to engage sexually with one's partner. For example, among those with low relationship satisfaction, withholding sex may be used by one partner as a means to "punish" the other for perceived missteps or may serve as a form of withdrawal and avoidance (Brezsnyak & Whisman, 2004). Though these ideas make intuitive sense, the mechanisms connecting sexual desire and relationship outcomes require further empirical investigation.

Perhaps unsurprisingly, sexual desire and sexual satisfaction are also closely linked constructs (Dosch, Rochat, Ghisletta, Favez, & Linden, 2015). Research suggests that sexual desire and satisfaction with the sexual relationship are positively associated, with increases in one corresponding to increases in the other (Birnbaum, et al., 2007). Štulhofer and colleagues (2014) have shown that higher sexual desire not only predicts increases in one's own sexual satisfaction, but also predicts increases in estimates of one's partner's sexual satisfaction. Sexual satisfaction also appears to mediate the relationship between sexual desire and other aspects of overall well-being. For instance, a study examining sexual desire in aging populations found that low sexual satisfaction explained the relationship between low sexual desire and diminished quality of life (Chao et al., 2011). Conversely, given that women's sexual responses are strongly linked to

satisfaction with the marital relationship, others have suggested that women's sexual satisfaction has an indirect relationship with sexual desire, which is mediated by overall marital satisfaction (Apt, Hurlbert, Pierce, & White, 1996). Taken together, empirical research shows that several facets of romantic relationships are associated with sexual desire among couples.

### **Sexual Desire and the Relationship Cycle**

Stage of relationship is a strong predictor of sexual desire levels among couples in long-term romantic relationships (Levine, 2002; Murray & Milhausen, 2012). As couples grow and change, so too does the relationship context and such changes can have profound implications for sexual desire outcomes. According to Levine (2003), individuals in romantic relationships may find themselves cycling through several relationship stages, each with their own associated variations in desire. Levine suggests that a person may first go from single status to coupled in a monogamous relationship, and then become engaged and married. Next she or he may go from newlywed to parenthood to dissatisfied in the marital relationship. From this stage, one may divorce, find a new partner, and remarry. Though Levine's linear description of these relationship stages will certainly not apply to a large number of couples in romantic relationships, the changes in sexual desire that accompany each of these phases deserve further exploration.

Consider first the rise in sexual desire that accompanies the change from single status to early couplehood. Anecdotal and research evidence support that sexual desire surges during the initial stages of romantic relationships (Murray & Milhausen, 2012). Researchers suggest that this sharp increase in desire, and the accompanying rise in sexual activity, may be an essential aspect of establishing connection, bonding, and

intimacy in early relationships (Fisher, 1998). The previously discussed connection between intimacy and sexual desire may partly explain this rise in desire during these early relationship stages. As couples develop mutual trust and openness with one another, associated feelings of sexual closeness and excitement also rise (Birnbaum & Reis, 2012).

What happens, then, when couples commit to a long-term relationship? Over time, after getting to know each other's personalities, likes, and dislikes, couples begin to habituate to one another. The initial novelty and excitement of the relationship formation stage begins to wane and, with it, sexual desire subtly decreases (Sims & Meana, 2010). In the earlier stages of long-term relationships, such as when couples are newly married, however, passion for one's partner continues to remain relatively stable (Hatfield, Pillemer, O'Brien, & Le, 2008). While not as high as in the initial phase of the relationship, the desire to express feelings of closeness and to maintain a sexual bond continues. For clear reasons, research shows that when couples desire to get pregnant, their sexual desire surges once again (Levine, 2002).

Among couples who become pregnant and raise children, parenthood affects the sexual desire of both male and female partners (Basson, 2000). During pregnancy women's sexual desire levels tend to vary depending on gestational stage (Regan, Lyle, Otto, & Joshi, 2003). Interestingly, men's sexual desire also appears to change based on the stage of pregnancy. In a large meta-analysis of pre- and postpartum sexuality, von Sydow (1999) found that fathers experience a noticeable decline in desire during mid-pregnancy. Some data suggest that fathers' concerns about harming the baby during intercourse may partly explain this finding (von Sydow, 1999). During the postpartum

stage, physical and medical concerns following childbirth may keep couples from wanting to engage in sexual activity for an extended period of time (van Anders, Hipp, & Kane Low, 2013). Additionally, a qualitative study regarding women's sexuality postpartum found that women's insecurities about pregnancy-related bodily changes and fatigue from their new parenting roles kept their sexual desire low (Olsson, Lundqvist, Faxelid, & Nissen, 2005).

Though there is currently a paucity of research examining sexual desire during the child-rearing stage, evidence suggests that sexual desire tends to increase following the postpartum period (von Sydow, 1999), but remains lower than pre-parenthood levels due to the added stressors and responsibilities of raising children (Negash, Nalbone, Wetchler, Woods, & Fontaine, 2015). Given that many of the sexual difficulties experienced by women have to do with an overabundance of both parenting and non-parenting responsibilities (Trice-Black & Foster, 2011), it is possible that women's desire begins to rise as children grow and become increasingly independent. While women's sexual desire appears to be negatively affected by early parenting, less is known about men's sexual desire during this time. In fact, the majority of research on sexual desire and the relationship context has focused on women (Štulhofer et al., 2014; van Anders et al., 2013), perhaps due to the fact that men's desire levels tend to be less influenced by length of relationship than women's (Murray & Milhausen, 2012). Research does, however, provide some indications that male desire may be higher than female desire during the child-rearing years if the male partner works outside of the home (van Anders et al., 2013).

Despite research noting a decline in sexual desire with age (Kontula, & Haavio-

Mannila, 2009), those who remarry, even in later years, tend to experience an upsurge in sexual activity akin to that of their younger counterparts in new relationships (Hayes et al., 2008). In fact, some evidence suggests that relationship stage may be a better predictor of one's sexual desire level than one's age (Sims & Meana, 2010).

### **Sexual Desire and Attachment Style**

According to attachment theory, creating and maintaining bonds with close others is an essential task for ensuring one's survival and reproductive success (Bowlby, 1980). Once individuals have outgrown the parent-child relationship, their primary attachment figure becomes their sexual partner (Dinero, Conger, Shaver, Widaman, & Larsen-Rife, 2011). Desire for sexual intimacy and activity with one's partner is one way that the bond between couples is formed and strengthened (Fisher, 1998; Gonzaga, Turner, Keltner, Campos, & Altemus, 2006). In sexual relationships, individuals with secure attachment styles have generally had positive interactions with their romantic partners and their partners have tended to respond appropriately to their needs (Birnbaum & Reis, 2012). These individuals, in turn, feel comfortable approaching their partners to fulfill their sexual and nonsexual needs. In contrast, insecurely attached individuals, who have generally had their bids for affection thwarted in previous interactions with attachment figures feel unsure that their needs will be met and subsequently lack trust in others (Pistole, 1993).

From the above description, the relationship between attachment style (secure vs. insecure) and desire for sex with a romantic partner becomes clear. Securely attached individuals are comfortable with the intimacy associated with sexual contact (Dosch et al., 2015) and are content with both approaching their partners when they have a sexual

need and with refraining from sexual contact when they have no desire to engage. Conversely, insecurely attached individuals tend to over- or under-activate their desire for sex depending on their specific attachment style: anxious versus avoidant (Birnbau & Reis, 2012). Individuals with anxious attachment experience others as unreliable and fear abandonment. Therefore, their primary goal in romantic relationships is to secure reassurance and commitment from their partner. One means by which anxious individuals attempt to secure commitment is through increased sexual activity (Davis et al., 2006). Indeed, research shows that individuals higher in relationship anxiety tend to report greater desire for sex with their partners (Davis, Shaver, & Vernon, 2004). This increased desire for sexual behaviour serves two main purposes. First, by being more sexually available to their partner, the anxiously attached individual feels more confident that they will not be abandoned for another mate. Second, sexual intimacy provides the anxious partner with a sense of connection, closeness and increased security in the relationship (Dosch et al., 2015).

Like those with anxious attachment, avoidantly attached people also experience others as unreliable and unworthy of trust (Pistole, 1993). These individuals, however, cope with these feelings in the opposite manner. Rather than drawing closer to a romantic partner in an effort to secure commitment, avoidant individuals withdraw from the relationship and downplay its importance. It is believed that the purpose of this behaviour is to regulate distress in the event that a primary attachment figure proves unavailable to fulfill the individual's needs (Berry, Barrowclough, & Wearden, 2008). While in some ways this may seem to be an adaptive response to past disappointments in relationships, the behaviour has largely negative implications for sexual desire. This is not to say that

avoidantly attached individuals tend to avoid sex altogether, but instead that they mentally separate sexual activity from relational intimacy (Birnbaum, 2007). For an avoidant person, sex is more tied to a desire for pleasure than a wish to connect with their partner. For example, men higher in avoidant attachment report higher levels of solitary sexual desire (e.g., masturbation, fantasizing) than dyadic desire (Dosch et al., 2015). Further, Birnbaum and Reis (2012) found that avoidantly attached people report lower sexual desire than anxious or avoidantly attached people when a potential sexual partner shows interest in them. These findings show that attachment styles significantly relate to individuals' experiences and expressions of sexual desire in romantic relationships.

### **Gender Differences in Sexual Desire**

Currently, controversy exists as to the nature of gender differences in sexual desire. While much theoretical and empirical work suggests that men typically experience higher levels of sexual desire than women (Baumeister, Catanese, & Vohs, 2001), other research has questioned this assertion (e.g., Davies, Katz, & Jackson, 1999). Proponents of the view that men's desire is higher than women's cite research showing that men tend to fantasize about sex more often, masturbate more frequently, and have more sexual partners than women (Baumeister, Catanese, & Vohs, 2001; Dosch et al., 2015). On the other hand, some studies of sexual desire differences between partners have shown that men and women are equally likely to be the higher or lower desire partner in the relationship (Davies, et al., 1999; Mark, 2012; Mark & Murray, 2012). Although past studies examining gender differences in sexual desire have produced inconsistent results, the preponderance of evidence suggests that men tend to experience greater levels of sexual desire than women (Baumeister et al., 2001). Regardless of which gender tends to

have higher mean levels of sexual desire, substantial variation exists between couples as to which partner has higher desire at any given time (Dosch et al., 2015).

While examining mean levels of sexual desire between genders is interesting, what may be more central to our understanding of male versus female sexual desire is the circumstances under which men and women tend to experience desire. In general, women's sexual desire tends to be closely tied to relational cues while men's desire may be more biologically driven. As previously noted, testosterone has consistently been shown to impact men's sexual desire levels, while the specific biological determinants of women's sexual desire are less well understood (Basson, 2000; Brotto et al., 2011). High levels of testosterone in men may endow them with a biological motivation for sex that is less prominent for women. While the biological urge for sex exists to an extent in women (Fisher, 1998), they may be more driven to pursue sex for relational or psychological reasons (Basson, 2001). For instance, women tend to experience relational and sexual intimacy as overlapping (Birnbaum et al, 2007). Therefore, poor relational adjustment could link to diminished feelings of sexual intimacy and desire for sex with a partner among women.

Not only do men and women experience sexual desire differently, they also conceptualize it in dissimilar ways. Regan and Berscheid (1996) investigated men and women's beliefs about the nature of sexual desire and found that while men emphasized partner physical attractiveness as a critical aspect of sexual desire, women noted the importance of relational factors including love and emotional intimacy. In addition, significantly more men than women reported that the ultimate goal of sexual desire was to engage in sexual activity. These results show that men and women view sexual desire

in different ways, with men highlighting the physical aspects of desire and women emphasizing the relational aspects (Regan & Berscheid, 1996).

Additionally, men's sexual desire is more often spontaneous, while women's sexual desire is more responsive to sexual cues (Basson, 2001). Until recently, Masters and Johnson's (1966) model of the sexual response was believed to be an accurate portrayal of both men and women's sexual functioning. This model suggested that sexual encounters begin with the spontaneous experience of sexual desire that motivates the individual to seek out further sexual stimuli and become physically aroused. After arousal is achieved, orgasm ensues, followed by a resolution period when the body becomes relaxed. Current research shows that, while this model closely fits the sexual experiences of many men, it does not necessarily reflect the sexual responses of women (Basson, 2001; Kaschak, & Tiefer, 2001). For example, many women rarely experience spontaneous feelings of desire (Brotto, 2010). Rather, women may first become receptive to a partner's advances and then experience sexual arousal, followed by the desire to continue sexual activity. In 2001, Basson created a new model of the female sexual response cycle that accounted for these differences in female sexual functioning. Women have supported this new model as more representative of their own sexual response than the earlier model (Sand & Fisher, 2007). Although most sex therapists now acknowledge that these differences in women's sexual responses are typical, many women were labeled sexually dysfunctional for years because their sexual response did not follow the linear male-centered model described above (Basson, 2000; Brotto, 2010; Sims & Meana, 2010). Such problems with the over-diagnosis of female sexual dysfunction highlight the importance of recognizing differences in the operation of sexual desire between genders.

A further notable gender difference in sexual desire is its stability level over time. Given that women's sexual desire is strongly connected with environmental, social, and relational cues (Basson, 2000, 2001), we would expect to see more variability in female than male desire. Indeed, in a comprehensive review of the fluidity of sexuality, Baumeister (2000) asserts that women's sexual desire is more malleable than men's desire. The author suggests that women show substantial intraindividual differences in sexual activity across time and context, whereas men's patterns of sexual activity remain fairly stable. Moreover, Baumeister cites twin studies which have found that over 70% of the variance in male sexuality is linked to genetics, whereas only about 40% of the variance in female sexuality is genetically-influenced. These findings suggest that much variation in female desire is linked to environmental factors, contributing to greater context-dependent variability in motivation for sexual activity among women than men (Baumeister, 2000).

### **Sexual Desire Discrepancies Between Partners**

Sexual desire discrepancies, or differences in two partners' levels of sexual desire, are a clear example of sexual desire playing out in an interpersonal context (Davies et al., 1999). While engaging in sexual activity is a task that both partners must simultaneously agree to, for many reasons (e.g., mood, daily stressors, relationship issues) two partners' sexual desire levels may not match up at a given time (Mark, 2014). Given the gender differences in definitions, perceptions, and experiences of sexual desire described above, it is no wonder that sexual desire differences between heterosexual partners are common (Ellison, 2001; Willoughby & Vitas, 2012). Moreover, studies of the phenomenon in same-sex relationships show that problematic desire discrepancies are not uncommon for

couples of the same gender either (Bridges & Horne, 2007), highlighting that individual differences in sexual desire also play a role in creating sexual desire discrepancies between partners. Thus, the research shows that sexual desire discrepancies are ubiquitous in romantic relationships (Herbenick et al., 2014).

In the early years of sex therapy, sexual desire discrepancies between partners were not recognized and problems of sexual desire within relationships were attributed mainly to the lower desire partner (generally the woman), who was then labeled as dysfunctional (Kaschak & Tiefer, 2001). As described above, this led to the pathologizing of normal variations in female sexual desire (Basson, 2001) and women became the central target of sexual desire treatment. In 1980, Zilbergeld and Ellison first coined the term sexual desire discrepancy in an effort to shift the focus of sex therapy from the individual with low sexual desire to the couple in recognition of the fact that partners having different levels of sexual desire does not necessarily indicate that one partner is experiencing atypically high or low levels of sexual desire.

Since the 1980's, the construct of sexual desire discrepancy has gained much traction in both clinical and research settings. Research consistently shows that sexual desire discrepancies are a principal concern in romantic relationships and are commonly associated with relational distress (Mark, 2014). For example, problems of sexual desire are a primary reason couples seek sex therapy (Leiblum, 2010) and sexual desire discrepancies have been ranked as the top sexual concern for women in romantic relationships (Ellison, 2001). In a study of couples in marital relationships, Willoughby, Farero, and Busby (2014) found that higher sexual desire discrepancy was related to increased couple conflict and decreased relationship stability, suggesting that this sexual

issue may have negative implications for the longevity of couples' relationships. In fact, sexual desire discrepancies have been cited as one of the primary reasons couples choose to end their relationships (Leiblum & Rosen, 1989).

While it is evident that sexual desire discrepancies are a critical issue for couples in committed romantic relationships, the association between desire discrepancies and sexual satisfaction for couples remains unclear. Sexual satisfaction is a critical outcome variable to examine with regards to sexual desire discrepancy as data show that sexual satisfaction has been consistently linked to relational quality and stability (see review by Rehman, Fallis, & Byers, 2013). As well, evidence supports the importance of sexual satisfaction to one's overall well-being (e.g., Laumann et al., 2006). While relationship satisfaction is also an interesting outcome variable to examine with regards to desire discrepancies, sexual satisfaction may be more directly related to sexual desire discrepancies. For example, Davies and colleagues (1999) found that the association between relationship satisfaction and sexual desire discrepancies was fully mediated by sexual satisfaction. For these reasons, the link between sexual desire discrepancies and sexual satisfaction deserves further attention in sexual desire discrepancy research.

Although a few studies have demonstrated an association between desire discrepancies and sexual outcomes (e.g., Bridges & Horne, 2007; Davies et al., 1999; Mark & Murray, 2012; Willoughby & Vitas, 2012), findings have been inconsistent. For example, some studies have found that a higher level of desire discrepancy is associated with lower sexual satisfaction for men (Mark, 2012), while other studies have failed to find a significant association for men (Davies et al., 1999; Mark & Murray, 2012). The findings for women are similarly inconsistent. Whereas Davies and colleagues (1999) and

Mark and Murray (2012) found that greater sexual desire discrepancy was associated with lower sexual satisfaction in women, Mark (2012) did not replicate this association. Given the important, yet poorly understood connection between sexual desire discrepancy and sexual outcomes for couples, more research investigating this relationship is key to determining when sexual desire discrepancies are a normative aspect of couples' relationships and when they become problematic.

### **Introduction to the Current Study**

The current study sought to elucidate the association between sexual desire discrepancies and sexual satisfaction for community couples in long-term relationships. To more fully understand this association, this study investigated whether the relationship between desire discrepancies and sexual satisfaction differed based on the type of methodology used to assess the discrepancy. In addition, this research addressed some important limitations in the extant sexual desire discrepancy research. With three exceptions (Herbenick et al., 2014; Mark, 2014; Willoughby et al., 2014), past studies examining sexual desire discrepancies in heterosexual couples have recruited short-term dating samples from college/university populations (Davies et al., 1999; Mark & Murray, 2012; Willoughby & Vitas, 2012). Given that sexual desire fluctuates through the stages of a relationship (Byers & Rehman, 2014), it is critical to examine desire discrepancies in both short- and long-term relationships. Indeed, there is evidence to suggest that findings about sexual desire discrepancy from samples of couples in short-term dating relationships may not generalize to couples in long-term dating and marital relationships (Willoughby and Vitas, 2012). In one of the few studies that has focused on more established romantic relationships, Willoughby and colleagues (2014) found that greater

sexual desire discrepancy was associated with lower relationship adjustment, which included decreased relationship satisfaction, increased interpersonal conflict, and poorer couple communication. While the authors of this study explored the link between desire discrepancies and several relational outcomes for couples in committed relationships, they did not investigate the association between sexual desire discrepancy and sexual outcomes.

A key difference between the study by Willoughby et al. (2014) and the current one is in the conceptualization of sexual desire discrepancy. Willoughby and colleagues operationalized sexual desire discrepancy as the difference between one's desired and actual frequency of sexual intercourse. Though examining differences in desired and actual frequency of sex represents an informative line of research that may have implications for satisfaction outcomes in relationships, it is a problematic measure of sexual desire discrepancy in the relationship. Research shows that partners are motivated to engage in sex for many reasons and may do so in the absence of sexual desire (Dosch et al., 2015; Wood, Milhausen & Jeffrey, 2014). Vannier and O'Sullivan (2010) suggest that couples in long-term relationships may be especially likely to engage in sex without desire in an effort to maintain the sexual relationship over time. These couples recognize that the likelihood of both partners having identical levels of sexual desire at any given time is quite low and therefore each partner occasionally engages in sexually "compliant" behaviour to enhance the sexual relationship. Rather than using sexual frequency as a measure of desire discrepancy, the current study directly compared two partners' self-reported levels of desire using a well-validated measure of sexual desire.

Finally, while there has been considerable theorizing about the impact of low

sexual desire or high desire discrepancy in clinical samples (e.g., Ravart, Trudel, Marchand, & Turgeon, 1996; Trudel et al., 2001), much less is known about the phenomenon of sexual desire discrepancy in nonclinical samples. Given that two individuals are likely to differ in their level of sexual desire and that levels of sexual desire tend to fluctuate over time, (Impett et al., 2008; Levine, 1987), it is inevitable that most couples will experience some degree of sexual desire discrepancy over the course of the relationship. Therefore, discrepancies in sexual desire are not a phenomenon unique to couples in clinical settings and more research attention should focus on couples outside of this context. To address this issue, this study examined sexual desire discrepancies in couples from a community sample.

The first goal of the current study was to investigate the association between sexual desire discrepancy and sexual satisfaction in the context of long-term romantic relationships using two different methodologies. Past studies examining sexual desire discrepancy produce somewhat different estimates of the construct depending on whether it is measured by gathering data from one or both partners. To illustrate, Davies and colleagues (1999) examined sexual desire discrepancy in a college sample of dating couples using two distinct methods: one individual perception-based measure and one couple-level measure which compared both partners' self-reports of sexual desire. Findings showed that when desire discrepancies were assessed using the couple-level measure, more couples reported a desire discrepancy than when discrepancies were assessed using the individual-level measure. This shows that although many couples did in fact have a desire discrepancy in their relationship, a number of them did not perceive that this difference existed. Moreover, the researchers found that individual and couple-

level measures of desire discrepancy had different associations with relationship adjustment.

Consistent with this work, I argue that these two methods of examining sexual desire discrepancy (i.e., dyadic versus individual) lead to the measurement of informative, yet distinct, constructs. Specifically, when an individual is asked to subjectively compare his/her own level of sexual desire to that of his/her partner, what is being measured is best conceptualized as the individual's *perception* of sexual desire discrepancy. In contrast, when both partners are asked to report on their own levels of sexual desire and the difference between these two desire scores is computed, the resulting variable is best conceptualized as the *actual* sexual desire discrepancy (e.g., Davies et al., 1999; Mark, 2012; Mark & Murray 2012). Note that here I use the term "actual sexual desire discrepancy" to denote the actual difference between two partners' self-reported sexual desire levels. This term is not, however, used to imply that actual sexual desire discrepancy is a more legitimate assessment of sexual desire discrepancy than individual perceptions as both categories may have important implications for how partners experience their relationship.

I used past research on sexual desire discrepancy to inform my hypotheses. Based on the study by Davies and colleagues (1999) which found that, compared to individuals who perceive less desire discrepancy between themselves and their partners, those who perceive greater discrepancy were less sexually satisfied, I predicted that perceiving one's desire as discrepant from one's partner would be associated with lower sexual satisfaction. As noted earlier, findings for the association between actual desire discrepancy and sexual satisfaction have been inconsistent. Thus, I did not offer any

specific predictions about the association between actual desire discrepancy and sexual satisfaction.

The second goal of the current study was to address methodological limitations of past studies by directly comparing categorical versus dimensional approaches to assessing perceived sexual desire discrepancy. In the few existing studies that have examined perceptions of desire discrepancy, two types of questions have been used to measure the construct. Some studies have used a dichotomous scale to ask participants to report on whether their desire is approximately the same as or different from that of their partner. For example, Davies et al. (1999) asked the question, “Do you and your partner have roughly similar sexual desire levels?” (p. 558). Participants were given the option to answer either “yes” or “no”. In other studies, a categorical response option has been used to assess the direction of the desire discrepancy. For example, Bridges and Horne (2007) asked participants to select which statement best depicted their relationship. The response options included, “My partner desires to have sexual relations more than I do, and this has caused problems in our relationship,” “I desire to have sexual relations more often than my partner, and this has caused problems in our relationship,” and “My partner and I desire sexual relations to the same degree” (Bridges & Horne, 2007, p. 46). Categorical response scales allow individuals to report whether they believe a desire discrepancy exists in the relationship and to indicate the direction of the discrepancy (i.e., which partner has higher versus lower sexual desire). They do not, however, examine the degree of the sexual desire discrepancy between partners, which may be of critical importance when examining the link between the desire discrepancy and sexual satisfaction in couples. In addition, participants who perceive that they have minor desire discrepancies

in their relationship may report no desire discrepancy when they are given only “yes” or “no” response options. If this is the case, the research findings may show lower estimates of sexual desire discrepancies than are actually true for the couples involved in the study.

One type of response scale that, to my knowledge, has not been used in past research to measure perceived sexual desire discrepancies is a continuous, Likert-type response scale that allows participants to describe the magnitude and direction of sexual desire discrepancy in their relationship. It is plausible that examining both the direction and magnitude of the perceived desire discrepancy will provide a more comprehensive understanding of this construct. For example, it will allow us to determine whether greater perceived sexual desire discrepancies are associated with more negative outcomes for couples than smaller perceived discrepancies. Further, it will provide participants with a more precise means of describing the nature of their desire discrepancy, which could contribute to more accurate estimates of the construct. Therefore, this study included both categorical and dimensional response scales as measures of perceived sexual desire discrepancy in order to determine whether responses differed based on scale type.

In sum, there were two overarching goals for the current study. First, I wanted to compare two different ways of conceptualizing sexual desire discrepancy (actual versus perceived) and to examine how each conceptualization relates to sexual satisfaction. While Davies and colleagues (1999) have previously examined both perceived and actual desire discrepancy between couples, they used only a categorical measure to examine perceived sexual desire discrepancy. The current study aimed to extend this research by utilizing a dimensional measure of the construct. Further, I wanted to investigate whether the direction of the discrepancy (i.e., having greater versus less desire than one’s

partner's) matters when examining how desire discrepancies relate to sexual satisfaction. The second goal of this study was to compare the information gleaned by using categorical versus dimensional approaches to measure perceived sexual desire discrepancy. The purpose of examining responses using both approaches was to determine how much variance in sexual satisfaction was explained using these different scales.

To achieve this study's goals, I collected and analyzed sexual desire data from two independent samples. Sample 1 consisted of couples in long-term, committed heterosexual relationships recruited from the community. Both partners independently completed self-report measures of their own sexual desire allowing me to calculate a measure of actual sexual desire discrepancy by comparing reports between partners. Sample 2 consisted of individuals in long-term, heterosexual relationships who completed a series of questions designed to assess perceptions of desire discrepancy. All participants completed a standardized measure of sexual satisfaction.

## **Method**

### **Participants**

**Sample 1 (dyadic data).** The first sample consisted of couples who were participating in a larger, longitudinal study of sexuality in relationships. Data for the current study are cross-sectional and were collected during the third phase of the longitudinal study. Participating couples were recruited from Southwestern Ontario using online and newspaper advertisements, posters placed in doctors' and sex therapists' offices, and referrals from doctors and sex therapists. Approximately 2% of the final sample included couples recruited from the offices of doctors and sex therapists. To be

eligible for the study, couples had to be in a heterosexual, married or cohabiting relationship. If they were cohabiting they were required to have been living together for at least two years to ensure they were in long-term committed relationships. Additionally, both partners had to be between the ages of 21 and 65 at the time they initially participated in the study, be able to speak and read English at a grade 8 level to ensure they could understand and complete study measures, and be willing to participate.

In total, 84 couples participated in the current study. Two couples were excluded from the analyses because at least one partner did not complete the sexual desire questionnaire. Thus, the final sample consisted of 82 couples. Men were an average of 40.6 years old ( $SD = 11.29$ ) and women were an average of 38.5 years old ( $SD = 11.36$ ). On average, couples had been in their relationship for 13.2 years ( $SD = 8.71$ ) and were either married (79%) or cohabiting (21%). Most (92%) participants identified as White.

**Sample 2 (individual data).** This was an online sample recruited using an advertisement on Amazon Mechanical Turk. Recruitment materials indicated that researchers were seeking volunteers for a study of “sexuality and relationships.” To be eligible for the study, participants had to be 21 years old and in a committed, heterosexual relationship. All participants resided in the United States. A total of 212 individuals completed the study. The data for 19 participants was excluded from analyses because participants did not meet eligibility criteria (i.e., they reported they were not currently in a committed relationship). The data for two more participants were excluded because participants answered two or more validity questions incorrectly (e.g., “Choose *Strongly Agree* to show that you read this question carefully”). Thus, the final sample consisted of 191 participants (63% female). On average, men were 32.0 years old ( $SD =$

13.33) and had been in their current relationships for 8.5 years ( $SD = 10.33$ ). Women were, on average, 30.5 years old ( $SD = 11.65$ ), and had been in their current relationships for 7.5 years ( $SD = 8.21$ ). Men and women were either married or common law (39%), dating and living with their partner (28%) or dating and living apart from their partner (32%). The majority of participants identified as White (78%), while others identified as Black (9%), Hispanic (6%), Asian (3%), South Asian (2%), and Other (2%).

## **Measures**

### **Measures administered to both samples**

**Demographic questionnaire.** Participants completed a demographic questionnaire designed for the current study to gather background information including age, gender, ethnicity, relationship status, and relationship length.

### ***Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995).***

The GMSEX is 5-item measure of sexual satisfaction that requires participants to rate their satisfaction with their sexual lives overall using 7-point scales with adjective pairs at each anchor (e.g., Very Bad-Very Good). Scores on the GMSEX range from 5 to 35 with higher numbers indicating greater sexual satisfaction. Lawrance and Byers (1995) have found evidence of high reliability (Cronbach's alpha = .96) and good concurrent validity. The measure showed excellent internal consistency in the current study (Sample 1: Cronbach's alpha = .97 for men and .95 for women; Sample 2: Cronbach's alpha = .96 for men and .97 for women).

### **Sample 1 only (dyadic data)**

***Hurlbert Index of Sexual Desire (HISD; Apt & Hurlbert, 1992).*** The HISD is a 25-item measure that was used to assess participants' sexual desire for their partners (e.g.,

“I look forward to having sex with my partner”) and their general sexual desire (e.g., “I daydream about sex”). Participants responded to items using a 5-point Likert scale ranging from 0 (*All of the Time*) to 4 (*None of the Time*). Scores range from 0 to 100, with higher scores indicating higher overall sexual desire. The measure has sound psychometric properties, with evidence of strong validity and reliability (Cronbach's alpha = .89; Hurlbert, Apt & Rombough, 1996). The measure demonstrated excellent internal consistency in the current sample (Cronbach's alphas = .92 for men and .96 for women).

### **Sample 2 only (individual data)**

***Perceived sexual desire discrepancy.*** To facilitate comparisons between the current study and those that have used a single item measure of perceived desire discrepancy (e.g., Davies et al., 1999; van Anders et al., 2013), I created an item that stated, “In general, how does your sexual desire level compare to that of your partner?” Participants answered by selecting one of the following responses: “I have a higher level of sexual desire than my partner,” “My partner has a higher level of sexual desire than me,” or “My partner and I have equal levels of sexual desire.”

To address the limitations associated with measuring perceived desire discrepancy using only a categorical response scale, I developed a second item to assess the *degree* of partners' sexual desire discrepancy using a continuous response scale. This item, adapted from Ard's (1977) study on marital sexual experiences, asked “How different would you say your sexual desire level is from that of your partner at the present time?” Participants responded using a 5-point scale: 1 (*No Different*), 2 (*Slightly Different*), 3 (*Somewhat Different*), 4 (*Quite Different*), and 5 (*Very Different*).

Finally, I created a third item that assessed both the direction and magnitude of an individual's perceived sexual desire discrepancy. Item 3 stated, "Using the scale below, rate which statement best captures yours and your partner's desire levels." Responses were indicated on a 5-point scale: 2 (*My desire level is much higher than my partner's*), 1 (*My desire level is slightly higher than my partner's*), 0 (*My desire level is equal to my partner's*), -1 (*My partner's desire level is slightly higher than mine*), and -2 (*My partner's desire level is much higher than mine*).

### **Procedure**

**Sample 1 (dyadic data).** The study took approximately 3 hours to complete. At the outset of the study, couples came into the lab together. Two research assistants worked with each couple. The research assistants reviewed an information letter with each couple, who were provided the opportunity to ask questions and then gave written consent to participate. After giving consent, couple members were separated into different rooms to complete a number of questionnaires as well as a semi-structured interview and a discussion task that were not relevant to the current study. The questionnaires unrelated to this study included measures of couples' communication, relationship commitment, and sexual functioning. During the semi-structured interview, participants discussed sexual and relationship problems they have with their partner with a research assistant. For the discussion task, each partner was given a list of commonly occurring sexual problems in relationships and asked to choose the top sexual problem in their relationship to discuss with their partner. Participants completed a background questionnaire first and engaged in the discussion with each other midway through the study. The remaining questionnaires and interviews were completed in random order

before and after the discussion to ensure that order effects did not systematically influence the results. At the end of the study, couples were reunited, debriefed, and provided with a list of sexual health resources. Each partner received \$50.00 for participating in the study.

**Sample 2 (individual data).** After reading an information letter about the study, participants gave consent to participate by clicking a radio button. They were then linked to an online survey, which took approximately 15 minutes to complete. Participants were provided with a feedback letter and paid \$0.50 in their Amazon account for participating in the study.

## Results

### **Descriptive Statistics for Actual Desire Discrepancy (Sample 1 – Dyadic Data)**

To measure *actual* sexual desire discrepancy, I subtracted women's Hurlbert Index of Sexual Desire (HISD; Apt & Hurlbert, 1992) scores from men's HISD scores. The resulting measure of actual sexual desire discrepancy represented the difference between partners' scores, with positive numbers indicating the male partner had higher desire and negative numbers indicating the female partner had higher desire. A score of 0 represented no sexual desire discrepancy.

Overall, couples reported a mean discrepancy of 16.8 (Range = -37 to 64,  $SD = 22.3$ ). Of the 82 couples, 30% fell within 1 SD of 0 and 70% had a sexual desire discrepancy that was greater than 1 SD from 0. Among the 70% of couples whose desire discrepancy score fell more than 1 SD away from 0, 11% were couples in which the female partner reported higher sexual desire and 59% were couples in which the male partner reported higher desire. The magnitude of couples' desire discrepancies was

significantly greater in couples in which the male partner had higher desire relative to couples in which the female partner had higher desire, ( $M_{Male\ Greater} = 26.44, SD = 16.13$ ;  $M_{Female\ Greater} = -11.65, SD = 11.69$ )  $t(79) = -9.74, p < .001$ . In sum, this sample consisted mainly of couples that had sexual desire discrepancies in their relationships and men tended to be the higher desire partners.

The average sexual satisfaction for the men and women in Sample 1 was 26.54 ( $SD = 7.21$ ) and 26.25 ( $SD = 6.57$ ) respectively. Men and women did not differ significantly in their reported levels of sexual satisfaction,  $t(78) = -.20, p = .84$ . Possible scores on the sexual satisfaction measure ranged from 5 to 35, indicating that the sample was, on average, characterized by relatively high levels of sexual satisfaction.

### **Descriptive Statistics for Perceived Desire Discrepancy (Sample 2 – Individual Data)**

To assess *perceptions* of sexual desire discrepancy, participants responded to three items. Response frequencies for these items are presented in Tables 1 to 3. The first item, for which potential responses were categorical, stated, “In general, how does your sexual desire level compare to that of your partner?” To examine whether men and women differed in the degree to which they endorsed having a level of desire that was higher than, lower than, or equal to that of their partners, I conducted a 2 (gender) x 3 (desire discrepancy level) chi-square test. The test revealed that the degree to which participants endorsed each Item 1 category differed significantly by gender,  $\chi^2(1, N = 191) = 19.24, p < .001$ . More men reported that they were the higher desire partner in a couple whereas more women reported that they had desire equal to or lower than their partner (see Table 1).

For Item 2, which assessed the perceived magnitude of sexual desire discrepancy,

participants were asked “How different is your sexual desire level from that of your partner at the present time?” Responses were reported on a 5-point scale ranging from 1 (*No different*) to 5 (*Very different*). On average, women rated the magnitude of sexual desire discrepancy in their relationship as 2.50 ( $SD = 1.24$ ) and men rated the magnitude of discrepancy as 2.54 ( $SD = 1.22$ ). To examine whether men and women differed in their responses to this item, I conducted an independent-samples t-test. Results showed that men’s and women’s reports did not differ significantly,  $t(188) = .230, p = .90$ . Overall, men and women reported a similar degree of sexual desire discrepancy in their relationships (see Table 2). Next, reports of sexual desire discrepancies were compared across Items 1 and 2 to determine whether participants were more likely to report a desire discrepancy when using a categorical versus dimensional response scale. Importantly, in comparing the frequencies of the different types of sexual desire discrepancy as reported by women in response to Item 1 versus Item 2, 10% more women reported a sexual desire discrepancy (any score greater than 1 [*No Difference*]) in response to Item 2 (see Tables 1 and 2). Results from a one-sample z-test of proportions indicated that this difference in rates of reported discrepancy across items was statistically significant ( $z = 2.282, p < .05$ ), meaning that women reported more desire discrepancy when using a continuous rather than categorical measure.

Item 3 (“Using the scale below, rate which statement best captures yours and your partners’ desire levels”) assessed the direction *and* magnitude of desire discrepancy in participants' relationships. A breakdown of response frequencies for each of the 5 categories is provided in Table 3. Men and women’s reports of the direction and magnitude of desire discrepancy differed significantly,  $t(188) = 3.56, p < .001$ .

Specifically, men ( $M=0.50$ ,  $SD = 1.10$ ) reported that their own desire was higher than their partners' desire more often than women ( $M = -.09$ ,  $SD = 1.11$ ).

The average sexual satisfaction for men in Sample 2 was 27.60 ( $SD = 6.58$ ) and for women it was 28.24 ( $SD = 6.61$ ). Men and women did not differ in their level of sexual satisfaction,  $t(188) = -.65$ ,  $p = .52$ . As in Sample 1, both men and women in this sample reported relatively high levels of sexual satisfaction.

### **Actual Desire Discrepancy and Sexual Satisfaction (Sample 1 – Dyadic Data)**

In order to determine the association between the direction of actual desire discrepancy on men and women's sexual satisfaction, dyadic sexual desire discrepancy was recalculated. Men's self-reported desire scores were subtracted from women's self-reported desire scores when predicting outcomes for women, and women's self-reported desire scores were subtracted from men's when predicting outcomes for men. This allowed values greater than one to equal self-greater-than-partner discrepancies and values less than one to equal partner-less-than-self discrepancies in all analyses. To test the association between the actual sexual desire discrepancy score and men's and women's sexual satisfaction, a multiple regression analysis was conducted that included linear, quadratic, and cubic terms for the desire discrepancy score. The discrepancy variable was centered at 0 (equaling no difference between partners) before computing the quadratic and cubic terms. The combination of linear, quadratic, and cubic terms in the model allowed for testing whether the magnitude and/or direction of the association between actual sexual desire discrepancy and sexual satisfaction changed as the discrepancy in sexual desire changed from partner-higher, to equal, to self-higher. The linear, squared, and quadratic terms were all nonsignificant for both men ( $\beta_{\text{linear}} = -.19$ ,

$\beta_{\text{quadratic}} = .01$ ,  $\beta_{\text{cubic}} = .24$ , all *ns*) and women ( $\beta_{\text{linear}} = .14$ ,  $\beta_{\text{quadratic}} = .04$ ,  $\beta_{\text{cubic}} = .14$ , all *ns*), suggesting a lack of association between actual sexual desire discrepancy and sexual satisfaction.

### **Perceived Desire Discrepancy and Sexual Satisfaction (Sample 2 – Individual Data)**

**Item 1.** I examined the association between the categorical item (Item 1) designed to assess perceptions of sexual desire discrepancy (“In general, how does your sexual desire level compare to that of your partner?”) and sexual satisfaction. Item 1 assessed which, if any, partner had higher or lower desire in the relationship. Given that Item 1 had a categorical response scale, the first step was to create a set of dummy codes for the variable before conducting multiple regression analyses. One set of dummy codes was created in which “equal desire” was used as the reference group. A second set of dummy codes was created in which “higher desire than partner” was used as the reference group. Multiple regression analyses were conducted, with each analysis testing a different set of Item 1 dummy codes as the predictor variable and GMSEX as the criterion variable. Results showed that there were no significant differences in sexual satisfaction for women who perceived their desire to be higher than their partner compared to those who reported equal levels of desire with their partner ( $\beta = .04$ ,  $p = .64$ ). There was, however, a significant difference in sexual satisfaction for women who believed they had a lower level of desire than their partner compared to those who believed they had an equal level of desire with their partner ( $\beta = -.25$ ,  $p < .01$ ). Women who believed that their desire level was lower than their partner were less sexually satisfied than those who reported equal levels of desire. Further, women who believed that they had a lower level of desire than their partner reported significantly less sexual satisfaction than those who reported higher

desire than their partner ( $\beta = .21, p < .05$ ). For men, there was no significant difference in sexual satisfaction between those who perceived their sexual desire level to be lower than their partner and those who believed it to be equal ( $\beta = -.09, p = .46$ ). In contrast, there was a significant difference in sexual satisfaction between men who perceived their level of desire to be higher than their partner's and those who perceived it to be equal ( $\beta = -.24, p < .05$ ) or lower than their partner's ( $\beta = .37, p < .01$ ).

**Item 2.** To examine the relationship between perceived magnitude of sexual desire discrepancy and sexual satisfaction (irrespective of direction of discrepancy), I examined zero-order correlations between responses on Item 2 (“How different is your sexual desire level from that of your partner at the present time?”) and GMSEX scores. Item 2 responses significantly correlated with GMSEX for women,  $r = -.52, p < .001$ , and men,  $r = -.53, p < .001$ , showing that men and women who reported more desire discrepancy were less sexually satisfied. To further examine the relationship between individual sexual desire discrepancy and sexual satisfaction for men and women, I conducted two multiple regression analyses with Item 2 as the predictor variable and GMSEX as the outcome variable. Results showed that the degree of sexual desire discrepancy perceived by participants predicted 27% of the variance in sexual satisfaction for women,  $F(1,119) = 42.49, p < .001$ , and 28% of the variance in sexual satisfaction for men  $F(1,67) = 25.84, p < .001$ . For men and women, greater individual sexual desire discrepancies predicted lower sexual satisfaction.

**Item 3.** To examine the relationship between Item 3 (“Using the scale below, rate which statement best captures yours and your partners’ desire levels,” with responses ranging from -2, partner desire much higher than mine, to +2, my desire much higher

than partner, (with 0 equaling no difference in desire) and sexual satisfaction, I conducted a multiple regression analysis, as described in the results for Sample 1. The analysis included the linear, quadratic, and cubic terms for the perceived desire discrepancy score, as measured by Item 3. The combination of linear, quadratic, and cubic terms in the model allowed for testing whether the magnitude and/or direction of the association between perceived sexual desire discrepancy and sexual satisfaction changed as the discrepancy in sexual desire changed from partner-higher, to equal, to self-higher. Sex differences were tested by creating interaction terms between sex and each of the three terms. The model was run twice, once including all predictors, and again dropping any nonsignificant terms aside from lower order terms (e.g., linear) that had to be included to interpret higher order terms (e.g., quadratic). In the final model predicting sexual satisfaction, only the quadratic term ( $\beta = -.47, p < .001$ ) was significant. The main effects of gender and Item 3 sexual desire discrepancy and all gender-interactions were nonsignificant, and, with the exception of Item 3 sexual desire discrepancy, were removed from the model. The final regression model explained 21% of the variance in sexual satisfaction.

To facilitate the interpretation of the quadratic function linking perceived sexual desire discrepancy and sexual satisfaction, the quadratic function was plotted over a scatter plot of Item 3 sexual desire discrepancy scores and GMSEX sexual satisfaction scores (see Figure 1). The figure suggests that perceiving one's own sexual desire as being much lower or much higher than one's partner's is associated with lower levels of sexual satisfaction. In addition, in an effort to better understand the magnitude and significance of differences in sexual satisfaction at different levels of perceived desire

discrepancy, a spline model (Marsh & Cormier, 2002) was fit using dummy codes for each level of desire discrepancy, such that differences in sexual satisfaction were tested at each level of perceived desire discrepancy, with zero discrepancy as the reference group. Results from this post-hoc analysis indicated that only individuals with ratings of -2 (my partner's desire is much higher than mine) or +2 (My desire is much higher than my partner's) were significantly different in sexual satisfaction relative to those perceiving zero discrepancy in sexual desire (mean difference = -9.47,  $p < .001$  and -6.80,  $p < .001$ , respectively), with both groups scoring lower.

Table 1

*Results for Item 1 (In general, how does your sexual desire level compare to that of your partner?)*

	Female	Male	Z-Value
Higher than Partner	25% (N = 30)	56% (N = 40)	-4.34**
Lower than partner	39% (N = 47)	20% (N = 14)	2.79**
Equal to partner	36% (N = 43)	24% (N = 17)	1.71*

\*p < .05, \*\*p < .01

Table 2

*Results for Item 2 (How different is your sexual desire level from that of your partner?)*

	Female	Male	Z-Value
No difference	26% (N = 31)	23% (N = 16)	0.46
Slightly different	28% (N = 34)	32% (N = 22)	-0.45
Somewhat different	24% (N = 29)	21% (N = 15)	0.43
Quite different	13% (N = 16)	17% (N = 12)	-0.71
Very different	8% (N = 10)	7% (N = 5)	0.29

\*p < .05, \*\*p < .01

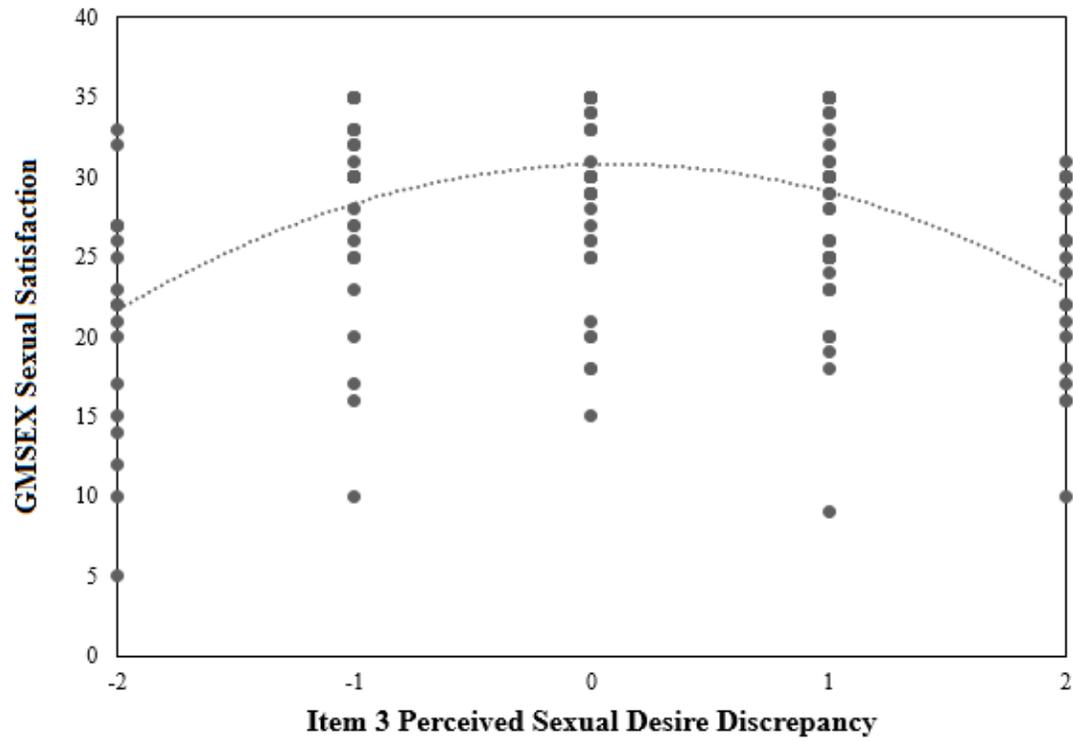
Table 3

*Results for Item 3 (Rate which statement best captures yours and your partners' desire levels)*

	Female	Male	Z-Value
Partner's desire is much higher	12% (N = 14)	6% (N = 4)	1.35
Partner's desire is slightly higher	23% (N = 28)	13% (N = 9)	1.76*
Desire levels are equal	35% (N = 42)	24% (N = 17)	1.53
Own desire is slightly higher	22% (N = 27)	40% (N = 28)	-2.57**
Own desire is much higher	8% (N = 9)	17% (N = 12)	-2.04**

\*p < .05, \*\*p < .01

Figure 1. Scatter plot of Item 3 perceived sexual desire discrepancy and GMSEX sexual satisfaction scores, with quadratic function from regression model overlaid.



## Discussion

The overall purpose of the current study was to better understand the phenomenon of sexual desire discrepancy in normative, non-clinical samples of individuals in long-term, committed relationships. The first goal was to compare two different ways of conceptualizing desire discrepancy, *actual* versus *perceived* desire discrepancy, and to test whether sexual satisfaction relates differently to perceptions of desire discrepancy as compared to actual levels of desire discrepancy. Actual desire discrepancy was measured using couples' data by creating a difference score between partners' self-reported sexual desire levels. In contrast, perceptions of sexual desire discrepancy were measured by asking individual participants to report on their subjective experience of differences in sexual desire between themselves and their partners in three distinct ways.

There was no significant association between actual sexual desire discrepancy and sexual satisfaction for either men or for women. In addition to testing the linear association between these variables, I also tested for quadratic and cubic effects. In contrast to the findings for couples' actual desire discrepancy, individuals' perceptions of desire discrepancy related significantly to both men and women's sexual satisfaction. Findings for actual desire discrepancy suggest that variation in desire levels between partners is not necessarily a problem in the sexual relationships of relatively sexually satisfied couples. Just as partners learn to deal with differences in values, goals, and priorities in other domains of life, most couples have likely developed adaptive ways to handle desire discrepancies without such discrepancies adversely impacting their sexual satisfaction. These findings are consistent with the notion advanced by Herbenick and colleagues (2014) that for many couples, desire discrepancies should be viewed as a

normal and expected part of the sexual relationship, rather than as a “bug” that needs to be fixed.

I would like to emphasize that it is important to be cautious when interpreting the results for actual desire discrepancy. This sample was characterized by individuals who were, overall, sexually satisfied (see descriptives for Sample 1). Thus, in interpreting the findings from the current study, the most appropriate conclusion regarding actual sexual desire discrepancy is that in a sample characterized by fairly high levels of sexual satisfaction, the level of discrepancy between partners in their sexual desire does not relate to their sexual satisfaction. However, these findings cannot be generalized to more distressed samples.

Why would perceived desire discrepancy be associated with sexual satisfaction when there is no association between actual desire discrepancy and sexual satisfaction? Research has shown that couples' perceptions of different aspects of their relationship tend to be influenced by their satisfaction with the relationship (Weiss, 1980). This phenomenon, termed “global sentiment override” (Weiss, 1980), creates a sort of halo-effect in that different aspects of the relationship are perceived positively or negatively based on the perceiver's feelings about his/her overall relationship. Supporting this notion, Lemay and Neal (2014) have found that partners who are satisfied with their relationship perceive that their partners are more supportive than those with less relationship satisfaction, regardless of the partner's actual level of support. Applying this idea to perceptions of desire discrepancy in the relationship, it is possible that couples who are more sexually satisfied are less likely to perceive a sexual desire discrepancy in their relationship, even if such a discrepancy exists. The current study is aimed at

describing the phenomenon of sexual desire discrepancy in established romantic relationships and did not investigate any causal link between sexual desire discrepancy (actual or perceived) and sexual satisfaction. When causal models are tested, it will be important to investigate the pathway from desire discrepancy to sexual satisfaction as well as the opposite pathway. An understanding of the causal link between these variables will inform further theory development on how perceptions of desire discrepancies form and change over time.

The second goal of this study focused on methodological challenges in assessing the construct of perceived desire discrepancy. In past studies, researchers have tended to use categorical measures to assess perceived desire discrepancy (Bridges & Horne, 2007; Davies et al., 1999). In the current study, in addition to a categorical item that asked participants to report on whether their sexual desire was greater to, less than, or equal to that of their partner (Item 1), participants were asked to rate the magnitude of the discrepancy using a dimensional Likert scale (Item 2). Results showed that women reported experiencing a sexual desire discrepancy more frequently (i.e., 10% more) when describing the discrepancy on a more nuanced continuous, rather than categorical, response scale. This difference may be attributed to the well-documented advantage of moving from categorical scales to dimensional scales and the resulting increase in statistical power. Peters and Van Voorhis (1940) demonstrated that if a normally distributed score is trichotomized into three groups, the variance explained is 26% less than would be explained by the continuous score.

The first two items used in this study to assess perceptions of desire discrepancy are limited because they either measure the direction of the discrepancy (Item 1) or the

magnitude of the discrepancy (Item 2) while ignoring the other dimension. This makes it difficult to interpret the results. For example, the results for Item 1 showed that women who perceived their sexual desire to be lower than their partners' desire were less sexually satisfied as compared to women who perceived no differences in desire between themselves and their partners. However, there were no significant differences in the sexual satisfaction of women who perceived their sexual desire to be higher than their partners as compared to women who perceived no difference. As the results suggest, these categorical differences were driven by the magnitude of discrepancy in the two groups (i.e., women who perceive lower desire were characterized by a greater discrepancy in desire between themselves and their partners, as compared to women who were higher on desire). To address the issue of magnitude and directionality, participants were asked a question that simultaneously assessed the direction of the sexual desire discrepancy and the magnitude of the discrepancy (Item 3). By taking into account both dimensions, the results for this item provide a more complete picture of sexual desire discrepancy in the relationship.

When predicting sexual satisfaction using the item that accounted for both magnitude and direction of the perceived desire discrepancy, the results showed that perceiving one's sexual desire as much higher or much lower than one's partner's was associated with lower sexual satisfaction. It is possible that the individual with much lower desire may feel pressured to engage in sexual activity by his/her partner or through an internalized sense of guilt. Conversely, the individual who perceives his/her own desire to be much greater, may feel that his/her needs are not being met and/or may experience negative emotions related to frequently being the initiator of sexual activity or

feeling rejected by his/her partner. In this way, both the individual who perceives the self as having much higher or much lower desire than the partner may experience lower sexual satisfaction. These possibilities would need to be systematically investigated in future research.

When I examined the link between perceived desire discrepancy and sexual satisfaction using the categorical item (Item 1), the results showed that men who reported having higher desire than their partners were less satisfied with their sexual relationship than those with desire equal to or less than that of their female partner. In contrast, women who reported experiencing lower levels of desire as compared to their partners were less sexually satisfied than women who reported equal or greater desire than their male partner. The results for Item 3, a dimensional item used to assess perceptions of desire discrepancy, suggested that there were no gender differences in the association between perceptions of desire discrepancy and sexual satisfaction. Both men and women who experienced their own desire as much higher or lower than one's partner's desire experienced lower levels of sexual satisfaction. How can the inconsistency in the results for gender differences be explained? As shown by the data, couples where the female partner had lower desire than the male partner were characterized by a larger magnitude of desire discrepancy, compared to couples where the female partner had greater desire than the male partner. When the magnitude of the difference in sexual desire is taken into account, the group differences are no longer significant. However, it would be premature to conclude that there are no gender differences in how perceptions of desire discrepancy relate to sexual satisfaction. First, the current findings have to be replicated. Second, it is important to consider that if most couples who have a discrepancy experience the

direction of the discrepancy to be higher male and lower female desire, and that this pairing is associated with negative sexual outcomes, then the gender difference may be meaningful and worthy of further research.

One limitation of the current study is that two different participant samples were used to examine actual versus perceived desire discrepancy. Although the two samples were similar in age, ethnicity, and relationship length, caution should be taken when making direct comparisons between the two samples. Ideally, I would have been able to compare actual versus perceived discrepancy in the same couples, allowing me to more definitively comment on how perceived discrepancy and actual discrepancy relate differently to sexual satisfaction. Furthermore, I could examine the association between actual and perceived discrepancy and test whether perceived discrepancy relates to ratings of sexual satisfaction, even after accounting for actual desire discrepancy.

Another limitation of the current study was that different methods were used to assess actual and perceived discrepancy. Whereas the Hurlbert Index of Sexual Desire (HISD; Apt & Hurlbert, 1992), used to compute actual desire discrepancy scores in the dyadic sample, is a multi-item measure of sexual desire, the measures of perceived desire discrepancy were single items. In future work, it would be ideal not only to have a dyadic sample and assess both actual and perceived desire discrepancy in the same sample, but to also assess actual versus perceived desire discrepancy using a similar methodology. One way to do this would be to have both members of a dyad complete two versions of the HISD – one to rate their own desire and the second to rate their partner's desire. In addition, this study used self-report measures to examine actual sexual desire discrepancies. It is possible that members of some couples had different patterns of

responding (e.g., extreme vs. moderate) to the HISD scales. If this were the case, some discrepancies in desire scores may have been more attributable to response styles and not necessarily to actual differences in couples' desire levels. However, in light of the strong evidence supporting the validity of the HISD (Hurlbert et al., 1996), we can be relatively confident that couples' self-reported sexual desire levels did closely approximate their true experiences of sexual desire.

Also, both samples consisted of mainly White participants who were sexually satisfied in their relationships. Ceiling effects may limit response variance in samples of couples who are highly sexually satisfied. Before generalizing these findings, it will be important to replicate this research with couples from a diverse range of backgrounds in both satisfied and distressed relationships.

Understanding how sexual desire discrepancy relates to outcomes for couples is a vital step in discovering the factors that contribute to the success of committed relationships. The current study examined several methods of measuring sexual desire discrepancy and showed that the use of various measurement techniques influences participant responses and, in turn, the association between sexual desire discrepancy and sexual outcomes. Further, this research showed that perceived sexual desire discrepancy is a key factor in predicting sexual satisfaction for men and women in long-term relationships. Future research exploring the mechanisms that impact the association between sexual desire discrepancy and sexual satisfaction will help to explain how desire discrepancies impact relational outcomes.

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## Appendix A

### Global Measure of Sexual Satisfaction

(Lawrance & Byers, 1995)

In general, how would you describe your current sex life? By sex life we do not only mean sexual intercourse with another person, but your sex life as a whole (i.e. masturbation, other sexual activities with your partner, etc.). For each pair of words below, circle the number which best describes your current sex life as a whole.

Very Good 7	6	5	4	3	2	Very Bad 1
Very Pleasant 7	6	5	4	3	2	Very Unpleasant 1
Very Positive 7	6	5	4	3	2	Very Negative 1
Very Satisfying 7	6	5	4	3	2	Very Unsatisfying 1
Very Valuable 7	6	5	4	3	2	Worthless 1

## Appendix B

### Hurlbert Index of Sexual Desire

(Apt & Hurlbert, 1992)

Please respond to the following items using the scale below.

0	1	2	3	4
All of the time	Most of the time	Some of the time	Rarely	Never

1. Just thinking about having sex with my partner excites me.
2. I try to avoid situations that will encourage my partner to want sex.
3. I daydream about sex.
4. It is difficult for me to get in a sexual mood.
5. I desire more sex than my partner does.
6. It is hard for me to fantasize about sexual things.
7. I look forward to having sex with my partner.
8. I have a huge appetite for sex.
9. I enjoy using sexual fantasy during sex with my partner.
10. It is easy for me to get in the mood for sex.
11. My desire for sex should be stronger.
12. I enjoy thinking about sex.
13. I desire sex.
14. It is easy for me to go weeks without having sex with my partner.
15. My motivation to engage in sex with my partner is low.
16. I feel I want sex less than most people.
17. It is easy for me to create sexual fantasies in my mind.
18. I have a strong sex drive.
19. I enjoy thinking about having sex with my partner.
20. My desire for sex with my partner is strong.
21. I feel that sex is not an important aspect of the relationship I share with my partner.
22. I think my energy level for sex with my partner is too low.
23. It is hard for me to get in the mood for sex.
24. I lack the desire necessary to pursue sex with my partner.
25. I try to avoid having sex with my partner.

## Appendix C

### Perceived Sexual Desire Discrepancy Items

1. In general, how does your sexual desire level compare to that of your partner?
  - 1 - I have a higher level of sexual desire than my partner
  - 2 - My partner has a higher level of sexual desire than me
  - 3 - My partner and I have equal levels of sexual desire
  
2. How different would you say your sexual desire level is from that of your partner at the present time?
  - 1 - No Different
  - 2 - Slightly Different
  - 3 - Somewhat Different
  - 4 - Quite Different
  - 5 - Very Different
  
3. Using the scale below, rate which statement best captures yours and your partner's desire levels.
  - 2 - My desire level is much higher than my partner's
  - 1 - My desire level is slightly higher than my partner's
  - 0 - My desire level is equal to my partner's
  - 1 - My partner's desire level is slightly higher than mine
  - 2 - My partner's desire level is much higher than mine