

The interpersonal context of desire: Exploring associations between sexual desire, relationship satisfaction, and sexual satisfaction in romantic relationships

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.

I understand that my thesis may be made electronically available to the public.

## Statement of Contributions

Siobhan Sutherland was the sole author for the General Introduction, bridging sections, and the General Discussion, which were written under the supervision of Dr. Uzma Rehman and were not written for publication. This thesis consists in part of three manuscripts written for publication. Exceptions to sole authorship of material are as follows:

### **Study 1:**

This research was a secondary data analysis conducted at the University of Waterloo by Siobhan Sutherland under the supervision of Dr. Uzma Rehman. Data were originally collected as part of a larger study investigating the longitudinal association between relationship and sexual satisfaction (Fallis et al., 2016). Siobhan Sutherland contributed to the development of the research questions and hypotheses with the support of Dr. Uzma Rehman. Dr. Erin Fallis was responsible for data collection, though Siobhan Sutherland was involved in collecting the original data as a research assistant. Siobhan Sutherland created the data analytic plan, completed the data analyses, and drafted the full manuscript, to which all coauthors contributed ideas, feedback, and revisions.

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### **Study 2:**

This online study was conducted at the University of Waterloo by Siobhan Sutherland under the supervision of Dr. Uzma Rehman. Siobhan Sutherland designed the study and formulated the research questions and hypotheses in collaboration with Dr. Uzma Rehman. Siobhan Sutherland and Vanessa Tran collected the data. Siobhan Sutherland and Jackson Goodnight developed the

data analytic approach and completed data analyses. Siobhan Sutherland drafted the manuscript, to which each co-author contributed ideas, feedback, and revisions.

Citation: Sutherland, S. E., Rehman, U. S., & Goodnight, J. A. (2020). A Typology of Women with Low Sexual Desire. *Archives of Sexual Behavior*, 49(8), 2893–2905.

### **Study 3:**

This research was conducted at the University of Waterloo by Siobhan Sutherland under the supervision of Dr. Uzma Rehman. While this study was originally intended to be a validation and extension of Study 2 that was designed and carried out by Siobhan Sutherland, data collection was halted due to the COVID-19 pandemic. At that time, the plan for Study 3 shifted to a secondary data analysis from the longitudinal dataset utilized in Study 1 (Fallis et al., 2016). Siobhan Sutherland developed the research questions and hypotheses in collaboration with Dr. Uzma Rehman. Dr. Erin Fallis was responsible for the data collection and Siobhan Sutherland participated in this process. Siobhan Sutherland and Jackson Goodnight developed the data analytic approach and conducted data analyses. Siobhan Sutherland drafted the manuscript, to which each co-author contributed ideas, feedback, and revisions.

Citation: Sutherland, S. E., Goodnight, J. A., & Rehman, U. S. (In preparation). The dyadic longitudinal relationship between sexual desire and sexual satisfaction.

In my role as lead author of each of these three studies, I was responsible for the study design, formulating the research questions and hypotheses, and drafting manuscripts for publication under the supervision of Dr. Uzma Rehman. My coauthors and I were jointly responsible for data collection, developing the data analytic approach, completing analyses, and offering feedback on manuscript drafts. As this thesis is manuscript-based, some content in Background and Discussion sections may overlap between studies.

## Abstract

Research has consistently shown that sexual desire, the motivation to seek out or become receptive to sexual stimulation, is associated with positive *intrapersonal* and *interpersonal* outcomes (Chao et al., 2011; Dosch, Rochat, et al., 2016; Laumann et al., 1999). Therefore, understanding the factors that contribute to and maintain sexual desire in long-term romantic partnerships is important for both the well-being of individual partners and for the couple as a unit. Empirical evidence shows, however, that sexual desire tends to decline over the course of long-term relationships, particularly for women (Klusmann, 2002; McNulty et al., 2016; Murray & Milhausen, 2012), and that sexual desire difficulties are the top concern reported by couples seeking sex therapy (Leiblum, 2010). Until recently, most of the research on sexual desire difficulties examined this issue as it relates to individual sexual functioning, while much less attention was paid to how couple-level factors (e.g., desire discrepancies, partner effects) relate to desire outcomes. While examining sexual desire issues from both perspectives is informative, using a dyadic lens to study these difficulties accounts for the mutual influence that partners have over each other's sexual outcomes. In the current research, I conducted three studies that investigated how interpersonal factors relate to sexual desire for couples in long-term heterosexual relationships. In Study 1, I examined the extent to which sexual desire difficulties are viewed as a problem for men and women in heterosexual relationships. From a list of relational sexual problems (e.g., frequency of sex, showing interest in having sex), partners rated how problematic each issue was in their sexual relationship. Results showed that the most common and severe problems in participants' sexual relationships centered on the theme of sexual desire, and men and women agree on the extent to which these issues are problematic. Given that women report high rates of sexual desire difficulties (Laumann et al., 1999, 2005,

2008; Shifren et al., 2008; West et al., 2008), and tend to be the lower desire partner when a desire mismatch exists in a heterosexual relationship (Sutherland et al., 2015; Willoughby et al., 2014; Willoughby & Vitas, 2012), Study 2 examined factors related to low desire for women. Using latent profile analysis, I investigated whether women with low desire differ qualitatively from one another based on group differences across environmental, sexual, and relational variables. Results supported a three-profile solution, with two distinct profiles emerging for women with low sexual desire: 1) The Globally Distressed Group, and 2) The Sexually Dissatisfied Group. In addition, a third profile emerged that consisted of generally satisfied women with average desire (Average Desire Group). Findings suggest that women with low desire not only differ qualitatively from women with average desire, but also from one another based on variations in sexual and relational factors. The third and final study in this program of research examined the dyadic longitudinal relationship between sexual desire and sexual satisfaction. Both members of a couple completed self-report measures of sexual desire and sexual satisfaction at two time points separated by a two-year period. Latent difference score (LDS) structural equation modeling was used to test the relative impact of earlier individual (actor effects) and partner (partner effects) sexual desire and sexual satisfaction on changes in these constructs over time. Results showed that actor and partner effects are involved in the relationship between sexual desire and sexual satisfaction, but that the direction of these effects differs by gender. Taken together, the findings from this research support the importance of examining sexual desire from an interpersonal lens as relational factors play an important role in couples' experiences of desire.

## **Acknowledgments**

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I am so grateful to my cohort for reminding me that life exists outside of the concrete walls of the Psychology Building. Your support, encouragement, and joyful presence have kept me grounded on the long road to graduation. To my mother, Brenda Torrie, and my mother-in-law, Yvonne Sutherland, I cannot adequately express the level of gratitude I feel for your emotional and tangible support as I completed this research while juggling my many life roles. I truly would not have had the time and space to complete this work without your dedication to my family and my academic goals. To all of my family members, thank you for always believing in me and reminding me that We Can Do Hard Things. And finally, to my children, thank you for teaching me more than I could have ever learned from a book, and for giving me perspective on the most important things in life.



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## General Introduction

In 1938, researchers at Harvard University commenced what is now one of the longest-running longitudinal studies in history examining adult development. The team was particularly interested in discovering the most important predictors of emotional, psychological, and physical wellness over time. Eight decades later, data from this study point to one factor that overwhelmingly predicts health and happiness across the lifespan: the quality of one's social and intimate relationships. The researchers found that individuals who enjoyed warm and loving relationships reported significantly greater life satisfaction (Isaacowitz et al., 2003), occupational success (McAdams & Vaillant, 1982), and physical health (Vaillant et al., 1998) than those who reported dissatisfying relationships. Dr. George Vaillant, psychiatrist and lead researcher on the project, summarized the results of the 80-year study in the statement, "Happiness is love. Full stop" (Stosel, 2013). As this research shows, the importance of close relationships for overall well-being cannot be overstated.

While adults enjoy a wide range of close relationships, arguably the most significant relationship in adulthood is the one shared with a romantic partner. Attachment theorists suggest that over the lifespan, one's primary attachment relationship shifts from the parent-child dyad to the romantic partnership (Hazan & Shaver, 1987). This is particularly true in Western cultures where young adults are expected to individuate from their parental figures in favour of peers and romantic partners (You & Malley-Morrison, 2000). Thus, in Westernized cultures, one's romantic partner often becomes one's primary source for feelings of intimacy, security, closeness, and support in adulthood. Indeed, a robust body of research has shown that the strength of the intimate bond between romantic partners predicts their overall psychological and physical well-being (Isaacowitz et al., 2003; Prager & Buhrmester, 1998; Proulx et al., 2007;

Whisman & Baucom, 2012).

Not only do couples in monogamous romantic partnerships typically act as one another's primary attachment figures, they also play the unique role of sexual partners. Evolutionary theories posit that mating and attachment have become closely related over time due to the benefits of mating partners jointly caring for vulnerable offspring (Hazan & Zeifman, 1994). Birnbaum (2010) suggests that two distinct processes, the attachment system and the sexual system, work in tandem to jointly influence relational outcomes. For example, Birnbaum and colleagues (2006) found that attachment orientation moderates the relationship between daily sexual experiences and overall relationship quality. Others have found that partners who "have frequent sexual and affectionate contact perceive that their need for love, affection, companionship, belonging, and nurturance are more frequently fulfilled than those who less frequently engage in these activities" (Prager & Buhrmester, 1998, p. 465). Taken together, this research suggests that relational and sexual processes interact to predict key outcomes for partners in romantic relationships. Given the high level of overlap between the attachment and sexual systems, the current research uses an interpersonal framework to examine the relational factors associated with sexual desire among couples in long-term heterosexual relationships. I chose to focus this work on heterosexual couples as there are documented differences in men and women's desire (described below) that can create additional sexual and relational challenges for mixed-sex couples (van Anders et al., 2022).

Overall, this research aims to: 1) establish the frequency and severity of sexual desire problems for heterosexual couples, 2) determine whether women with low desire fall into unique profiles based on variations in sexual, relational, and environmental factors, and 3) explore the dyadic longitudinal relationship between sexual desire and sexual satisfaction for heterosexual

couples. The theoretical and empirical basis for this work will be presented in the following sections. First, I describe the current conceptualization of sexual desire and outline how desire is embedded within the context of interpersonal relationships. Next, I briefly review the literature on attachment style as well as gender differences in sexual desire, followed by a description of the psychosocial factors linked to women's desire. Finally, I review past research on sexual desire discrepancies in heterosexual relationships and provide an overview of the aims of this program of research.

### **Conceptualizing Sexual Desire**

Sexual desire is most often defined in the literature as a subjective urge to pursue sexual stimulation and/or become pleurably receptive to another's sexual initiation (Basson, 2008; Metts et al., 1998). Like most aspects of human sexuality, feelings of sexual desire result from a complex interplay between psychological, emotional, sociocultural, biological, and relational processes. With respect to its biological component, the sexual response system is governed by interconnected processes stemming from both the central and peripheral nervous systems (Calabrò et al., 2019). Sexual desire has been linked with activation in the dopaminergic and serotonergic pathways in the brain that influence hormone production (Calabrò et al., 2019). Though research is mixed with respect to the specific hormones that influence sexual desire, testosterone (in men and women) and estrogen (in women only) are often associated with changes in desire (AlAwlaqi et al., 2017; Cappelletti & Wallen, 2016; Metts et al., 1996; van Anders, 2012). While hormone fluctuations appear to play a role in activating sexual desire, researchers generally view biological factors as necessary, but not sufficient components of desire (Metts et al., 1996). That is, one may have sufficient hormone levels to facilitate a sexual response, but additional psychological conditions must be met for one to feel motivated to pursue

or to become receptive to sexual stimulation. In addition to biological cues, intrapsychic factors such as body image (Dosch, Ghisletta, et al., 2016), psychopathology (Lourenço et al., 2010; Phillips & Slaughter, 2000; Trudel et al., 1997), cognitive style (Carvalho & Nobre, 2010), and stress levels (Raisanen et al., 2018) have been shown to play a role in facilitating or inhibiting one's subjective sense of desire. Further, a number of sociocultural variables have been associated with desire levels including social power and gender role norms, political affiliation, religiosity, and socioeconomic status (Davidson et al., 1995; van Anders et al., 2022). Finally relational factors including communication skill, attachment style, and sexual/relational satisfaction have been found to be closely linked to desire for one's partner (Birnbaum & Reis, 2012; Mark et al., 2018; Metts et al., 1996). Taken together, these factors appear to influence sexual desire by informing what Levine (1984) describes as one's 1) drive, 2) wish, and 3) willingness to engage in sex. Levine (1984) states that each of these components interact to inform the likelihood that desire will be experienced, as well as its level of intensity. For example, a woman might see an attractive individual, experience a physiological sexual response (drive), and have an urge to approach the person (wish). However, if the woman ascribes to gendered beliefs about women assuming a passive role in initiating sexual relationships, this may detract from her willingness and inhibit her feelings of desire.

In addition to illustrating how connections between biological, social, and psychological factors influence one's subjective experience of desire, this example highlights the importance of differentiating between sexual desire, sexual arousal, and sexual activity. While these constructs overlap in many ways, they have important distinctions that should not be conflated when conceptualizing desire (Metts et al., 1996). Whereas sexual desire is one's subjective motivation to engage in sexual activity, sexual arousal refers to physiological responses in the genitals and



other areas of the body (e.g., increased heart rate, flushed face) that are often, but not always, accompanied by sexual desire (Bancroft, 2005). It is important to distinguish arousal from desire as one may experience an automatic physiological response to a sexual stimulus but have no subjective urge to pursue sexual activity. Likewise, one may feel a strong urge to engage in sexual activity, but not experience an accompanying physiological arousal response. It should therefore not be assumed that a person who is experiencing arousal has a desire to pursue sex, nor should it be assumed that an absence of arousal indicates disinterest in sex.

Sexual desire and sexual activity are also closely related, but distinct constructs (Dosch, Rochat, et al., 2016). Research shows that people engage in sexual activity for many reasons unrelated to sexual desire including a wish for closeness and intimacy, as a “gift” to their partner, to procreate, to gain resources, and for relationship maintenance, among many others (Meston & Buss, 2007). Given that one can engage in sexual activity in the absence of desire, frequency of sexual activity in and of itself is not an accurate measure of a person’s sexual desire level. Moreover, lack of sexual activity should not be used as a sole indicator of low desire as one can abstain from sexual activity even when desire is present. For instance, a person may feel desire, but not have the opportunity to engage in sexual activity or the person’s beliefs may prohibit them from doing so. Although it is important to avoid making assumptions about desire based on the presence or absence of arousal and sexual activity, these constructs can certainly be considered in conjunction with other factors when assessing desire levels. For example, if a person is not becoming physically aroused with adequate stimulation, is not engaging in/ initiating sexual activity, and is generally showing a lack of interest in sex, these factors together might suggest that the person is experiencing low sexual desire.

## **The Interpersonal Context of Sexual Desire**

While desire can be a solitary or spontaneous feeling, it is often triggered by an interpersonal stimulus (e.g., a memory of a previous sexual experience or thoughts of an attractive person; Regan & Berscheid, 1996). Although sexual desire is a multifaceted construct, research shows that both men and women describe sexual desire in relational terms when asked to define it in their own words. In one study, Mark and colleagues (2014) found that men in committed heterosexual relationships define sexual desire as a wish to please and be pleased by a partner, while their female partners define desire as a longing for relational intimacy. Thus, sexual desire is believed to be “inextricably woven into the fabric of the relationship” (Stuart et al., 1987, pg. 93) for couples in committed long-term relationships.

The current research uses an interpersonal lens when investigating sexual desire in romantic relationships to acknowledge the interdependence that romantic partners have over one another’s sexual experiences and outcomes. Before sexual desire was recognized as an interpersonal construct that influences, and is influenced by, both partners in a sexual relationship, sexual desire problems among couples were mainly attributed to the (primarily female) lower desire partner (Kaschak & Tiefer, 2001). Such a framework often led to labelling female partners as “dysfunctional”, placing the responsibility to find solutions on the individual rather than the couple as a unit (Basson, 2001). Zilbergeld and Ellison (1979) first used the term sexual desire discrepancy to shift the subject of desire difficulties away from individual partners and toward the couple. This led more researchers and clinicians to consider the dyadic interaction between two partners when assessing sexual difficulties, resulting in a more holistic understanding of the problem. Moving toward a dyadic view of sexual desire problems is important as couple-level factors play a role in whether low desire and desire differences are

experienced as problematic. For example, if both partners have low desire and have agreed to have less frequent sex, low desire may not necessarily be considered an issue for the couple. Further, if a couple has a sexual desire discrepancy, but has problem-solved to find ways to address their differences (e.g., masturbation, compromising on frequency of sex, exploring open relationships), they may not consider their desire difference an issue. Therefore, low and discrepant sexual desire levels in and of themselves are not necessarily problematic for couples in long-term relationships. When partners find it difficult to negotiate desire differences, however, they may experience distress, highlighting the dyadic nature of the problem.

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

As a broadly relational construct, a person's experience of sexual desire is impacted by their general comfort with interpersonal closeness. In other words, partners' attachment styles tend to predict their motivations for sexual activity. Typically, securely attached individuals feel comfortable approaching their partners to fulfill their sexual and nonsexual needs (Mikulincer & Shaver, 2007). 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). In turn, insecurely attached individuals tend to over- or under-activate their desire for sex depending on their specific attachment style: anxious versus avoidant (Birnbaum & Reis, 2012). Specifically, individuals with anxious attachment tend to fear abandonment and they may seek reassurance and commitment from a partner through increased sexual activity (Davis et al., 2006). Indeed, research shows that individuals higher in attachment anxiety tend to report greater desire for sex with their partners (Davis et al., 2004). Unlike those with anxious attachment, avoidantly attached people tend to withdraw from the relationship and downplay its importance (Berry et

al., 2008). In their sex lives, avoidantly attached individuals may mentally separate sexual activity from relational intimacy (Birnbaum, 2007). For an individual with avoidant attachment, sex is often tied to a desire for pleasure as opposed to a longing to connect with a partner. For example, men higher in avoidant attachment report higher levels of solitary sexual desire (e.g., masturbation, fantasizing) than desire for their partner (Dosch, Rochat, et al., 2016). These findings provide further evidence that relational variables are strongly tied to experiences and expressions of sexual desire in romantic relationships.

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

Note that when gender is discussed throughout this research, the term “man/men/male” is used to describe individuals who self-identify as male and “woman/women/female” is used to describe those who self-identify as female. The preponderance of research examining sexual desire in couples has focused on cis-gender, heterosexual couples and therefore this review will speak primarily to this population.

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 (see review by Baumeister et al., 2001), other research has questioned this assertion (e.g., Davies et al., 1999; Dawson & Chivers, 2014). 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 et al., 2001; Dosch, Rochat, et al., 2016). 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). It is important to note that these studies have examined desire in dating couples

at the early stages of their relationships when desire tends to be highest for both partners.

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 moment in time (Dosch, Rochat, et al., 2016).

### **Women's Desire and Psychosocial Context**

While examining mean levels of sexual desire between men and women is interesting, Dawson and Chivers (2014) suggest that assessing the contextual factors related to men and women's experiences of sexual desire may be more informative than solely comparing gender differences. The authors suggest that exploring within-gender variation in the interpersonal and intrapersonal factors that influence sexual desire allows us to gain a more nuanced understanding of the processes that cue (or inhibit) desire for different individuals (Dawson & Chivers, 2014). The biopsychosocial context of one's life (e.g., health, life stress, cultural views, relationship quality) plays a critical role in determining one's sexual desire (Carvalho & Nobre, 2011). There is evidence to suggest that the environmental/relational context is particularly relevant in women's sexuality (Basson, 2001, 2008; Baumeister, 2000; Dewitte & Mayer, 2018; Laan & Both, 2008). For example, Baumeister (2000) cites twin studies which have found that only about 40% of the variance in female sexuality is linked to genetics, while over 70% of the variance in male sexuality is genetically influenced. This suggests that much variation in female sexuality may be tied to environmental, as opposed to biological, factors. A substantial body of evidence supports that a woman's desire tends to be strongly tied to the context of her relationship (e.g., Dennerstein et al., 2009; Dosch, Rochat, et al., 2016; Stephenson & Meston,

2010). For example, research has shown that women's desire is activated by relational cues such as partner commitment and familiarity (Timmers et al., 2018). Further, Mark and colleagues (2014) have found that women cite relational intimacy as a core feature of their experiences of sexual desire.

The dual control model of sexual desire (Bancroft & Janssen, 2000) offers a framework within which to understand differences in men and women's sexual responses that is conceptually similar to Levine's (1984) model described earlier. The model proposes that one's sexual desire level is controlled by two independent systems: 1) a sexual excitation system and 2) a sexual inhibition system. These systems are analogous to the gas and brake pedals in a vehicle, respectively. The theory posits that specific relational and environmental cues either accelerate or decelerate the sexual response. For example, the presence of an attractive partner or being in a sensual and private environment might act as desire accelerators, while safety concerns, fear of rejection, or relational conflict might act as desire decelerators. It has been suggested that men and women experience sexual excitation to a similar extent, however, women experience greater sexual inhibition related to physical (e.g., safety, pregnancy), social (e.g., stigma, gender roles), and relational (e.g., partner's level of commitment) concerns (Dawson & Chivers, 2014). This results in lower overall desire for women, not because they are less attuned to desire cues, but rather because they experience greater inhibition to their sexual response.

A further contextual variable that has been differentially linked to men and women's desire is the length of the relationship. Specifically, some research has shown that sexual desire declines over time for men and women in long-term relationships (McNulty et al., 2016), while others have found that desire declines for women, but not men, as the relationship progresses (Klusmann, 2002; Murray & Milhausen, 2012). Murray and Milhausen (2012) offer an

evolutionary explanation for their findings, suggesting that desire may be higher in the early stages of a relationship to increase couple bonding and reproduction, while in the latter stages of the relationship, women's attention would shift toward child-rearing activities. Van Anders and colleagues (2022) offer a related, but extended explanation for such declines in women's desire, which is rooted in power differentials between men and women in heterosexual partnerships. The authors assert that heteronormative ideals place an increased burden (e.g., childrearing, paid employment, household duties, emotional labour) on women that leads to decreased desire as the demands of work and home life increase. These theoretical ideas deserve further empirical attention to support which specific factors influence changes in women's versus men's desire over time. Determining the factors linked to low desire and changes in desire, particularly for women, is important as this research could help to address common sexual problems such as sexual desire discrepancies between partners.

### **Sexual Desire Discrepancy**

Research has shown that women rank sexual desire discrepancies as their primary sexual concern in romantic relationships (Ellison, 2002). Sexual desire discrepancies, or differences in partners' sexual desire levels, are a critical construct to consider when investigating the interpersonal context of sexual desire as such differences are related to lower sexual and relational satisfaction for couples (Bridges & Horne, 2007; Davies, et al., 1999; Mark, 2012; Sutherland et al., 2015). When a sexual desire discrepancy exists in a long-term heterosexual relationship, women tend to be the lower desire partner (e.g., Sutherland et al., 2015; Willoughby et al., 2014; Willoughby & Vitas, 2012). As mentioned previously, exceptions to this finding (e.g., Davies, Katz, & Jackson, 1999; Mark, 2012) have been found in research conducted on university samples of dating couples who have been in their relationships for a relatively short

duration and, therefore, female partners may not have experienced the declines in desire that tend to occur in later relationship stages (Burghardt et al., 2020; Murray & Milhausen, 2012).

When considering sexual desire discrepancies and their associations with sexual outcomes for couples, it is important to distinguish between absolute differences in partners' self-reported desire levels versus partners' subjective perceptions of the magnitude of their desire differences, as these reports may differ. My Master's thesis research explored the association between each of these operationalizations of sexual desire discrepancies and sexual satisfaction for couples in long-term, heterosexual relationships (Sutherland et al., 2015). I assessed differences in couples' self-reported desire levels (termed "actual" desire discrepancy), as well as individual partners' subjective sense of the magnitude of desire discrepancy in their relationships (termed "perceived" desire discrepancy). I found that while actual desire discrepancies were not related to sexual satisfaction for men or women, greater perceived desire discrepancies were associated with lower sexual satisfaction across genders. This finding supports the idea that some couples with desire discrepancies either do not notice or do not consider their differences to be problematic, while others do. These results are in line with Bridges and Horne's (2007) research, which found that same-sex couples differentiate between "nonproblematic" versus "problematic" desire discrepancies, and that only the latter relates to lower sexual satisfaction in the relationship. Exploring the intrapsychic and interpersonal factors that cause only some subsets of couples to experience desire discrepancies as problematic is an important next step in sexual desire research. While the current research did not directly explore sexual desire discrepancies, this work examined how interpersonal and contextual factors relate to low desire and changes in sexual desire over time, which can offer insight into this issue.



## **Overall Aims of Dissertation Research**

The overarching goal of my dissertation research was to examine how interpersonal factors relate to experiences of sexual desire for couples in long-term heterosexual relationships. I addressed my research goal by conducting three studies that examine sexual desire from a relational perspective. The first study in my dissertation aimed to establish how problematic sexual desire issues are experienced as for couples in long-term heterosexual relationships. Research investigating the prevalence of sexual dysfunctions in individuals has consistently demonstrated that low desire is the leading sexual problem reported by women (e.g., Laumann et al., 1999, 2005, 2008; Shifren et al., 2008; West et al., 2008). In contrast, there has been much less research examining how sexual problems manifest in the context of long-term relationships. Specifically, to what extent are issues related to desire a problem for couples as a unit? It is important to disentangle these two phenomena as a problem that exists at the individual-level does not necessarily translate into a problem at the couple-level and vice versa. That is, one partner may meet criteria for a desire disorder, but this may not translate into a problem in the relationship. For instance, if both partners experience low desire, they may both be satisfied with having less sexual intimacy in the relationship. Conversely, two individuals who have no sexual dysfunctions may experience dyadic sexual problems including disagreements on frequency of sex or which types of sexual activities to engage in. For this reason, it is crucial to examine sexual concerns as they occur in both the individual and interpersonal context, as these issues may be independent of one another. Indeed, the scientific community has begun to stress the importance of examining relational factors when diagnosing and treating sexual dysfunctions, such as low sexual desire (e.g., Brotto, 2010; Denton, 2007). Thus, my first study laid the foundation of my dissertation research by clarifying how common and problematic sexual desire

issues are for men and women in committed romantic relationships.

Based on the results of Study 1, which investigated the extent to which sexual desire difficulties are a problem for men and women in long-term relationships, Study 2 more closely examined how problems of sexual desire present among women. In particular, the aim of this study was to clarify whether women with low sexual desire represent one unitary group that shares a common experience or several heterogeneous subgroups that can be distinguished from one another based on variations in the contextual factors associated with their experiences of low desire. For example, it is possible that some women experience low sexual desire as a result of poor relationship adjustment, while others cite desire problems that are driven by difficulties managing high life stress, or dissatisfaction with their sex lives as a whole. For Study 2, I conducted a within-gender study of women, as low sexual desire is the leading sexual dysfunction reported by women (Laumann et al., 1999, 2005, 2008; Shifren et al., 2008; West et al., 2008), and women tend to be the lower desire partner when a sexual desire discrepancy exists in a long-term heterosexual relationship (e.g., Sutherland et al., 2015; Willoughby et al., 2014; Willoughby & Vitas, 2012). I am careful not to imply that sexual desire problems in relationships are driven by women, but rather to suggest that a better understanding of the experiences of women with low desire may be a first step in elucidating the factors tied to this dyadic issue.

My third and final study built on the results of the first two studies by taking a dyadic, longitudinal approach to examining changes in partners' desire over time. More specifically, I explored how changes in partners' sexual desire and sexual satisfaction influence their own and their partners' sexual desire and sexual satisfaction over a two-year period. Research to date shows that sexual desire and sexual satisfaction decline for couples over time, with steeper

declines reported by women (McNulty et al., 2019; Murray & Milhausen, 2012). However, the direction of the association between these constructs, and the extent to which partner-level factors contribute to these declines, is currently unclear.

## Study 1

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### Background

In the current study, I sought to improve our understanding of relational sexual problems by examining, in the context of long-term romantic relationships, which aspects of a couple's sexual relationship are considered most concerning to them. Consistent with the terminology used by Byers and MacNeil (1997), I distinguished between problems at the individual versus dyadic level by referring to individual issues as "sexual dysfunctions" and dyadic issues as "relational sexual problems." The difference between sexual dysfunctions and relational sexual problems is a meaningful conceptual distinction with practical and empirical implications. For example, even if one partner is experiencing a sexual dysfunction, the couple could develop creative ways to engage in sexual activity, such that the issue does not cause problems in their sexual relationship. Conversely, two partners who have no individual sexual dysfunctions could experience sexual problems in the relational context ("relational sexual problems"). For instance, couples may disagree on the types of sexual activities they enjoy, which could create problems in their sex life. In this example, neither partner has a sexual dysfunction, but their differing sexual preferences become problematic in the context of the relationship. For these reasons, it is important not only to assess sexual dysfunctions at the individual level, but also to examine sexual problems that occur in couples, because the two types of analyses provide complementary data that are distinct from one another. Furthermore, many individuals fail to seek professional

help for a sexual dysfunction until the dysfunction has impacted their intimate relationships. For example, a woman experiencing female interest/arousal disorder may only seek help for the issue once her partner expresses concern about their sexual desire differences or her lack of sexual initiation. Thus, sexual concerns that begin as individual issues often transform into relational problems. Also, the scientific community has begun to stress the importance of examining relational factors when diagnosing and treating sexual dysfunctions. A common critique of the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (American Psychological Association, 2013), diagnostic criteria for sexual disorders is a lack of recognition of relationship factors that contribute to the etiology and maintenance of such dysfunctions (Beach et al., 2006; Brotto, 2010). The current research sought to further our knowledge of the types of sexual problems that individuals experience in a relational context in an effort to improve current conceptualizations of sexual disorders.

There has been limited past work that has described couples' sexual problems, with a few notable exceptions. For example, Frank et al. (1978) presented couples with 9 common sexual difficulties (eg, "my partner chooses inconvenient times for sex") and asked them to indicate whether the issue was present in their sexual relationship. The researchers found that men's most common difficulties were "Attraction to person other than my partner" (21%) and "Too little foreplay before intercourse" (21%), whereas women's most common difficulty was "Inability to relax" (47%). Byers and MacNeil (1997) also investigated relational sexual concerns and found that men's most common concern was "I like to do things my partner does not" (26.5%), whereas women's top concern was "I'm not interested in sex" (49.1%). The current study seeks to replicate and extend this research by providing participants with a more comprehensive list of relational sexual problems. The measure used in the current study (the Sexual Problems

Questionnaire [SPQ]; Rehman et al., 2017) has been used in past research and has been modelled after the Desired Changes Questionnaire (Heavey et al., 1993), a measure that assesses couples' relational concerns. The SPQ includes 25 items that were created based on a review of the most common sexual concerns faced by couples as identified by Frank and colleagues (1978) and Byers and MacNeil (1997). Furthermore, sex researchers and clinicians who provide couples therapy were consulted to aid in the development of the sexual problem items. In addition to asking participants about the presence of sexual concerns in their romantic relationship, the SPQ asks them to rate the extent to which the concerns represent a problem in their relationship. Participants are also asked to include up to 5 of their own concerns that are not listed on the measure and to report which concerns they consider to be most important in their sexual relationship. In sum, the use of the SPQ in this study builds on past research by providing a fuller picture of the types of sexual problems that couples experience, as well as the perceived significance of those concerns in the sexual relationship.

In sum, the goal of the current study was to conduct a descriptive analysis to identify which sexual issues are (a) most common and (b) most problematic in couples' sexual relationships. I first assessed which relational sexual problems the greatest number of participants reported in their sexual relationship. I then explored which relational sexual problems were considered the most severe by men and women, using both qualitative and quantitative reports. In addition, I wanted to examine whether gender differences exist with regard to men and women's most common and most severely rated relational sexual problems. Just as gender differences exist in men and women's most common sexual dysfunctions (Laumann et al., 1999, 2005, 2008), they may also be present with respect to couples' relational sexual problems. For example, research suggests that men are more likely to emphasize physical aspects of sex (e.g., partner physical

attractiveness), while women tend to prioritize relational factors (e.g., physical closeness, intimacy) (Regan & Berscheid, 1996; Sprecher, 2002). It is therefore possible that men and women rate different issues as most problematic in their sexual relationships. However, based on research showing that low sexual desire is the most common sexual issue reported by women (Laumann et al., 1999, 2005, 2008; West et al., 2008) and that sexual desire discrepancies are linked with lower sexual satisfaction for men and women (Sutherland et al., 2015), I expected that both men and women in heterosexual partnerships would report that problems related to sexual desire are particularly problematic in their sexual relationships.

## **Methods**

### ***Participants and Procedure***

A convenience sample of couples in long-term relationships was recruited using advertisements placed in online classified ads, newspapers, and in the offices of local businesses and physicians. Interested participants were asked to contact our lab by telephone or email. In order to be eligible for the study, couples had to have been in a cohabiting or married mixed-sex relationship for at least 2 years. A total of 117 couples participated in this study. On average, couples were in their relationship for 10.64 years ( $SD = 9.98$ ). Female participants were an average of 35.95 years old ( $SD = 10.97$ ) and male participants were an average of 38.32 years old ( $SD = 11.54$ ). Female participants identified as Caucasian/White (92%), African/Black (2%), Hispanic (2%), South Asian (1%), Other Asian (1%), Other (2%), and 1 participant provided no response to this question. Male participants identified as Caucasian/White (87%), African/Black (1%), Hispanic (2%), South Asian (3%), Other Asian (1%), First Nations (3%), and Other (3%).

These data were collected in-lab as part of a larger study examining the relationship between interpersonal variables and sexual outcomes for couples. The two members of each

couple were randomly assigned to work with one of two graduate or undergraduate research assistants who were blind to the specific purpose of the study. The research assistants brought each member of the couple to a separate room to complete all measures. Participants were told that they were participating in a study about sexuality in relationships. Participants first completed the *Background Questionnaire* and the *Sexual Problems Questionnaire*, followed by several measures unrelated to the current study in random order. Each partner received \$50.00 (CDN) for participating in the study. A Research Ethics Board approved all measures and procedures used in this research.

### ***Main Measures***

**Background Questionnaire.** This measure was used to gather demographic information including participants' age, gender, education, income level, and marital status.

**Sexual Problems Questionnaire (SPQ; Rehman et al., 2017).** This questionnaire was modeled after the *Desired Changes Questionnaire* (DCQ; Heavey et al., 1993), a measure which lists common relationship concerns that participants may face in their romantic relationships (e.g., finances, household chores) and asks them to rate how much they would like their partner to change with regard to that area. In addition, the DCQ asks participants to select and rate up to five additional relationship concerns not listed on the measure. To create the SPQ, the original DCQ items were modified to reflect the types of concerns that couples typically face in their sexual relationships (e.g., sexual frequency) (for information on item development, see Introduction). The instructions were also modified from the original version to read "Please rate the extent to which the issue is a problem in your *sexual* relationship on the 7-point scale below." Responses range from 1 (*Not at all*) to 7 (*Very much so*). The final measure consists of 25 items (e.g., paying attention to sexual needs, sexual initiation, amount of foreplay). At the end



of the questionnaire, participants are asked to list and rank the top three most problematic issues in their sexual relationship from the items included in the measure. While the SPQ includes relational sexual problems that are commonly reported by couples, it is unlikely that the questionnaire is exhaustive with respect to the myriad problems couples could potentially face in the context of their sexual relationships. For this reason, the questionnaire allows participants to list and rate up to three additional sexual problems in their relationships. In the current study, participants listed relatively few additional sexual problems that were not already included in the SPQ. Unique relational sexual problems that were added by participants (e.g., fertility issues, energy for sex) were mentioned by fewer than 10% of participants. This finding supports that the SPQ encompasses many of the relational sexual problems that men and women commonly experience in their sexual relationships. Though the SPQ shows excellent internal consistency (Chronbach's alpha for men = .91; Chronbach's alpha for women = .92), it was designed for use as a comprehensive list of distinct relational sexual problems from which participants can select and rate their most problematic concerns. In the current study, the SPQ was not used as a cumulative measure, nor were any subscales examined.

### ***Measures Used to Validate the Sexual Problems Questionnaire***

**Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995).** The GMSEX is a 5-item measure of sexual satisfaction. Participants rate their sexual satisfaction on 7-point scales with adjective pairs as anchors (e.g., *Very Good-Very Bad*). This questionnaire showed excellent reliability in the current sample (Chronbach's alpha for men and women = .96).

**Sexual Functioning Questionnaire (SFQ; Quirk et al., 2002).** The SFQ is a 9-item measure that assesses sexual difficulties that participants have experienced in the past year. Participants rate how often they have experienced each difficulty (e.g., "I am unable to relax") on

a scale from 1 (*Never*) to 5 (*Always*). One item included in the original measure (“I have premature orgasms”) was dropped from analyses because it detracted from scale reliability and was not likely applicable to both genders. Without this item, the measure showed acceptable reliability for men (Chronbach’s alpha = .64) and women (Chronbach’s alpha = .73).

**Quality of Marriage Index (QMI; Norton, 1983).** The QMI is a 6-item questionnaire that assesses participants’ satisfaction with their current romantic relationships. Participants rated their agreement with five statements such as “I have a good relationship” on a scale from 1 (*Very strongly disagree*) to 7 (*Very strongly agree*). They also rate their overall happiness in the relationship on a scale from 1 (*Very unhappy*) to 10 (*Perfectly happy*). The questionnaire had excellent reliability in the current sample (Chronbach’s alpha for men = .94; Chronbach’s alpha for women = .95).

**International Personality Item Pool (IPIP; Goldberg, 1992).** The IPIP is a 50-item questionnaire that assesses five personality traits: extraversion, agreeableness, conscientiousness, emotional stability, and intellect. Participants rate how well statements such as “Don’t talk a lot” and “Am interested in people” describe them on a scale from 1 (*Very inaccurate*) to 5 (*Very accurate*). With regards to internal consistency, the IPIP subscales showed good reliability for both genders. For men, Chronbach’s alphas ranged from .77 (Neuroticism) to .92 (Extraversion) and for women the alphas ranged from .71 (Agreeableness) to .90 (Extraversion).

### ***Data Analytic Strategy***

All data were analyzed separately for men and women to facilitate between-gender comparisons. First, the reliability and validity of the *Sexual Problems Questionnaire* (SPQ) was examined to ensure that the central measure of this study was indeed examining sexual problems in a consistent manner for men and women. Next, a frequency count was conducted using items

from the SPQ to determine which sexual issues were considered problematic to the greatest number of couples. To conduct the frequency count, items were recoded into binaries, where responses of 1 (*Not at all a problem*) were coded 0 and responses between 2 (*Slight problem*) and 7 (*Very much a problem*) were coded 1, indicating the existence of a problem. All 1's were summed and the resulting total was transformed into a percentage by dividing the total for each item by the number of participants in the sample ( $N_{\text{men}} = 117$ ;  $N_{\text{women}} = 117$ ). Next, descriptive analyses were conducted to determine men and women's most severe relational sexual problems by examining mean severity ratings (1 – *Not at all a problem* to 7 – *Very much a problem*) for each item on the SPQ. T-tests were performed to examine gender differences in the average severity ratings for all SPQ items. Finally, a frequency count was conducted by counting the SPQ items that participants qualitatively reported to be the 3 most problematic issues in their sexual relationships. Results from this count were divided by the total sample size and are reported as percentages.

## **Results**

### ***Validity of the Sexual Problems Questionnaire (SPQ)***

In the current study, the SPQ showed strong convergent and divergent validity. I expected to find significant correlations between the SPQ and conceptually related sexuality measures such as the *Sexual Function Questionnaire* (SFQ) and the *Global Measure of Sexual Satisfaction* (GMSEX). As the SPQ focuses on *relational* sexual problems, I also expected that the measure would relate to men and women's relationship satisfaction, but to a lesser extent than sexual satisfaction. I predicted that there would be little to no relationship between the SPQ and conceptually unrelated measures of personality (i.e., Extraversion, Neuroticism, Openness, Conscientiousness, and Agreeableness). As anticipated, results showed that SPQ and SFQ scores

correlated significantly for men ( $r = .45, p < .001$ ) and women ( $r = .58, p < .001$ ). Though both were significant, the SPQ was more strongly associated with the GMSEX ( $r_{\text{men}} = -.60, p < .01$ ;  $r_{\text{women}} = -.64, p < .01$ ) than it was with the Quality of Marriage Index (Norton, 1983), a measure of relationship satisfaction ( $r_{\text{men}} = -.48, p < .001$ ;  $r_{\text{women}} = -.37, p < .001$ ). For women, the SPQ was unrelated to the personality scales on the *International Personality Item Pool* (IPIP;  $ps > .05$ ), with the exception of a small correlation with Neuroticism ( $r = .19, p = .04$ ). For men, the measure showed modest correlations with Neuroticism ( $r = .28, p < .01$ ), Agreeableness ( $r = -.29, p < .01$ ), and Conscientiousness ( $r = -.21, p = .02$ ). All other correlations between the SPQ and IPIP scales were nonsignificant ( $ps > .10$ ) for men.

### ***Most Frequently Reported Sexual Problems***

As shown in Table 1, a frequency count revealed that the 3 most common sexual problems endorsed by both women and men were *Frequency of Sexual Relations* (Women & Men = 85%), *Sexual Initiation* (Women 85%; Men = 84%), and *Showing Interest in Having Sex* (Women = 81%; Men = 84%). Women and men shared eight out of ten of their most frequently reported sexual problems.

### ***Most Severe Sexual Problems***

I next examined the extent to which men and women found each sexual issue to be *problematic* in their sexual relationship. Results showed that both men and women reported their most problematic sexual issues to be: 1) *Frequency of Sexual Relations* (Women:  $M = 3.78, SD = 1.86$ ; Men:  $M = 3.70, SD = 1.81$ ), 2) *Sexual Initiation* (Women:  $M = 3.62, SD = 1.79$ ; Men:  $M = 3.64, SD = 1.69$ ), and 3) *Showing Interest in Having Sex* (Women:  $M = 3.61, SD = 1.91$ , Men:  $M = 3.57, SD = 1.84$ ) (see Table 2).

### ***Gender Differences***

With regard to the most common relational sexual problems reported by women and men, a frequency count (described above) revealed that women and men shared eight out of ten of their most frequently reported sexual problems (see Table 1). An examination of men and women's severity ratings for each issue revealed that they shared nine out of ten of their most problematic sexual issues (see Table 2). Analyses showed that there were no significant gender differences in severity ratings for any of the 25 SPQ items with the exception of *Trouble Getting Sexually Excited*,  $t(232) = 2.83, p = .005$ , which was rated as more problematic by women ( $M = 3.15, SD = 2.63$ ) than men ( $M = 2.32, SD = 1.69$ ) and *Premature Orgasm*,  $t(232) = -2.00, p = .04$ , which was rated as more problematic by men ( $M = 2.13, SD = 1.52$ ) than women ( $M = 1.74, SD = 1.42$ ).

### ***Qualitative Data***

To determine which problems participants *perceived* to be their most critical sexual problems, they were asked to list which three issues from the SPQ were most important in their sexual relationship. Consistent with results from the previous analyses, women and men reported that *Frequency of Sexual Relations* (Women = 36%; Men = 39%), *Sexual Initiation* (Women = 33%; Men = 32%), and *Showing Interest in Having Sex* (Women & Men = 25%) were one of their three most problematic sexual issues (see Table 3). Taken together, analyses provide converging evidence that frequency of sex, sexual initiation, and showing interest in having sex are key issues for the majority of men and women in committed romantic relationships.

### **Discussion**

The overall goal of the current study was to examine which relational sexual problems are most common and problematic for couples in committed long-term relationships. In addition, I sought to determine whether men and women differed in their perceptions of the top sexual

problems in their relationship. While there is considerable research describing sexual dysfunctions at the individual level (Laumann et al., 1999, 2005, 2008; Rosen, et al., 2016; West et al., 2008) little research attention has focused on the kinds of sexual issues that couples experience in the context of their dyadic sexual relationships. This related, yet distinct, question is important because individual and dyadic problems may be independent of one another, and individuals may not seek help for a sexual dysfunction until it becomes a relational concern.

The most noteworthy finding in Study 1 was the remarkable consistency in terms of which issues emerged as the top relational sexual problems, across different methods of rating a range of sexual issues. Specifically, participants reported that *Frequency of Sexual Relations*, *Sexual Initiation*, and *Showing Interest in Having Sex* were not only the most common relational sexual problems, but were also the most severe in their sexual relationships. This finding was true regardless of gender and across qualitative (asking participants to list their top three problems) and quantitative (frequency count, mean problem ratings) reports. Further, when examining their ten most frequent and most problematic issues, men and women shared nine out of ten sexual problems from each category.

These results shed light on the types of sexual problems that individuals perceive to be most significant in their sex lives. All three of the most common and problematic issues in participants' sex lives related to issues of sexual desire. Indeed, the *Diagnostic and Statistical Manual, Fifth Edition* (DSM-5) cites lack of interest in, and initiation of, sexual activity as diagnostic features of both Female Interest/Arousal disorder and Male Hypoactive Desire Disorder. While each of these problems alone cannot be considered synonymous with sexual desire issues (Brotto, 2010; Mark & Lasslo, 2018), clinical and empirical evidence suggest that, taken together, these items may be associated with sexual desire concerns (Baumeister et al.,

2001; Leiblum et al., 2006; Willoughby & Vitas, 2012). The notion that desire problems are a critical issue for couples in romantic relationships is supported by research showing that such issues rank among the top complaints of couples seeking sex therapy (Leiblum, 2010). These results extend this research by presenting a more nuanced picture of this problem, which suggests that within the domain of sexual desire, concerns about frequency, initiation, and interest typically present the greatest problems in sexual relationships.

The second goal of the current study was to examine the extent to which men and women identified similar or different issues as the top problems in their sexual relationship. Results showed that men and women reported that similar sexual issues cause problems in their intimate relationships. For each category, both genders reported the same top three problems in the same rank order (1 - *Frequency of Sexual Relations*, 2 - *Sexual Initiation*, and 3 - *Showing Interest in Having Sex*). Further, when looking at the top ten most common and problematic relational sexual issues, men and women had high overlap on which sexual issues were most problematic in their relationship (sharing nine out of ten issues). These results suggest that men and women report that similar problems cause distress in their sexual relationships.

It is important to note that analyses for this study were descriptive in nature and were conducted at the group, as opposed to the dyadic, level. Although this study examined dyadic sexual problems that affect the couple as a unit, the statistical analyses did not allow for comment on within-couple agreement on these sexual problems. I believe that this descriptive work is an important initial step for understanding the types of relational sexual problems that men and women consider most problematic in their relationships. Future research testing the related, yet distinct, question of couple-level agreement on these problems will serve as an important next step in this line of research. In addition, the current findings do not allow for

comment on whether there is a systematic gender difference in the direction of desired change for a sexual issue. For example, it is possible that both men and women believe that sexual frequency is a critical issue in their sex life, but that one gender desires more sex, whereas the other desires less sex. Because the current study did not examine the direction of the sexual problems listed on the SPQ (Rehman et al., 2017), I cannot speak to this particular issue.

Some notable differences are apparent in this study as compared with previous findings (Byers & MacNeil, 1997; Zilbergeld & Ellison, 1980). For example, in the study by Frank and colleagues (1978), men rated “attraction to someone other than my partner” as 1 of their top 2 issues, whereas this concern was ranked quite low in the current sample. One explanation is that discrepant findings are due to changes in sexual attitudes and behavior over the past 40 years. For instance, with regard to the issue of feeling attraction to someone outside of one’s primary relationship, it is possible that cultural phenomena taking place during the late 1970s (eg, the sexual liberation movement) made this a prominent issue for couples. Indeed, research has shown a steep decline in men’s acceptance of extramarital sex between 1972 and 2012 (Twenge et al., 2015), which suggests that considering sex with attractive others may be less of a problem now than it was 40 years ago. The second explanation pertains to the methodologic differences between the previous studies and the current study. The measure used by Frank and colleagues (1978) and Byers and MacNeil (1997) contained only 9 items, as compared with 25 items in the current expanded measure. It is possible that key issues in couples’ sexual relationships were not included in the previous measure, and so alternative problems were rated as more significant. This could explain why “amount of foreplay” was 1 of the top 3 issues in previous studies, but it was not even a top 5 issue in the current study. Perhaps other issues that were included in the



SPQ (eg, frequency of sexual activity, sexual initiation) are more concerning to couples, but they did not have the opportunity to report on these issues in previous studies.

The current study has several strengths, as well as some limitations that bear noting. One strength of the current study is the use of a large community sample of couples. Furthermore, I assessed relational sexual problems using a comprehensive measure that included and expanded on items that have been used in past studies. Also, the measure used in the current study has been validated in past research (Rehman et al., 2017). I administered this measure to both members of the dyad, allowing me to test gender differences in couples' top sexual issues. Finally, multiple indices were used to assess sexual problems (frequency counts, problem ratings, qualitative reports), and this allowed for examination of convergence in the results across these different ways of assessing and conceptualizing relational sexual problems. A limitation of this measure was that it did not assess the direction of the sexual problems listed. For this reason, I cannot comment on the direction of changes that participants desired. For instance, a participant who rated "frequency of sexual relations" as a relational sexual problem may be desiring greater or lower sexual frequency. Furthermore, I cannot speak to the existence of gender differences in the direction of these problems.

Although this study did not examine directionality, other existing research may inform this question. For example, with some notable exceptions (Davies et al., 1999; Mark, 2012; Mark & Murray, 2012), research on gender differences in sexual desire has shown that men tend to be the higher desire partner in mixed-sex couples (Baumeister et al., 2001; Dosch et al., 2016; Sutherland et al., 2015). Moreover, epidemiologic research has shown that problems of sexual desire are the leading sexual dysfunction among women (Laumann et al., 2005; Mitchell et al., 2015; Angst et al., 2015). In light of such findings, it is possible that male partners desire greater

sexual frequency, initiation, and interest, whereas female partners desire less of these aspects of the sexual relationship. Of course, this hypothesis would need to be tested in future research examining both the type and direction of sexual problems in romantic relationships.

Because this research was descriptive in nature, I did not conduct dyadic analyses to assess within-couple agreement on relational sexual problems. Whereas the current study speaks to the types of issues men and women consider most problematic in their sexual relationships, an interesting extension of this work would be to address dyadic congruence on these problems using such statistical methods as an Actor-Partner Interdependence Model. An additional limitation of the current study was that it did not include couples from a clinical population, and therefore these results cannot speak to the concerns of couples experiencing greater distress. This research will need to be replicated with couples seeking professional help to generalize to a clinical population. Furthermore, our participants self-selected to participate in the study, and they were mainly white, middleclass individuals. Future research should use a more representative sample that focuses on individuals from varying ethnic and socioeconomic backgrounds to determine whether these findings apply to diverse groups of people.

It is hoped that this descriptive research will serve as an important first step in formulating theoretically meaningful questions for subsequent research. For example, although prior research shows that problems of sexual desire tend to affect women to a greater extent than men, the current results show that problems of sexual desire are a top relationship problem for both sexes. This finding could have important implications for the conceptualization and treatment of desire problems in couples.

An additional direction for future research would be to examine the longitudinal association between sexual desire and sexual satisfaction. Past research has shown that the large

majority of couples who report problems of sexual interest and desire do not seek professional help for this issue (Byers & MacNeil, 1997). Therefore, it is possible that this concern only negatively impacts a subset of the population, whereas others may develop adaptive ways to cope with this issue (eg, compromise, open communication). Follow-up research should explore for whom sexual desire concerns lead to clinical distress and for whom these issues are simply a benign “feature” of the long-term relationship (Herbenick et al., 2014).

This study is the first to use an expanded measure of relational sexual problems to examine the issues that are most common and problematic in sexual relationships. When asked to report on which issues in their sexual relationships were most problematic, participants responded with high consistency. Namely, frequency of sex, sexual initiation, and showing interest in having sex were not only the most common, but also the most problematic issues for men and women, as measured by qualitative and quantitative reports. Findings suggest that the key problems in sexual relationships center on the theme of sexual desire and that men and women consider these issues to be problematic to a similar extent. It is hoped that this research will aid in the development of treatment tools that will help couples facing distress in their sexual relationships.

**Table 1***Ten Most Frequently Reported Relational Sexual Problems from the Sexual Problems**Questionnaire in Rank Order*

Men (N = 117)			Women (N = 117)		
Item	N	%	Item	N	%
<b>Frequency of Sexual Relations</b>	99	85	<b>Frequency of Sexual Relations</b>	99	85
<b>Sexual Initiation</b>	98	84	<b>Sexual Initiation</b>	99	85
<b>Showing Interest in Having Sex</b>	98	84	<b>Showing Interest in Having Sex</b>	95	81
<b>Exploring Passion/Experimentation</b>	94	80	<b>Paying Attention to Sexual Needs</b>	90	77
<b>Paying Attention to Sexual Needs</b>	93	79	<b>When to Have Sex</b>	85	73
<b>When to Have Sex</b>	86	74	<b>Exploring Passion/Experimentation</b>	84	72
<b>Amount of Foreplay</b>	86	74	Trouble getting sexually excited	77	66
Amount of Tenderness After Sex	75	64	<b>Amount of Foreplay</b>	73	62
Where to Have Sex	68	58	<b>One Partner Wants to do Something that the Other Partner Doesn't</b>	66	56
<b>One Partner Wants to do Something that the Other Partner Doesn't</b>	68	58	Being Comfortable Talking About Sex with Partner	56	48

*Note:* Items in bold are top 10 most frequently reported problems for both men and women.

**Table 2***Ten Most Highly Rated Sexual Problem Questionnaire Items in Rank Order*

Men ( <i>N</i> = 117)			Women ( <i>N</i> = 117)		
<i>Topic</i>	<i>Mean</i>	<i>SD</i>	<i>Topic</i>	<i>Mean</i>	<i>SD</i>
<b>1. Frequency of sexual relations</b>	3.70	1.81	<b>1. Frequency of sexual Relations</b>	3.78	1.86
<b>2. Sexual initiation</b>	3.64	1.69	<b>2. Sexual initiation</b>	3.62	1.79
<b>3. Showing interest in having sex</b>	3.57	1.84	<b>3. Showing interest in having sex.</b>	3.61	1.91
<b>4. Paying attention to sexual needs</b>	3.06	1.67	<b>4. Trouble getting sexually excited**</b>	3.15	2.63
<b>5. Exploring passion/experimentation.</b>	3.03	1.68	<b>5. Paying attention to sexual needs</b>	3.10	1.86
<b>6. When to have sex</b>	2.87	1.69	<b>6. When to have sex</b>	3.00	1.8
<b>7. Amount of foreplay</b>	2.78	1.68	<b>7. Exploring passion/experimentation</b>	2.97	1.83
<b>8. One partner wants to do something that the other partner doesn't</b>	2.35	1.67	<b>8. Amount of foreplay</b>	2.62	1.80
<b>9. Trouble getting sexually excited**</b>	2.32	1.69	9. Medications and or health conditions that interfere with sex	2.48	1.96
10. Amount of tenderness after sex	2.3	1.42	<b>10. One Partner Wants to do Something that the Other Partner Doesn't</b>	2.46	1.75

*Note:* Items in bold are top 10 most severely rated problems for both men and women.

\*\*Mean ratings for men and women differ significantly at the  $p > .01$  level (two-tailed).

**Table 3***Participants' Qualitative Reports of their Most Important Relational Sexual Problems from the*

Sexual Problems Questionnaire

Men (N = 117)			Women (N = 117)		
Item	N	%	Item	N	%
<b>Frequency of Sexual Relations</b>	46	39	<b>Frequency of Sexual Relations</b>	42	36
<b>Sexual Initiation</b>	38	32	<b>Sexual Initiation</b>	39	33
<b>Showing Interest in Having Sex</b>	29	25	<b>Showing Interest in Having Sex</b>	29	25
<b>When to Have Sex</b>	26	22	<b>Exploring Passion/Experimentation</b>	17	15
<b>Exploring Passion/Experimentation</b>	16	13	<b>When to Have Sex</b>	16	14
<b>Amount of Foreplay</b>	11	9	<b>Medications and/or health conditions that interfere with sex</b>	15	13
Trouble maintaining excitement	11	9	Trouble getting sexually excited	14	12
Premature orgasm	10	8	<b>Amount of Foreplay</b>	12	10
<b>Medications and/or health conditions that interfere with sex</b>	9	7	Being Comfortable Talking About Sex with Partner	11	9
<b>One partner wants to do something that the other partner doesn't (Item 20)</b>	9	7	<b>One partner wants to do something that the other partner doesn't (Item 20)</b>	11	9

*Note:* The 10 most frequently reported problems are listed in rank order. Items in bold are top 10 most frequently reported relational sexual problems for both men and women.

## Study 2

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### Background

Study 1 established that men and women cite sexual desire issues as their most common and severe relational sexual problems, solidifying the importance of better understanding this key relational issue. My next goal was to explore the ways that problems of sexual desire present within couples' relationships. Based on work to suggest that men and women experience desire in unique ways (Carvalho & Nobre, 2011; Mark et al., 2014; Paterson et al., 2014) and that women report individual sexual desire problems to a greater extent than men (Laumann et al., 1999, 2005, 2008; West et al., 2008), I decided that a promising first step would be to examine women's experiences of low desire in long-term relationships. Past research has shown that low sexual desire manifests in diverse ways among women (e.g., Frost & Donovan, 2015). Therefore, my specific research question in Study 2 was: Are women in long-term relationships with low sexual desire a unitary group, or can they be distinguished from one another based on several defining individual, sexual, and relational variables?

While research suggests that women's experiences with low sexual desire differ with regard to intrapersonal (e.g., sexual attitudes, sexual functioning, sexual history) and interpersonal (sexual and relationship satisfaction) contexts, it is important to understand why these differences might exist. One possible explanation for these differences relates to the principle of equifinality, which states that one particular outcome may be reached via several disparate paths. Related to the current research, it is possible that women with low sexual desire

share a similar outcome, but have followed unique trajectories to get to this point. Basson (2000, 2001) has proposed a model of the female sexual response cycle that illustrates the broad range of biological, psychological, relational, and environmental factors that contribute to and/or detract from a woman's motivation to engage in sexual activity. For example, a woman may feel less inclined to pursue sex with a romantic partner if intimacy in the relationship has been undermined by high relational conflict, a lack of close connection, or previous negative sexual experiences. Likewise, a woman who is experiencing particularly high life stress (e.g., financial hardship, loss of a loved one) may have difficulty prioritizing or focusing on sexual activity. Based on Basson's (2001) model, as well as related clinical, theoretical, and empirical evidence, I expected to find distinct subgroups of women with low sexual desire that could be distinguished from one another based on group differences in the following four contextual variables.

### ***Relationship Satisfaction***

Sharing a close emotional bond with a romantic partner is a consistent predictor of sexual desire (e.g., Mark & Lasslo, 2018). While research has shown that intimacy is associated with sexual desire in men and women, this link appears to be particularly strong for women (Birnbaum et al., 2016). Couples who engage in relationship undermining behaviors (e.g., poor conflict management, negative communication, avoidance) tend to be more emotionally and physically distant (Birnbaum, Mikulincer, & Austerlitz, 2013), and less inclined to engage with one another sexually (Basson, 2001). It is therefore possible that, for a subset of women, low relationship satisfaction is associated with decreased sexual desire.

### ***Sexual Satisfaction***



Perhaps unsurprisingly, sexual desire and sexual satisfaction are closely linked constructs (Dosch et al., 2016). 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. Given the robust link between sexual satisfaction and desire, I expected to find that low sexual satisfaction is a primary concern for one subset of women with low sexual desire.

### ***Life Stress***

The relationship between sexual desire and stress is a topic of increasing interest to sex researchers. Mark and Lasslo (2018) suggested that this topic is of particular relevance to couples in long-term relationships as they jointly navigate countless life stressors over time. Research has shown a link between lack of energy and low sexual desire in women (Murray & Milhausen, 2012), a finding which may reflect the reality that women continue to take on the majority of unpaid emotional and household labor, regardless of work hours and income level (Horne et al., 2018). Indeed, Bodenmann et al. (2006) showed a link between daily stress and clinically low sexual desire in women after controlling for relationship satisfaction and psychopathology. In this study, I expected to find that one subset of women with low sexual desire would report high associated life stress.

### ***Sexual Communication***

Research suggests that actively discussing sexual problems can act as a buffer against negative relational outcomes (e.g., Cupach & Comstock, 1990; Rehman et al., 2011). Specifically, research has shown that regular sexual communication contributes to the maintenance of desire in long-term relationships (Mark & Lasslo, 2018; Murray & Milhausen, 2012) and can help couples with desire discrepancies maintain satisfying sexual relationships

(Herbenick et al., 2014). Given the link between sexual communication and satisfaction in relationships, I expected that the subsets of women struggling with low sexual satisfaction, low relationship satisfaction, and high life stress would also engage in poor quality sexual communication. That is, poor sexual communication may be linked with greater dissatisfaction and stress in the relationship and act as a maintaining factor in low sexual desire for women.

This research highlights that multiple factors are associated with the experience of low sexual desire in women. While we know that these variables tend to impact sexual desire, it is unclear whether they can be used to distinguish between subgroups of women with low desire. The current study aimed to extend what is currently known about the link between contextual factors and low desire by examining whether women fall into distinct subgroups based on their standing on each of these variables.

To date, women with low desire have largely been treated as a single group who share a relatively common experience (e.g., Dennerstein et al., 2006; Hurlbert et al., 2000; MacPhee et al., 1995; Mintz et al., 2012). However, based on research showing that low sexual desire in women is closely associated with a broad range of contextual factors, I expected to find that women with low desire fall into distinct profiles. Specifically, I expected to find four distinct subgroups of women with low desire that varied with respect to their: 1) relational satisfaction, 2) sexual satisfaction, 3) levels of life stress, and 4) sexual communication. The first profile of women with low desire was expected to consist of those who were largely *satisfied* with the sexual and non-sexual aspects of their romantic relationships (Satisfied Group). It is possible that this subset of women use constructive techniques, such as positive sexual communication, to discuss their low desire and negotiate various ways to maintain sexual and nonsexual intimacy in their relationships. A second profile of women was expected to be primarily dissatisfied with the

*sexual* aspects of their romantic relationship (Sexually Dissatisfied Group). For this group, low sexual desire was expected to mainly coincide with low sexual satisfaction. In contrast, a third profile of women was hypothesized to have significant sexual *and* relationship problems (Globally Distressed Group). Unlike those with a primary sexual problem, whose difficulties are mainly confined to the sexual domain, women in this group were expected to experience more diffuse problems in their relationships (e.g., high conflict) that permeate both sexual and nonsexual domains. The final proposed profile consisted of women experiencing significant life stress (e.g., transition to parenthood, death of a loved one, job loss) (Life Stress Group). For this group, I expected that the presence of one or more acute stressors would shift women's focus away from sexual wants and needs, and thus reduce desire for sex.

I decided to test this typology on women who report a broad range of sexual desire levels as opposed to focusing on a clinical sample. I made this decision for two reasons. First, research shows that most women who report low sexual desire do not meet clinical criteria for Female Sexual Interest/Arousal Disorder (FSIAD) as outlined in the DSM-5 (Brotto, 2017). Selecting only women with clinically low desire would cut out a large subset of the population of interest and reduce the generalizability of the findings. Second, I wanted to validate the typology by comparing any high versus low desire subtypes that emerged in the data. I tentatively expected that women in the high desire (comparison) subgroup would look similar to the Satisfied Group of women with low desire in that they would report generally positive sexual communication, high sexual and relationship satisfaction, and low life stress. I was also open to the possibility of finding a *distressed* high desire group who reported relatively low relationship and sexual satisfaction despite their high desire. However, based on research showing a strong association

between desire and sexual/relationship satisfaction (e.g., Dennerstein et al., 2009; Dosch, Rochat, et al., 2016; Stephenson & Meston, 2010) this result seemed unlikely.

A second aim of this study was to empirically validate this typology by investigating mean differences between subgroups on a conceptually relevant construct (see Measure Used to Validate Typology). Based on the defining characteristics of each profile, I expected to find significant between-group differences in attributions for low sexual desire. Attributions have been defined as an individual's attempt to explain the main causes of an outcome, event, or experience (Vannier et al., 2018). Attributions are generally measured along three independent continuums: global versus specific, internal versus external, and temporary versus stable (Bradbury & Fincham, 1992). Vannier and colleagues (2018) have cited a fourth dimension, partner responsibility, which is specific to couples' relationships, and reflects the extent to which a person considers their partner to be the cause of a certain experience (e.g., "I am unhappy with my sex life because my partner is too busy for sex"). Attributions for negative experiences that are more stable, internal, global, and assign blame to one's partner tend to be associated with negative outcomes including psychopathology (Graham & Conoley, 2006), negative affect (McFarland & Ross, 1982), and relationship and sexual dissatisfaction (Jodoïn et al., 2011; Péloquin et al., 2019). I expected to find meaningful differences in attributional styles between groups of women with low sexual desire. For example, if women in the Globally Distressed Group experience diffuse relational issues that permeate the sexual and nonsexual domains of their relationships, I would expect them to have more global attributions for their low sexual desire than other groups. In contrast, women in the Sexually Dissatisfied Group were expected to report that their problems with low desire are specific to their sex life and do not significantly impact other life or relationship domains. I further anticipated that women in the Life Stress

Group would see their low desire as more external and temporary than other groups if they attribute it to acute environmental stressors. Finally, I expected that women in the Satisfied Group would report the most positive attributions (i.e., external, temporary, specific, low partner responsibility) as holding these constructive views on their low sexual desire may be one way that they maintain satisfaction in their relationships.

## **Methods**

### ***Participants***

Participants were recruited for the current study from Amazon Mechanical Turk, a large online participant pool. The recruitment material stated that female volunteers in long-term relationships were invited to participate in a 2-part online study designed to examine the relationship between sexuality and relationship outcomes in women. Research has shown a negative relationship between survey length and data quality (Galesic & Bosnjak, 2009). To combat participant fatigue and improve the quality of the data, this study was divided into two 30-minute parts. To be eligible for the study, participants had to be female, at least 18 years old, in a long-term relationship of 1 year or more, and residing in the United States.

The initial sample consisted of 658 women who participated in at least Part 1 of the study. Of these participants, 120 were excluded from analyses because they did not complete both parts of the study (18.2% attrition rate). Due to validity concerns regarding data collection from online participant pools, several validity checks were conducted. First, I examined whether participants correctly responded to validity questions (e.g., “Please select *Strongly agree* to show that you have read this question carefully”) that had been randomly added to questionnaires throughout the study. Participants who responded incorrectly to two or more of these questions were excluded from analyses (N = 6). Second, GPS data (i.e., latitudinal and longitudinal

coordinates) were scanned for repeating coordinates. Multiple responses from identical GPS coordinates may be indicative of robotic devices responding to online surveys. Cases with identical GPS coordinates were flagged and data were checked for quality (e.g., nonsensical responses to qualitative questions, completion times under 5 minutes). Cases with identical GPS coordinates or cases that consisted of poor-quality data were excluded from analyses ( $N = 22$ ). Finally, participants were asked at the end of the study about whether the researchers should use their data (Yes/No). Two participants responded “No” to this question and so their data were also excluded.

The final sample consisted of 508 women. Participants ranged in age from 19 to 76 years old ( $M = 37.55$ ) and were in their current relationships for 11.30 years ( $SD = 9.55$ ). With respect to ethnicity, participants identified as Caucasian/White (80.9%), African (6.1%), Hispanic (6.5%), South Asian (1.0%), Other Asian (1.8%), and Other (2.0%).

### ***Procedures***

Participants completed this study online. They first read an information letter outlining the study purpose and procedures, and then gave their consent to participate. Next, participants completed Part 1 of the study, which began with a background questionnaire followed by measures of sexual satisfaction, relationship satisfaction, and life stress, as well as several questionnaires unrelated to the current study, which were all presented in random order. At the end of Part 1, participants were presented with a feedback letter, which stated that they would be contacted in 24 hours to complete Part 2 of the study. In appreciation for their participation, volunteers were given \$1.50 (USD) per part of the study for a total of \$3.00 for completing both parts of the study. Remuneration was deposited into their Amazon Mechanical Turk account.

After 24 hours, participants received an email in their Amazon Mechanical Turk account notifying them that they were invited to participate in Part 2 of the study and providing a link to the online questionnaires. The majority of participants completed both parts of the study (72%). Once again, participants were presented with an information letter and provided their consent to participate. Next, they were asked to complete another battery of measures related to sexual and nonsexual communication, sexual desire, attributions for low sexual desire, and sexual functioning, as well as several measures unrelated to the current study, in random order. At the end of the study, participants received a final feedback letter and received \$1.50 (USD) in remuneration for their time.

### ***Measures***

#### **Demographic Measures.**

***Background Questionnaire.*** This questionnaire asked participants to report basic demographic information regarding their age, ethnicity, and relationship status/length.

#### **Measures Used to Test Typology.**

***Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995).*** On this 5-item measure of sexual satisfaction, participants are asked to rate their satisfaction with their sexual relationship using several 7-point scales with adjective pairs anchored to each end (e.g., *Very Bad-Very Good*). Scores on this measure range from 5 to 35 with higher scores showing greater satisfaction with the sexual relationship. In the current sample, this measure showed strong reliability (Cronbach's alpha = .97).

***Quality of Marriage Index (QMI; Norton, 1983).*** This 6-item measure examines overall satisfaction in romantic relationships. Participants indicate the extent to which they agree with 5 items (e.g., "I have a good relationship") on a scale from 1 ("*Very strongly disagree*") to 7

(“*Very strongly agree*”). One additional item asks participants to rate their overall happiness in the relationship on a 10-point scale (1 - “*Very unhappy*” to 10 - “*Perfectly happy*”). Scores range from 6 to 45, with higher scores indicating more satisfaction in the relationship. This measure showed excellent reliability in the current sample (Cronbach’s alpha = .96).

***Social Readjustment Rating Scale (Holmes & Rahe, 1967).*** This 42-item checklist was created to assess the amount of stressful life events participants have recently experienced. Participants are asked to select each event that has occurred in their life over the past year (e.g., marriage, death of a family member, birth of a child). Each event is assigned a weight, called a Life Change Unit (LCU), which indicates the amount of readjustment required to adapt to the event. For example, “Death of a Spouse” would receive an LCU of 100 and “Marriage” would receive an LCU of 50. A total score is created by summing the LCU’s for all events selected. This scale has shown strong rank order stability (Gerst, Grant, Yager, & Sweetwood, 1978) and predictive validity (Holmes & Rahe, 1967; Rahe, 1974) in previous research.

***The Dyadic Sexual Communication Scale (Catania, 1986).*** This 13-item questionnaire examines the quality of sexual communication in participants’ romantic relationships (e.g., “My partner and I never seem to resolve our disagreements about sexual matters”). Using a 6-point Likert-type scale (1 - *Strongly disagree* to 6 - *Strongly agree*) participants indicate how much they agree with each statement. Scores range from 13 to 78 with higher scores indicating greater communication skill. The measure demonstrated strong reliability in this sample (Cronbach’s alpha = .90).

***Hurlbert Index of Sexual Desire (HISD; Apt & Hurlbert, 1992).*** This 25-item questionnaire measures participants’ dyadic (e.g., “I look forward to having sex with my partner”) and solitary (e.g., “I daydream about sex”) sexual desire. Participants rate each item



on a 5-point scale (0 – *All of the time* to 4 – *None of the time*). Higher scores indicate greater sexual desire (range = 0 – 100). The measure demonstrated excellent reliability in this study (Cronbach’s alpha = .96).

### **Measure Used to Validate Typology.**

***Attributions for Sexual Desire Concerns Questionnaire.*** This measure, which was adapted for the current study from Vannier and colleagues’ (2018) *Attributions for Postpartum Sexual Concerns Questionnaire*, assesses explanatory styles for events relating to low sexual desire along 4 causal dimensions: internal versus external, stable versus unstable, global versus specific, and caused by partner versus not at all caused by partner. Participants are presented with 6 hypothetical events related to sexual desire problems (e.g., “You feel low levels of sexual desire”), and asked to write down one major cause of each event and then rate the cause along a 7-point continuum for each of the 4 causal dimensions. Higher scores indicate greater internal, stable, global, and partner responsibility beliefs. Similar versions of this measure have been validated in previous research (e.g., Jodoin et al., 2011; Scepkowski et al., 2004; Vannier et al., 2018). In the current study, reliability coefficients were satisfactory for all subscales: Internal (Cronbach’s alpha = .64), Stable (Cronbach’s alpha = .78), Global (Cronbach’s alpha = .62), and Partner Responsibility (Cronbach’s alpha = .76).

## **Results**

### ***Preliminary Analyses***

Before conducting the main analyses, descriptive statistics for each of the five core variables included in the typology were examined. Means, standard deviations, and correlations are presented in Table 4.

### ***Testing a Typology of Women with Low Sexual Desire Using Latent Profile Analysis***

I used latent profile analysis (LPA) to determine whether women fell into distinct subgroups based on four key variables that are conceptually and empirically linked to women's sexual desire (relationship and sexual satisfaction, sexual communication, life stress). I additionally included a measure of sexual desire in analyses (HISD; Apt & Hurlbert, 1992), which allowed us to examine how subgroups of women with lower sexual desire scores differ from subgroups of women with higher scores. LPA is a type of latent variable mixture modelling that aims to identify hidden subgroups, or latent profiles, from a set of observed, continuously distributed variables. The resulting subgroups include cases that are similar to one another in their pattern of responses across variables, but different from the pattern of responses found among cases in other groups. Data were analyzed using MPlus (version 6.12; Muthén & Muthén, 2017).

LPA uses a stepwise approach to identify the smallest number of latent profiles (i.e., subgroups) needed to fully describe the various patterns of associations among variables. To determine the number of profiles that best fit the data, I used the Lo–Mendell–Rubin Likelihood Ratio Test (LMR), a statistical test which examines whether  $k$  profiles fit the data better than  $k - 1$  profiles. I first examined the fit of a 1-profile solution against that of a 2-profile solution. I continued to compare solutions for an increasing number of profiles until the addition of a profile resulted in a non-significant ( $p > .05$ ) improvement in model fit. Results of this test revealed that a 3-profile solution fit the data significantly better than a 2-profile solution, but the addition of a 4<sup>th</sup> profile resulted in a nonsignificant improvement in model fit (see Table 5). Based on these results, the 3-profile solution was retained. Cases were assigned a number (1-3) according to their profile membership. Profile centroids (means across profile members on each of the 5 variables) were plotted using  $z$ -scores, examined for patterns, and labeled according to their

defining characteristics (see Figure 1). Based on these patterns, the three profiles were labeled as follows: 1) Globally Distressed Group (8.3%), 2) Sexually Dissatisfied Group (24.3%), 3) Average Desire Group (67.3%). With respect to demographic variables, these groups did not differ significantly in relationship duration or years of education. There was a significant difference in age between the Average Desire Group ( $M = 37.06$ ,  $SD = 10.92$ ) and the Globally Distressed Group ( $M = 41.14$ ,  $SD = 10.44$ ),  $t(385) = 2.30$ ,  $p = .02$ .

**Globally Distressed Group.** The most notable characteristics of women in the Globally Distressed Group were low sexual desire, sexual satisfaction, and relationship satisfaction. Women in this group had low ratings on the *Hurlbert Index of Sexual Desire* (HISD;  $M = 42.81$ ,  $SD = 23.0$ ), which were consistent with HISD scores from clinical samples identified in previous research (Hurlbert, 1993; Mintz et al., 2012). In addition, this subgroup reported extremely low relationship satisfaction on the *Quality of Marriage Index* (QMI;  $M = 16.93$ ,  $SD = 5.78$ ) and low sexual satisfaction on the *Global Measure of Sexual Satisfaction* (GMSEX;  $M = 13.52$ ,  $SD = 6.64$ ). This pattern of results suggests that women in this group experience diffuse distress that permeates both sexual and nonsexual domains of the relationship. Perhaps unsurprisingly, this group also reported poor sexual communication on the *Dyadic Sexual Communication Scale* (DSCS;  $M = 41.71$ ,  $SD = 10.44$ ). In addition, this group of women reported the highest mean levels of life stress on the *Social Readjustment Rating Scales* ( $M = 203.60$ ,  $SD = 121.33$ ).

**Sexually Dissatisfied Group.** Like the Globally Distressed Group, this group of women reported low desire levels on the HISD ( $M = 44.80$ ,  $SD = 21.41$ ) that were similarly consistent with scores of clinical samples from previous research (Hurlbert, 1993; Mintz et al., 2012). The primary distinguishing features of this group were low sexual satisfaction ( $M = 19.05$ ,  $SD = 5.66$ ) and low-average relationship satisfaction ( $M = 33.74$ ,  $SD = 4.87$ ). As predicted, this pattern

of results suggests that this group experiences sexual problems that are primarily confined to the sexual domain. This group also noted low-average sexual communication ( $M = 51.12$ ,  $SD = 11.45$ ) and average life stress ( $M = 171.72$ ,  $SD = 117.94$ ).

**Average Desire Group.** Several characteristics distinguished the Average Desire Group from the two groups of women with low desire. First, this group reported higher mean levels of sexual desire ( $M = 61.65$ ,  $SD = 19.65$ ) than the two subgroups of low desire women. Mean HISD scores for this group were in line with those of women categorized as having “average” desire in previous research (Conaglen & Evans, 2006), which allowed us to use this group as a comparison point for examining how women with higher levels of sexual desire differ from subgroups of women with lower desire. Women in this group reported the highest mean levels of sexual satisfaction ( $M = 31.34$ ,  $SD = 3.68$ ), relationship satisfaction ( $M = 41.58$ ,  $SD = 3.36$ ), and sexual communication ( $M = 65.25$ ,  $SD = 10.63$ ). They also reported the lowest life stress of all three subgroups ( $M = 137.82$ ,  $SD = 100.14$ ).

### ***Profile Comparisons***

**Globally Distressed Group vs. Sexually Dissatisfied Group.** *T*-tests revealed that women in the Globally Distressed and Sexually Dissatisfied Groups did not differ with respect to sexual desire ( $t[159] = -.51$ ,  $p = .61$ ) or life stress ( $t[161] = 1.50$ ,  $p = .14$ ). However, these groups differed in reports of sexual satisfaction ( $t[161] = -5.21$ ,  $p < .001$ ), relationship satisfaction ( $t[161] = -18.34$ ,  $p < .001$ ), and sexual communication ( $t[159] = -4.70$ ,  $p < .001$ ). Specifically, women in the Globally Distressed Group reported significantly lower sexual and relationship satisfaction, and poorer sexual communication than those in the Sexually Dissatisfied Group.

**Globally Distressed Group vs. Average Desire Group.** Women in the Globally Distressed and Average Desire Groups differed significantly across each of the five variables

included in the typology. Overall, women in the Globally Distressed Group reported significantly lower sexual desire ( $t[382] = -5.75, p < .001$ ), sexual satisfaction ( $t[385] = -26.57, p < .001$ ), relationship satisfaction ( $t[385] = -40.81, p < .001$ ), and sexual communication ( $t[380] = -13.60, p < .001$ ) than those in the Average Desire Group. The Globally Distressed Group also reported significantly greater life stress as compared to the Average Desire Group ( $t[385] = 3.92, p < .001$ ).

**Sexually Dissatisfied Group vs. Average Desire Group.** Women in the Sexually Dissatisfied and Average Desire Groups also differed significantly on all five variables included in the typology. Specifically, women in the Sexually Dissatisfied Group reported significantly lower sexual desire ( $t[459] = -7.87, p < .001$ ), sexual satisfaction ( $t[464] = -27.15, p < .001$ ), relationship satisfaction ( $t[464] = -19.47, p < .001$ ), and sexual communication ( $t[457] = -12.24, p < .001$ ) than those in the Average Desire Group. The Sexually Dissatisfied Group also reported significantly greater life stress as compared to the Average Desire Group ( $t[464] = 3.05, p = .002$ ).

### ***External Validation***

**Attributions for Low Sexual Desire.** To test subgroup differences in attributions for sexual desire concerns, I conducted separate one-way ANOVA's for each of the four dimensions of the *Attributions for Sexual Desire Concerns Questionnaire* (internal versus external, stable versus unstable, global versus specific, and caused by partner versus not at all caused by partner). Significant subgroup differences were found on all dimensions (internal:  $F(2, 498) = 7.14, p = .001$ ; stable:  $F(2, 498) = 25.12, p < .001$ ; global:  $F(2, 498) = 3.27, p = .04$ ; partner responsibility:  $F(2, 498) = 46.81, p < .001$ ). Planned comparison tests revealed that the Globally Distressed Group reported attributions that were significantly more external,  $t(159) = -2.43, p = .02$ , stable,

$t(159) = 2.65, p = .01$ , and blaming of their partner,  $t(159) = 4.06, p < .001$ , than the Sexually Dissatisfied Group. Contrary to expectations, there were no differences in global attributions for sexual desire concerns between the Globally Distressed and Sexually Dissatisfied Groups,  $t(159) = 1.40, p = .17$ . The Globally Distressed Group also reported attributions that were significantly more external,  $t(380) = -3.50, p = .001$ , stable,  $t(380) = 5.82, p < .001$ , global,  $t(380) = 2.37, p = .02$ , and blaming of partner,  $t(380) = 9.10, p < .001$ , than the Average Desire Group. The Sexually Dissatisfied Group reported greater problem stability,  $t(457) = 4.81, p < .001$ , and partner blame,  $t(457) = 5.71, p = .001$ , than the Average Desire Group, but these groups did not differ with respect to global and internal attributions ( $ps > .05$ ).

## **Discussion**

This study was the first to test a typology of women with low sexual desire by examining group differences in response patterns across sexual, relational, and individual variables. Drawing on theoretical and empirical research to show that low sexual desire in women is associated with a diverse range of contextual variables (Basson, 2000, 2001, 2008; Baumeister, 2000; Mark & Lasslo, 2018) and outcomes (Bridges & Horne, 2007; Rosen et al., 2009; Worsley et al., 2017), I predicted that there are unique profiles of women with low desire and that these profiles can be distinguished using measures of sexual and relationship satisfaction, life stress, and sexual communication. Results supported the hypothesis that there are important qualitative differences between subgroups of women with low desire, and I found support for two specific low desire subtypes. I did not, however, find support for all the subgroups that were initially predicted. Below, I first describe the subtypes that were found in the data, followed by a discussion of possible reasons that some of the other predicted subtypes were not present in the data.

The women who participated in this study fell into three profiles: Globally Distressed Group, Sexually Dissatisfied Group, and Average Desire Group. Two of these profiles (Globally Distressed and Sexually Dissatisfied) included women with low sexual desire and one profile (Average Desire Group) included women with average levels of sexual desire. As the aim of this study was to develop and test a typology of women with low sexual desire, I will focus this discussion on the two low desire groups, drawing on results from the Average Desire Group for comparison purposes only.

The most outstanding feature of the Globally Distressed Group was very low relationship satisfaction, along with low sexual satisfaction and poor sexual communication. As predicted, this group showed a diffuse pattern of distress whereby the women in this group reported high levels of relationship dissatisfaction that extended to different domains in their relationships, including the sexual domain. A possible explanation for this pattern of results is that relationship distress was more primary for this group and developmentally preceded sexual distress. However, because the current study was cross-sectional in design, I do not have the data to speak to time sequences or directionality between variables. Follow-up analyses provided clues as to one of the mechanisms that could be contributing to the Globally Distressed Group's experience of distress. Namely, this subgroup reported attributions for their low sexual desire that were significantly more external, stable, and blaming of the partner than the other two groups. In other words, women in this subgroup perceived that their low sexual desire was outside of their control, would last for an indefinite amount of time, and they considered their partners to be responsible for the issue - a pattern that points to a sense of hopelessness and relational discord. Though the attributions literature has typically shown that internal attributions for negative experiences are associated with negative outcomes (Kinderman & Bentall, 1996; Klein et al.,

1976; Weiner, 1985), in the current sample, the more distressed subgroups expressed more *external* attributions, whereas the Average Desire Group reported the most *internal* attributions for sexual desire problems. It is possible that viewing sexual desire concerns as caused by internal factors gives women a sense of control and self-efficacy over managing the issue, consistent with past research that shows that implicit beliefs about sexual desire influence how women respond to desire problems (Sutherland & Rehman, 2017). When women perceive sexual desire concerns to be caused by external factors, they may feel powerless to instigate change.

The Sexually Dissatisfied Group presented with issues that were primarily contained to the sexual domain. Women in this subgroup reported quite low sexual satisfaction and communication, but relatively average relationship satisfaction. These results suggest discontent with sexual, but not nonsexual aspects of the relationship. Contrary to expectations, this subgroup did not differ significantly from the Globally Distressed Group in their attributions of how global versus specific their sexual desire concerns were. However, they also did not differ from the Average Desire Group on this attributional dimension. An examination of means revealed that the Sexually Dissatisfied Group fell between the other two groups with regard to the specificity of their desire concerns, suggesting that this group shared views similar to both satisfied and relationally distressed women on the global versus specific dimension.

Importantly, the Globally Distressed and Sexually Dissatisfied Groups did not differ significantly in mean levels of sexual desire. Despite this finding, women in the two low desire subgroups had distinct presentations, with one group reporting distress in their overall relationship, including both sexual and nonsexual domains, while the other group's distress seemed to focus more exclusively on the sexual domain of their relationship. This crucial finding highlights that examining mean levels of sexual desire alone may be insufficient for



understanding the nature of a woman's desire-related concerns. By examining response patterns across a range of sexual and relational variables, I was able to identify factors that distinguish between groups of women who share similarly low levels of sexual desire. One potential interpretation of these findings might be that women in these two groups differ with respect to relationship stage, with women in the Average Desire Group being earlier on in their relationships than women in the Globally Distressed Group. However, results refute this possibility given that women in the three subgroups showed no differences in relationship duration.

Contrary to hypotheses, I did not find a Life Stress Group of women with low sexual desire. Based on research showing that women with higher stress report lower sexual desire (Bodenmann et al., 2006), I expected that acute life stress would be a primary concern for a subset of women with low desire. Why did this variable not distinguish between women with low desire in the sample? A possible explanation for this result is that there may be high stress for both of the low desire groups. That is, stress may play a role in low desire, but it may not help us discriminate between the subtypes because it is not a specific marker of any one group. In fact, follow-up analyses showed that women in the two low desire groups did not significantly differ from one another in levels of stress, but both groups had significantly higher life stress ( $p$ 's  $< .01$ ) than the Average Desire Group. This finding suggests that life stress may play a role in low desire, but it is not particularly useful for discriminating between low desire subgroups of women.

Though I found a group of women with *average* levels of sexual desire, I did not find a parallel group of satisfied women with *low* desire. I had anticipated that one subset of women with low desire would report using positive coping strategies such as strong sexual

communication, which I suspected might act as a buffer against sexual and relational dissatisfaction and result in a low desire subgroup that was satisfied overall. What I found instead was a subgroup of women with *average* levels of sexual desire who reported skillful sexual communication as well as average sexual and relationship satisfaction, but no such group among women with *low* desire. One explanation for not finding a *satisfied* low desire group is that women who experience low sexual desire, but tend to engage in skillful sexual communication, experience an increase in desire causing them to move out of the low desire subgroups and into the Average Desire Group. As this study was cross-sectional in nature, I was unable to clarify whether women move between groups after employing certain strategies to cope with low desire. An interesting future direction for this work would be to conduct longitudinal analyses examining the trajectories that lead women into, and out of, the three different subgroups. In addition, I did not find a unique subgroup of women with high desire. Although some women in this sample reported higher than average desire levels, these women and those with average desire levels shared similar profiles with respect to the five typology variables. Therefore, the women with higher desire levels were subsumed into the Average Desire Group.

It is also noteworthy that I did not find a sexually or relationally dissatisfied group with *average* desire. Specifically, women who experience sexual and relational dissatisfaction tended to fall into lower desire groups, while those who reported greater satisfaction fell into the average desire group. This finding supports the notion that women's sexual desire is strongly tied to the context of her relationship and that desire tends to be higher when women are content in their partnerships. Overall, the current typology supports the idea that women with high and low sexual desire differ quantitatively (i.e., in mean levels of sexual desire) and qualitatively (i.e., in

the sexual and relational context of their lives). In addition, I found important qualitative, but not quantitative differences between women in different low desire subgroups.

This work has several theoretical, empirical, and clinical implications. On a theoretical level, this study suggests that women with low sexual desire differ qualitatively from one another and from women with higher desire. Current conceptualizations of women's sexual desire implicitly place women on a spectrum with high desire on one end and low desire on the other (e.g., Carvalho & Nobre, 2011; Mintz et al., 2012; Murray & Milhausen, 2012). The assumption underlying this conceptualization is that the overall degree of a woman's sexual desire is most important for predicting sexual and relational outcomes. While much research supports that mean levels of desire predict key outcomes for women (Brezsnyak & Whisman, 2004; Chao et al., 2011), researchers and clinicians also note that women with low desire appear to be a heterogeneous group (Basson, 2001; Baumeister, 2000). Furthermore, there are significant inconsistencies in the literature on sexual desire discrepancy and relationship variables (e.g., Mark, 2012; Mark & Murray, 2012; Sutherland et al., 2015; Willoughby & Vitas, 2012). This study provides one possible explanation for the observed inconsistencies in the past literature on low sexual desire and desire discrepancies. I found that women with low desire fall into two distinct groups and that the type of low sexual desire a woman experiences provides additional information that is not captured by examining mean levels of desire alone. Specifically, the two low desire groups reported nearly identical levels of sexual desire, but the contextual variables surrounding their experiences differed markedly. For example, I found the Globally Distressed Group reported significantly less relationship satisfaction than the Sexually Dissatisfied Group. If I had examined mean levels of desire alone, I might have assumed that these women share a common experience as members of a unitary low desire group.

After further replication and validation of these findings, this typology could be used to examine key predictors and outcomes for women in different low-desire subgroups. It is likely that women in the Globally Distressed, Sexually Dissatisfied, and Average Desire Groups follow unique trajectories into these subgroups. Research shows that relationship stage is negatively correlated with sexual desire in women (Murray & Milhausen, 2012). One potential interpretation of the findings might be that women in each group differ with respect to relationship stage, with women in the Average Desire Group being earlier on in their relationships than women in the Globally Distressed Group. However, results refute this possibility given that women in the three subgroups showed no differences in relationship duration. Future longitudinal research mapping the course of relationships for women in each subgroup will elucidate the factors that predict group membership and movement between groups. For example, it is possible that most couples begin their relationships in the Average Desire Group, but that specific factors (e.g., communication, conflict management, psychopathology) predict whether women will remain in this group or move into one of the two low desire groups.

I believe that other classifications of sexual desire in women, based on the work done by Dosch et al. (2016) and Leavitt et al. (2019), could be integrated with the typology I have identified in this study. Whereas this work has focused on contextual variables, the typology advanced by Dosch et al. (2016) emphasized the role of psychological traits in shaping an individual's profile of sexual desire and sexual activity, while the classification identified by Leavitt et al. (2019) focused on fluctuations in desire and arousal over the course of a single sexual experience. The focus of these three studies (the current study, Dosch et al., 2016, and Leavitt et al., 2019) is complementary and examining how time course, individual difference

variables, such as personality states, and the interpersonal context jointly inform our understanding of women's sexual desire, is an important direction for future work. Clinically, this work could eventually be used as a basis for developing tailored assessment and treatment protocols for groups of women with low desire. Sex therapists and other professionals treating women with low desire might benefit from assessing which subgroup their clients fit into most closely. Assessing for these differences could help to inform the case conceptualization and treatment course, and to predict treatment outcomes for these two women. For example, a clinician working with a client in the Sexually Dissatisfied profile may choose to begin therapy by exploring psychosexual history, while a therapist working with a client in the Globally Distressed profile may begin by examining current relational issues. This work will need to undergo further empirical validation and extension before being translated for clinical use. A particularly fruitful line of inquiry may be longitudinal research that clarifies the pathways that lead to specific group membership. With this knowledge, clinicians can develop more rich and nuanced conceptualizations of presenting desire problems. For instance, if the pathway to membership in the Globally Distressed group suggests that, for this subtype, relational issues spill into the sexual domain over time, couples therapy might be an important initial step in the treatment of sexual desire problems. Although skilled clinicians are trained in the importance of considering context, a stronger empirical basis for the pathways that lead to group membership will provide an empirical foundation for clinical case conceptualization and could aid in the development of prevention efforts by identifying individuals who may be at greater risk for developing sexual desire problems as a result of primary relational discontent.

Consistent with many studies on sexuality in committed relationships, a limitation of the current study is that it employed a community sample of women who reported high average

levels of relationship and sexual satisfaction. It is possible that ceiling effects reduced variability in responses from women in our sample. Replicating this work with clinical populations will clarify whether the findings generalize to women experiencing greater relational and sexual dissatisfaction. A second limitation is that this study is cross-sectional in design, which means that we cannot draw conclusions about causality. In future work, we would like to examine the developmental trajectories of each subgroup using a longitudinal design. Further, I acknowledge that two of the fit statistics (BIC and Entropy) reported in the results suggest that additional profiles may exist within the sample. However, retaining a greater number of profiles would have resulted in subgroups consisting of just 2–3% of the total participant sample. I chose to retain the more conservative number of groups that provided the most theoretically meaningful representation of the data. In future research, it would be interesting to recruit a clinically distressed sample of participants in order to determine whether finer discriminations can be made between the identified subgroups.

**Table 4***Means, Standard Deviations, and Correlations for the Five Core Variables*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. GMSEX	26.94	7.95	-			
2. QMI	37.68	8.11	.65**	-		
3. SRRS	151.33	108.33	-.16**	-.18**	-	
4. DSCS	59.92	13.49	.57**	.54**	-.11*	-
5. HISD	56.09	21.89	.44**	.28**	-.14**	.38**

*Note:* GMSEX = Global Measure of Sexual Satisfaction; QMI = Quality of Marriage Index; SRRS = Social Readjustment Rating Scale; DSCS = Dyadic Sexual Communication Scale; HISD = Hurlbert Index of Sexual Desire.

\*  $p < 0.05$  (2-tailed)

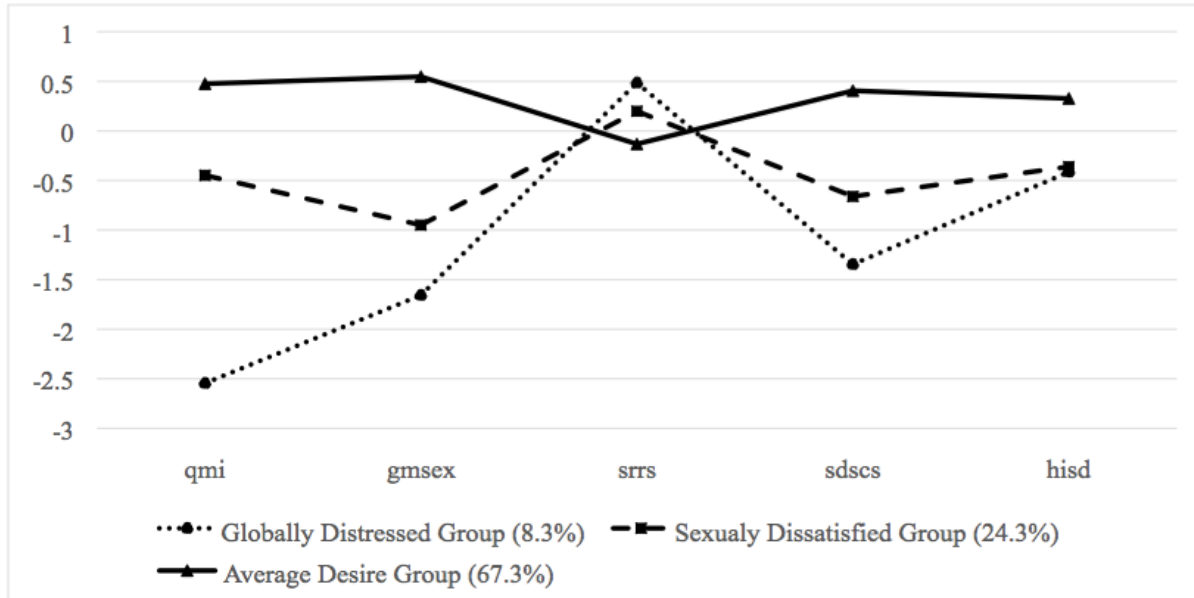
\*\*  $p < .01$  (2-tailed)

**Table 5***Fit Statistics Used to Evaluate Different Numbers of Latent Profiles*

Model	Log Likelihood	Free Parameters	LMR Test (Relative to k-1)	P-value	BIC	Entropy
1 latent profile	-3141.87	10	-	-	6346.03	-
2 latent profiles	-2851.93	16	564.77	<.001	5803.54	.89
3 latent profiles	-2744.59	22	209.09	<.001	5626.24	.89
4 latent profiles	-2708.78	28	69.76	.15	5592.00	.89

**Figure 1**

*Latent Classes Defined by z-scores on the Five Core Variables (N = 508)*



*Note:* Scores on the y-axis are presented as z-scores. GMSEX = Global Measure of Sexual Satisfaction; QMI = Quality of Marriage Index; SRRS = Social Readjustment Rating Scale; DSCS = Dyadic Sexual Communication Scale; HISD = Hurlbert Index of Sexual Desire.



### **Study 3**

In Study 2 I found that women in long-term relationships with low sexual desire can be differentiated from one another based on their levels of sexual and relational satisfaction. In my final study, I chose to focus more closely on how one of these constructs – sexual satisfaction – relates to sexual desire over time. I chose this topic as a focus for the final study in this program of research as the direction of the relationship between sexual desire and sexual satisfaction for couples remains unclear in the literature. Research shows that sexual desire levels tend to decrease over the course of long-term romantic relationships (McNulty et al., 2019; Murray & Milhausen, 2012) and that sexual desire and sexual satisfaction are closely associated (Mark, 2012). Currently, however, very little is known about how changes in desire relate to changes in sexual satisfaction over time. Further, as partners tend to influence one another's sexual outcomes (Thibaut & Kelley, 1959), I chose to collect data from both partners in a couple, to conduct dyadic analyses that allowed me to examine actor and partner effects in the association between sexual desire and sexual satisfaction.

#### **Background**

Over the course of long-term romantic relationships, partners inevitably face changes as they jointly navigate life's ups and downs. Whether it is a small change like planning a minor renovation or a major upheaval like immigrating to a new country, couples who can anticipate and negotiate shifts throughout their relationships will invariably adapt more effectively when such changes occur. In addition to changes in life circumstances, over time couples will experience shifts in their dynamic as partners (Abreu-Afonso et al., 2022). Feelings, desires, and goals that partners held at start of the relationship will evolve with the changing landscape of their lives and personal identities. For some couples, these changes will occur similarly for both partners, while for others, they may shift for one

partner, but not the other, or for both partners in different directions. The current study focuses on two constructs that have been shown to vary throughout the course of couples' relationships: sexual desire and sexual satisfaction (McNulty et al., 2016, 2019; Meston & Buss, 2007; Murray & Milhausen, 2012). This research aims to explore whether and how these variables shift, as well as how they may predict one another over time. Research that clarifies the nature and direction of changes that occur in couples' romantic relationships can help partners to better navigate these shifts when they arise.

Given its links with positive relational and sexual outcomes (Gonzaga et al., 2006; Mark, 2012; Sprecher et al., 2004), it is concerning that sexual desire tends to decrease with increasing relationship length (McNulty et al., 2016, 2019; Meston & Buss, 2007; Murray & Milhausen, 2012) and that difficulties with low sexual desire have been identified as the most common issue for couples in a clinical setting (Ellison, 2002). While sexual desire is clearly an important aspect of couples' sexual relationships, the direction of the relationship between sexual desire and sexual satisfaction for couples remains unclear in the literature. It is important to elucidate whether changes in sexual desire temporally precede changes in sexual satisfaction, or vice versa, as understanding this link will inform existing theories of sexual desire and can aid in the development of clinical interventions that address sexual desire difficulties in couples.

### ***Conceptual Links Between Sexual Desire and Sexual Satisfaction***

Sexual satisfaction has been defined as a global, affective evaluation of the positive and negative aspects of one's sexual relationship (Lawrance & Byers, 1995). From a theoretical perspective, the direction of the association between sexual desire and sexual satisfaction could go multiple ways. For example, according to the interpersonal exchange model of sexual satisfaction put forth by Lawrance and Byers (1995), one's level of sexual satisfaction is, in part, influenced by the perceived rewards and costs associated with one's sexual relationship. To the extent that higher sexual desire is an indicator of

the anticipated reward value for sexual activity, this model would predict that increases in desire levels would lead to increases in sexual satisfaction. A recent daily diary study conducted by Vowels and Mark (2020) supports this idea, showing that, at an event level, higher daily sexual desire predicts higher quality sexual experiences for men and women. However, the researchers were unable to rule out the possibility that the reverse direction (i.e., that the previous day's quality of sexual experience predicts the current day's sexual desire) was also true, and therefore the direction of this relationship requires further investigation.

Alternatively, Bancroft and Janssen's (2000) dual control model of sexual response suggests that sexual desire stems from a balance between sexual excitation and inhibition processes. According to this theory, when more excitatory factors are present (e.g., an attractive partner, sensual environment, positive previous sexual encounters) than inhibitory factors (e.g., sexual pain, stress, relational discord) one experiences greater motivation for sex. From this theoretical perspective, one might predict that overall sexual satisfaction in one's romantic relationship could act as an excitatory factor that leads to increased sexual desire.

### ***Bidirectional Relationships***

It is also possible that a bidirectional relationship exists between sexual desire and sexual satisfaction such that each variable influences the other. Dual control theories, such as Fiske and Neuberg's (1990) continuum model, offer a lens through which to understand such bidirectional relationships. Specifically, the continuum model states that judgements (e.g., about one's sexual relationship) are initially made through automatic, top-down processing, but that secondary bottom-up processing comes online later to create a more balanced and integrated perspective on an experience/situation. McNulty and colleagues (2016) described how dual processes may be involved in the bidirectional relationship they found between sexual satisfaction and relationship

satisfaction. They conceptualized the path leading from sexual satisfaction to relationship satisfaction as a bottom-up process in which couples first consider the quality of their sex lives when evaluating their overall satisfaction in their romantic relationships. The authors described the reverse path, leading from relationship to sexual satisfaction, as a top-down process in which couples draw on their feelings about their relationship as a whole when considering how much they value the sexual aspects of the relationship. Similar processes may be involved in the association between sexual desire and sexual satisfaction such that the path from sexual desire to sexual satisfaction reflects bottom-up processing (i.e., partners draw on their desire to engage in sex with their partner as an indication of their global satisfaction with their sexual relationship), while the path from sexual satisfaction to sexual desire reflects top-down processing (i.e., partners draw on their global satisfaction with their sexual relationship to inform their level of motivation to engage in sex). Such a reciprocal process is illustrated by Basson's (2001) circular model of the sexual response cycle, which suggests that, at times, spontaneous sexual desire can motivate one to pursue sexual stimulation, engage in sexual activity, and then experience subsequent feelings of sexual satisfaction (i.e., sexual desire predicting sexual satisfaction). Additionally, this model proposes that a sense of sexual satisfaction from a previous sexual encounter can lead to greater motivation to pursue sex at a later time (i.e., sexual satisfaction predicting sexual desire). It has been suggested that the former is more in line with the male sexual response system, while the latter is more consistent with the female sexual response (Kaschak & Tiefer, 2001). It is possible, however, that a bidirectional relationship exists between these constructs, in that a person may experience both spontaneous desire that predicts later sexual satisfaction as well as desire that is brought about by earlier experiences of satisfaction.

### ***Partner Effects***

Partners in romantic relationships tend to jointly influence one another (Thibaut & Kelley, 1959). As partners share close proximity and common life experiences they often share a high level of emotional (Katz et al., 1999; Mazzuca et al., 2019), behavioural (Rhule-Louie & McMahon, 2007), and even physiological (Lewis et al., 2006; Meyer & Sledge, 2020) contagion, wherein partners' thoughts, feelings, and actions mutually influence one another. As such, one's own sexual and relational outcomes are often dependent upon partner-level factors. Consistent with social exchange theories (Levinger, 1980; Thibaut & Kelley, 1959), partner-level factors (e.g., partner's sexual satisfaction) can be experienced as rewards or costs in the relationship that influence one's own satisfaction outcomes (Fallis et al., 2016). This would suggest that a partner's level of sexual desire/sexual satisfaction might influence one's own sexual desire/sexual satisfaction and vice versa. For example, partner A's desire for partner B may lead to partner B feeling wanted, leading to increased sexual desire/sexual satisfaction for partner B. While no studies to my knowledge have directly examined the impact of a partner's levels of sexual desire and sexual satisfaction on changes in one's own sexual desire and sexual satisfaction over an extended period of time, related studies point to the importance of examining these constructs from a dyadic perspective. Mark (2014) has shown that a partner's higher sexual desire predicts better quality sexual experiences for the self, while McNulty et al. (2016) found that, for men, partner's initial sexual satisfaction predicted positive changes in frequency of sex and own sexual satisfaction among newlywed couples. Further, Dewitte and Mayer (2018) found that for men, partner's relationship satisfaction predicted own relationship satisfaction the next day, while for women, partner's sexual desire predicted own sexual desire the next day. As most of the existing research has focused on day-to-day changes in sexual desire and sexual satisfaction, or has examined these constructs among newly established couples, I sought to

expand the literature by examining these relationships over an extended period of time among couples in longer-term relationships.

### ***The Current Study***

Although empirical research has shown that sexual desire and sexual satisfaction tend to decline with relationship stage, particularly for women (Fallis et al., 2016; McNulty et al., 2016, 2019; Murray & Milhausen, 2012), it is currently unclear whether (and how) these changes are directionally linked for couples in long term romantic relationships. Therefore, the current study had three primary research questions which sought to clarify the dyadic temporal association between sexual desire and sexual satisfaction. The first research question (and its subcomponents) considered the extent to which men and women's sexual desire and sexual satisfaction change over time (i.e., **Do mean levels of sexual desire and sexual satisfaction change over time [RQ1a]? What is the level of variability in changes in these constructs over time [RQ1b]? Do changes in partners' sexual desire and sexual satisfaction correlate over time [RQ1c]?**).

I expected to replicate existing research which has found that sexual desire and sexual satisfaction decline over time (**H1a**). I further anticipated that there would be higher variability in changes in sexual desire among female participants than male participants because previous research has shown that women's desire is more fluid and context-dependent than men's (**H1b**). Finally, I expected that changes in partners' sexual desire and sexual satisfaction would correlate over time as men and women have both reported decreases in these constructs over time in previous research (**H1c**).

My second research question centered on actor effects in the longitudinal relationship between sexual desire and sexual satisfaction (i.e., **What is the direction of the relationship**

**between own sexual desire and own sexual satisfaction over time? [RQ2]**). As theoretical evidence points to the possibility that sexual desire could predict sexual satisfaction, sexual satisfaction could predict sexual desire, or the constructs could share a bidirectional relationship, I had no a priori hypotheses about the direction of this association (**H2**).

My third research question focused on partner effects in the longitudinal relationship between sexual desire and sexual satisfaction (i.e., **What is the direction of the relationship between partner sexual desire and own sexual satisfaction over time? [RQ3]**). While daily diary research has shown that a partner's desire tends to influence quality of sex the next day, it is currently unclear whether these results will replicate over longer time periods. As such, I tentatively predicted that partner's initial sexual desire would predict positive changes in own sexual satisfaction over a two-year period. I did not expect to find the reverse relationship (i.e., that partner's initial sexual satisfaction would predict changes in own sexual desire), as this link has not been found in previous related research (**H3**).

## **Methods**

### ***Procedures***

All study measures and procedures were reviewed and approved by a university research ethics board (REB). Data for this study were collected as a part of a larger study examining the longitudinal association between sexual and relationship variables for couples in long-term romantic relationships. Couples from a community in Southwestern Ontario were recruited using newspaper, radio, and online advertisements, as well as from flyers placed in therapists', doctors', and local businesses offices. Time 1 and Time 2 testing sessions were held two years apart and procedures for the two sessions were identical. At the start of the session, the couple was brought to a room together to review the information letter and provide consent to

participate. Next, individual partners were separated into different rooms and randomly assigned to work with one of two research assistants for the remainder of the study. During this time, participants completed a series of questionnaires and also engaged in a discussion task unrelated to the current study. At the end of each session, couples were debriefed and provided with \$50.00 each as well as a feedback letter containing sexual health resources.

### ***Participants***

A total of 117 mixed-sex couples participated in the Time 1 (T1) testing session. To be eligible for this study, both members of a couple had to be willing to participate and they had to be currently married or cohabiting for at least 2 years. Due to the documented declines in sexual desire, marital, and sexual satisfaction following childbirth (von Sydow, 1999), female partners also could not have given birth during the 6 months prior to the T1 testing session. Four couples who completed T1 testing did not meet these criteria and so their data were excluded from analyses, resulting in a final sample of 113 couples. Of the original 113 couples, 84 completed both Time 1 and Time 2 (T2) sessions. Eight couples were ineligible to participate at T2 due to the dissolution of their relationship, and 21 declined to participate or could not be reached at T2. The overall participation rate, excluding couples whose relationships had ended, was 80%. At T1, couples were in their relationship for an average of 10.64 years ( $SD = 9.98$ ). Female partners were an average age of 35.95 years old ( $SD = 10.97$ ) and male partners were an average age of 38.32 years old ( $SD = 11.54$ ). Female participants identified as Caucasian/White (92%), African/Black (2%), Hispanic (2%), South Asian (1%), Other Asian (1%), Other (2%), and 1 participant provided no response to this question. Male participants identified as Caucasian/White (87%), African/Black (1%), Hispanic (2%), South Asian (3%), Other Asian (1%), Indigenous/First Nation (3%), and Other (3%).



### ***Measures (Administered at T1 and T2)***

**Background Questionnaire.** This questionnaire asked participants to provide basic demographic information (e.g., age, gender, ethnic background, education, income level) as well as information related to their current relationship (e.g., marital status, length of relationship).

**Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995).** This 5-item measure examines a person's sexual satisfaction in their romantic relationship. Participants indicate their sexual satisfaction using 7-point Likert type scales with adjective pairs anchoring each end (e.g., 1- *Very Bad*; 7 – *Very Good*). Higher scores on this measure are indicative of greater sexual satisfaction (range: 5-35). The GMSEX showed excellent reliability in this sample at both time points (Cronbach's alpha for men and women at T1 = .96; Cronbach's alpha for men at T2 = .97 and women at T2 = .95).

**Golombok-Rust Inventory of Sexual Satisfaction (GRISS; Rust & Golombok, 1985).** The GRISS consists of 28 items that assesses couples' level of sexual dysfunction using a rating scale that ranges from 1 (*Never*) to 5 (*Always*). This measure has separate male and female versions, from which a Total GRISS Score as well as several subscales (7 for the female version and 6 for the male version) are derived. For the purposes of this study, the Avoidance subscale (the extent to which a person is actively avoiding sex) was reversed and used to measure sexual desire. This subscale consisted of the same four items for men and women (e.g., Do you try to avoid having sex with your partner?). The Avoidance subscale of the GRISS correlates highly with the Hurlbert Index of Sexual Desire (Apt & Hurlbert, 1992),<sup>1</sup> an established measure of sexual desire used in previous research ( $r = -.70, p < .001$ ), and it has been used in previous

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<sup>1</sup> The Hurlbert Index of Sexual Desire (Apt & Hurlbert, 1995) was included as a measure at Time 1, but not at Time 2 and therefore, it could not be used to assess change in sexual desire over time. In the current study it served as a measure of convergent validity for the GRISS-AVOID subscale.

research to measure sexual desire in couples (e.g., MacPhee et al., 1995). The Avoidance subscale had satisfactory reliability in the current sample (Cronbach's alpha for men at T1 = .68, Cronbach's alpha for women at T1 = .82; Cronbach's alpha for men at T2 = .65; Cronbach's alpha for women at T2 = .78).

### ***Data Analytic Approach***

Latent difference score (LDS) structural equation modeling was used to test associations from sexual desire and sexual satisfaction at Time 1 to changes in those variables from Time 1 to Time 2. The model followed the principals of the actor-partner interdependence model (APIM) by statistically controlling for the interdependence of data between members of each dyad. LDS modelling was used instead of the more traditional cross-lagged model as the latter has been criticized for not effectively isolating change in variables of interest from confounding trait-level variables that remain constant between measurement points (Hamaker et al., 2015). LDS modeling allows for the estimation of latent difference scores that represent the portion of a variable at Time 2 that cannot be explained by the previous assessment of that variable (at Time 1). The variance captured by the latent difference scores can be predicted by other variables in a structural model, allowing for the prediction of inter-individual differences in intra-individual change over time. The variance of the Time 2 variable is defined by the sum of the variance of the time one variable, which is known from the data, plus the variance of the change score, which is not explicitly measured but is computed by the structural model. This partitioning of variance into change and stability components is accomplished by fixing the path from the time one variable (e.g. Time 1 sexual satisfaction) to the time two variable (e.g. Time 2 sexual satisfaction) and the path from the latent change score variable to the Time 2 variable at values of 1, meaning that a Time 2 variable equals stability from Time 1 plus change from Time 1 to

Time 2. The measures of sexual desire and sexual satisfaction were not found to be invariant for men and women; therefore, sex differences in these associations could not be evaluated and separate associations were tested for men and women. Standard errors robust to nonnormality were estimated for all coefficients in the model. Fit statistics are not reported for the models because the models were saturated, and therefore fit indices were uninformative.

## **Results**

### ***Preliminary Analyses (Hypotheses 1a-c)***

First, means and standard deviations (Table 6), as well as correlations (Table 7) were calculated for the GMSEX and the GRISS-Avoidance (reversed) subscale at both time points for men and women. In addition, before including predictors in the model, means and variances of change scores from the LDS model were examined. This model did not provide evidence of significant change, on average, for men's and women's sexual satisfaction and desire over the study period, as none of the means of the change score estimates were significantly different from zero (**H1a**). The current model did provide evidence for meaningful variability in changes in men's and women's sexual satisfaction and desire, as all the variances of the change score estimates were statistically significant (**H1b**). Taken together, the results of H1a and H1b suggest that while the samples' overall sexual satisfaction and sexual desire did not change significantly across the two time periods, the sample varied significantly in the amount of change they experienced over time, suggesting that change did occur for some subgroups of individuals. Findings of significant variance in the sample meant that I could move forward with examining predictors of change in men's and women's sexual satisfaction and desire (**H1c**). Estimates, standard errors, and p-values are reported in Table 8. With respect to correspondence over time, I

found that changes in partners' sexual satisfaction correlated significantly ( $r = .25, p = .002$ ), while changes in partners' sexual desire did not ( $r = -.03, p = .72$ ).

### ***Predicting Changes in Sexual Desire and Sexual Satisfaction***

Latent difference score (LDS) modelling was used to predict changes in sexual desire and sexual satisfaction over time for men and women. The LDS model was created using Mplus Version 8 (Muthén & Muthén, 2017). Coefficients from the full model including predictors are listed in Table 9. The LDS model with path coefficients is depicted in Figure 2.

**Actor Effects for Women (Hypothesis 2).** Change in women's sexual desire was inversely predicted by their Time 1 sexual desire ( $\beta = -.59, p < .001$ ), suggesting a ceiling effect in which women who reported high levels of sexual desire at Time 1 were less likely to exhibit increases in desire over time. Change in women's sexual satisfaction was not predicted by their Time 1 sexual satisfaction ( $\beta = -.18, p = .24$ ). However, women's higher initial sexual satisfaction predicted increasing sexual desire over time ( $\beta = .39, p = .02$ ). Surprisingly, higher levels of women's sexual desire at Time 1 predicted *decreases* in their sexual satisfaction over time ( $\beta = -.34, p < .01$ ).

**Partner Effects for Women (Hypothesis 3).** Women's partners' sexual desire at Time 1 did not significantly predict changes in their own sexual desire ( $\beta = -.03, p = .79$ ), however, their partners' higher sexual satisfaction at Time 1 was associated with *decreasing* sexual desire over time ( $\beta = -.30, p = .04$ ). There was no relationship between women's partners' Time 1 sexual satisfaction and their own later sexual satisfaction ( $\beta = -.10, p = .52$ ). Partners' Time 1 sexual desire was not associated with changes in women's own sexual satisfaction ( $\beta = .02, p = .79$ ).

**Actor Effects for Men (Hypothesis 2).** Change in men's sexual desire and satisfaction were inversely predicted by their Time 1 sexual desire ( $\beta = -.36, p < .01$ ) and satisfaction ( $\beta = -$

.70,  $p < .001$ ), respectively, suggesting a ceiling effect in which men who reported high levels of these variables at Time 1 exhibited decreases in the constructs over time. In contrast to the results for women, men's sexual satisfaction at Time 1 was not found to predict changes in their sexual desire ( $\beta = .05, p = .80$ ), however, their Time 1 desire was found to predict increases in sexual satisfaction over time ( $\beta = .30, p < .001$ ).

**Partner Effects for Men (Hypothesis 3).** Results showed that partner's sexual desire and sexual satisfaction at Time 1 positively predicted changes in men's sexual desire ( $\beta = .23, p = .06$ ) and sexual satisfaction ( $\beta = .39, p = .02$ ), respectively, over time. Partners' Time 1 sexual desire did not predict changes in men's later sexual satisfaction ( $\beta = .13, p = .24$ ), nor did partners' Time 1 sexual satisfaction predict changes in men's later sexual desire ( $\beta = .08, p = .65$ ).

## **Discussion**

The current study sought to clarify the longitudinal association between sexual desire and sexual satisfaction for couples in long-term romantic relationships. Using a dyadic data analytic approach, I explored the nature and direction of changes that occur in these variables for men and women over a 2-year period. Specifically, I explored whether men and women report changes in sexual desire and sexual satisfaction over time, and if so, whether these changes correlate for partners. In addition, I explored actor and partner effects in the longitudinal relationship between sexual desire and sexual satisfaction.

### ***Mean Change Over Time (Hypothesis 1A)***

Contrary to my hypothesis, the sample's overall levels of sexual desire and sexual satisfaction did not change significantly from Time 1 to Time 2. Previous research has shown that each of these variables tend to decrease over time in long-term romantic relationships, with

steeper declines being reported for women (McNulty et al., 2016, 2019; Meston & Buss, 2007; Murray & Milhausen, 2012). In this previous work, results have shown that the most notable declines in these variables occur in the early years of a partnership, after the initial sense of novelty has waned. As this sample consisted of couples in a later stage of their relationships (~10 years), partners may have already experienced some initial declines in their sexual desire and sexual satisfaction, limiting the amount of change observed over the two-year period.

### ***Variability in Change Over Time (Hypothesis 1b)***

In addition to mean changes in sexual desire and sexual satisfaction, I also examined the level of variability in changes in these constructs between participants. That is, I explored how much “scatter” was present around the amount of mean change reported for each variable. I found that participants showed significant variability in the level of mean change for sexual desire and sexual satisfaction. This result suggests that changes in these constructs were occurring for some subsets of participants, but not in one systematic direction for the entire sample. Thus, it is possible that increases or decreases in sexual desire and sexual satisfaction were occurring for certain groups of participants over time, but that changes may have been in different directions for different participants, which would reduce the overall average degree of change in the sample. Therefore, it is important to look at variability in the sample as well as mean change in order to determine whether changes were occurring for some participants, but not others, in potentially different directions. Follow-up work can then explore additional variables that may be responsible for changes in desire/sexual satisfaction for different subgroups of participants.

### *Correspondence in Change Over Time (Hypothesis 1c)*

Results also showed that changes in sexual satisfaction corresponded for partners over time. That is, as partner A's level sexual satisfaction shifted, partner B's shifted in the same direction. While this result was correlational in nature, it suggests that partners share synchronicity in changes in sexual satisfaction as time passes. This finding is consistent with Interdependence Theory (Thibaut & Kelley, 1959), which suggests that one partner's thoughts, feelings, and behaviours will exert an influence on the other. For example, in the current study, if partner A's sexual satisfaction declined from Time 1 to Time 2, they may express less positivity about sex, which may make partner B feel less happy with their sex life, and could result in decreased satisfaction for partner B as well. Interestingly, I did not find the same pattern of results for sexual desire as there was no significant correlation between changes in men and women's desire from Time 1 to Time 2. This result supports previous work showing that women's changes in desire tend to differ from men's over the course of the relationship. Specifically, women typically report steep declines in desire as the relationship progresses, while men's desire has been shown to change more gradually or not at all (Burghardt et al., 2020; Klusmann, 2002; Murray & Milhausen, 2012).

### *Hypotheses 2 and 3*

**Relationship Between Sexual Desire and Sexual Satisfaction for Men.** Consistent with the interpersonal exchange model of sexual satisfaction (Lawrance & Byers, 1995), I found that men's own initial sexual desire predicted positive changes in their own sexual satisfaction (**H2**). This finding suggests that, for men, higher initial desire may be experienced as a sexual "reward" that leads to increased positive feelings about the sexual relationship overall. Further, men's partners' initial sexual desire and sexual satisfaction predicted positive changes in their own

sexual desire and sexual satisfaction, respectively (**H3**). Results replicate those of McNulty and colleagues (2016), who found that, among newlywed couples, partner's initial sexual desire positively predicted changes in own sexual desire for men only. However, these results contradict Dewitte and Mayer's (2018) finding that partner's sexual desire predicts own sexual desire for women only. Discrepant findings may be due to differences in study design. The current study and McNulty et al. (2016) were longitudinal studies conducted over several years, whereas Dewitte and Mayer's (2018) study was a daily diary study that examined next day desire. It is therefore possible that, for women, partner's desire has a more positive immediate impact (consistent with the notion of "responsive" desire; Basson, 2001, 2008), while for men, partner's desire has more positive downstream effects on own desire. With respect to findings for sexual satisfaction, this is the first study to my knowledge to find that men's partner's sexual satisfaction predicts own sexual satisfaction.

Taken together, these results suggest a high level of attunement between men's partners' levels of sexual desire and sexual satisfaction and their own levels of sexual desire and satisfaction. It is possible that because women tend to report having lower desire than their male partners (Sutherland et al., 2015), they are perceived as the "gatekeepers" to sexual activity, and therefore, men's desire and satisfaction become partly dependent on women's desire and satisfaction. That is, if the female partner has higher desire and satisfaction, it is more likely that the male partner will have access to sex, and their levels of desire and satisfaction may subsequently increase.

**Relationship between Sexual Desire and Sexual Satisfaction for Women.** The results for women were more nuanced with some constructs showing positive, and others showing negative, relationships between sexual desire and sexual satisfaction over time. In line with the



dual control model of sexual satisfaction (Bancroft & Janssen, 2000) women's own initial sexual satisfaction predicted positive changes in their own sexual desire over time (**H2**). This suggests that sexual satisfaction may be experienced by women as an excitatory factor that leads to increases in desire over time. This result is also consistent with Basson's (2001) model of the female sexual response cycle, which suggests that women's sexual desire is dependent on their overall satisfaction with previous sexual encounters. Contrary to hypotheses, women's own higher initial sexual desire (**H2**), and partner's higher initial sexual satisfaction (**H3**), predicted negative changes in own sexual satisfaction and sexual desire, respectively. Based on the available data, it is not possible to definitively determine the processes that may be responsible for these outcomes. However, research examining sexual desire discrepancies in mixed-sex couples may help us to speculate about these counterintuitive findings. The clinical and empirical literature suggests that couples with desire discrepancies are often drawn into demand-withdraw cycles wherein the higher desire partner pursues the lower desire partner, placing (actual or perceived) pressure on the lower desire partner to engage in sex, which further diminishes the lower desire partner's sexual interest. Past work has shown that, in mixed-sex couples, women tend to be the lower desire partner when a sexual desire discrepancy exists in the relationship (Sutherland et al., 2015; Willoughby & Vitas, 2012). It is possible that the finding that partner's higher initial sexual satisfaction leads to negative changes in own sexual desire for women reflects partners becoming entrenched in such a cycle. That is, male partners who have greater sexual satisfaction may pursue sex to a greater extent, leaving the female partner feeling pressured and less interested in having sex. Over time this may lead to lower overall sexual desire for women whose partners initially had higher sexual satisfaction.

The unexpected finding that women's higher initial desire predicts negative changes in her sexual satisfaction perhaps lends itself more clearly to interpretation when discussing the inverse of sexual desire, that is, sexual avoidance. When interpreting the findings from this lens, I found that women who initially avoid sex report more positive changes in sexual satisfaction two years later. Past literature shows that, in general, women seek to engage in sex less frequently than men (Dosch, Rochat, et al., 2016). Therefore, we can speculate that women who initially avoid sex may feel a greater sense of sexual satisfaction at a later time, as they have set up realistic expectations in their sexual relationships about how much they wish to engage in sex. In contrast, women who initially avoid sex less, may find themselves engaging in sex more than is preferred, and they may later feel less satisfaction with their sex life. Of course, I am cautious in drawing conclusions about these preliminary findings and acknowledge that replication and examination of the specific mechanisms (e.g., sexual frequency) involved in these processes will be necessary before more firm conclusions can be drawn.

As with all research, this study had some limitations which bear noting. One limitation is that I used a convenience sample of couples from the community, which limited the diversity of the study and the generalizability of the results. The sample consisted of mixed-sex, cis-gender couples who primarily identified as White. I acknowledge that results may not represent the relational dynamics of couples from diverse ethnic/racial backgrounds, sexual orientations, and gender identities. Couples from diverse cultural backgrounds may experience unique patterns and trajectories related to sexual desire and satisfaction. For example, newlywed couples from cultures that practice sexual activity only within the marital relationship often experience lower desire and higher sexual dysfunction in the earlier stages of marriage (Heinemann et al., 2016). With regards to gender and sexual orientation, research shows that couples in same-sex

relationships tend to have more egalitarian roles, leading to fewer power struggles (Garcia-Navarro & Green, 2014), which may have implications for how they negotiate sexual desire differences. However, previous work has also shown that sexual satisfaction is an equally strong predictor of well-being in same-sex and mixed-sex couples (Kurdek, 2004), suggesting that some relational and sexual dynamics may not differ significantly by sexual orientation. Indeed, sexual desire discrepancy research has shown that partners' perceptions of their sexual desire differences are a key predictor of their sexual satisfaction for same-sex (Bridges & Horne, 2007) and mixed-sex (Sutherland et al., 2015) couples. Research with partners who identify as trans and nonbinary has shown that sexual satisfaction is linked to both "universal" and "trans-related" factors, highlighting that some key aspects of sexual satisfaction among gender diverse individuals are specific to gender identity (Lindley et al., 2021). Second, the current sample consisted of couples from the community who reported a high level of sexual satisfaction. Research suggests that community couples who volunteer for sexuality studies differ significantly from clinical samples in their sexual attitudes and experiences (Wiederman, 1999). Therefore, results may not extend to couples who are more distressed in their relationships. A third limitation of the current research is that I used a measure of sexual avoidance as a proxy measure for assessing sexual desire. Although the measure correlated highly with a well-established measure of sexual desire and has been used as a measure of sexual desire in previous work, results should be replicated in future work using other well-validated measures of sexual desire. Finally, while I discuss results separately by gender, I was not able to assess whether these differences were statistically significant as the measures of sexual desire and sexual satisfaction were not found to be invariant for men and women. This suggests that men and

women may have construed items on the measures of interest in divergent ways, making statistical analyses of gender differences uninterpretable.

### ***Conclusions***

Using a dyadic longitudinal design, I examined the nature and direction of changes that occur in sexual desire and sexual satisfaction for couples over time. While I did not find evidence of significant change in these constructs over a two-year period, I found that couples showed a high level of variability in change as well as correspondence in change in sexual satisfaction, but not desire, over time. In addition, results showed that actor and partner effects are involved in the relationship between sexual desire and sexual satisfaction, but that the direction of these effects differs by gender. This work can be used to inform existing theories of sexual desire (e.g., interpersonal exchange model of sexual satisfaction, dual control theory) and to better understand how sexual dynamics shift over time in relationships.

**Table 6**

*Means and Standard Deviations for Men and Women's Sexual Desire and Sexual Satisfaction at*

*Both Time Points*

	N	Mean	SD
Women's Time 1 Sexual Satisfaction (GMSEX)	117	26.11	7.16
Men's Time 1 Sexual Satisfaction (GMSEX)	116	26.91	6.72
Women's Time 1 Avoidance (GRISS-Avoidance)	117	3.74	3.16
Men's Time 1 Avoidance (GRISS-Avoidance)	116	1.78	1.97
Women's Time 2 Sexual Satisfaction (GMSEX)	82	26.49	6.59
Men's Time 2 Sexual Satisfaction (GMSEX)	83	26.52	7.18
Women's Time 2 Avoidance (GRISS-Avoidance)	83	3.81	2.93
Men's Time 2 Avoidance (GRISS-Avoidance)	82	1.70	1.98

**Table 7***Correlations for Men and Women's Sexual Desire and Sexual Satisfaction at Both Time Points*

	Time 1 Women's Sexual Sat (GMSEX)	Time 1 Men's Sexual Sat (GMSEX)	Time 1 Women's Desire (GRISS- AVOID)	Time 1 Men's Desire (GRISS- AVOID)	Time 2 Women's Sexual Sat (GMSEX)	Time 2 Men's Sexual Sat (GMSEX)	Time 2 Women's Desire (GRISS- AVOID)	Time 2 Men's Desire (GRISS- AVOID)
Time 1 Women's Sexual Sat (GMSEX)	1	.597**	.649**	.160	.670**	.628**	.549**	.276*
Time 1 Men's Sexual Sat (GMSEX)	.597**	1	.388**	.297**	.412**	.678**	.230*	.408**
Time 1 Women's Desire (GRISS- AVOID)	.649**	.388**	1	-.169	.281*	.367**	.727**	.008
Time 1 Men's Desire (GRISS- AVOID)	.160	.297**	-.169	1	.174	.384**	-.221*	.759**
Time 2 Women's Sexual Sat (GMSEX)	.670**	.412**	.281*	.174	1	.599**	.487**	.207
Time 2 Men's Sexual Sat (GMSEX)	.628**	.678**	.367**	.384**	.599**	1	.407**	.512**
Time 2 Women's Desire (GRISS- AVOID)	.549**	.230*	.727**	-.221*	.487**	.407**	1	.047
Time 2 Men's Desire (GRISS- AVOID)	.276*	.408**	.008	.759**	.207	.512**	.047	1

Note. \*  $p < .05$  (two-tailed)\*\*  $p < .01$  (two-tailed)

**Table 8***Unstandardized Estimates of Means and Variances for Latent Difference Scores*

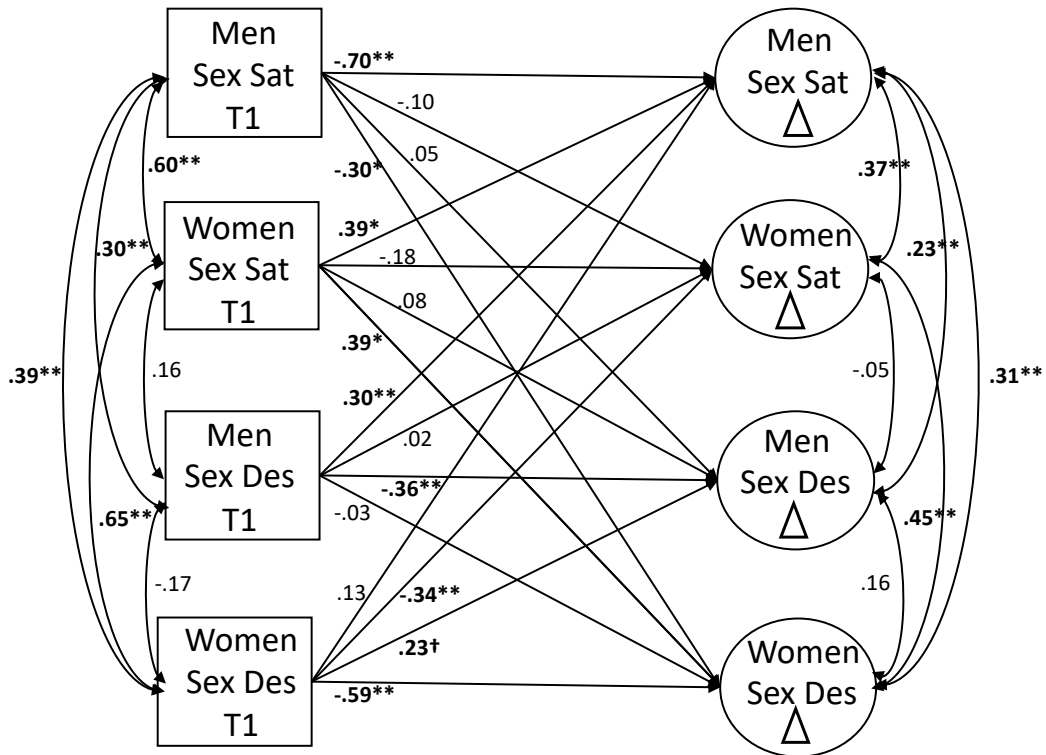
Change Scores	Means			Variances		
	<i>Estimate</i>	<i>SE</i>	<i>p</i>	<i>Estimate</i>	<i>SE</i>	<i>p</i>
Women's Sex Sat	.465	.578	.421	30.116	6.870	<.001
Women's Desire	-.171	.235	.466	5.132	.932	<.001
Men's Sex Sat	-.867	.575	.132	32.989	12.936	.011
Men's Desire	.017	.151	.910	1.935	.304	<.001

**Table 9***Standardized Coefficients from Latent Difference Score Model with Time 1 Predictors*

Time 1 Predictors	Women's Sex Sat $\Delta$			Women's Desire $\Delta$			Men's Sex Sat $\Delta$			Men's Desire $\Delta$		
	<i>Beta</i> <i>a</i>	<i>SE</i>	<i>p</i>	<i>Beta</i>	<i>SE</i>	<i>p</i>	<i>Beta</i>	<i>SE</i>	<i>p</i>	<i>Beta</i>	<i>SE</i>	<i>p</i>
Women's Sex Sat	-.18	.152	.238	.39	.168	.020	.39	.165	.017	.08	.172	.651
Women's Desire	-.34	.113	.003	-.59	.118	<.001	.13	.111	.239	.23	.119	.056
Men's Sex Sat	-.10	.162	.520	-.30	.148	.040	-.70	.121	<.001	.05	.190	.798
Men's Desire	.02	.092	.791	-.03	.093	.790	.30	.085	<.001	-.36	.121	.003

**Figure 2**

*Latent Difference Score Model Depicting the Dyadic Longitudinal Relationship between Sexual Desire (Sex Des) and Sexual Satisfaction (Sex Sat) for Men and Women.*



*Note.* Path coefficients are standardized. Sex Des = GRISS-Avoidance Subscale (reversed); Sex Sat = Global Index of Sexual Satisfaction).

\*  $p < .05$  (two-tailed)

\*\*  $p < .01$  (two-tailed)



## General Discussion

The current program of research examined the interplay between sexual and relational constructs for couples in long term romantic relationships. The overarching goal of this work was to examine the interpersonal context of sexual desire. There is growing recognition that as a largely interpersonal construct, sexual desire can be more fully understood when examined through a dyadic lens. Until recently, however, much of the empirical research on sexual desire had focused on the individual context of desire, primarily as it relates to sexual dysfunction. Reframing sexual desire difficulties as a couple-level issue can have the effect of depathologizing individual partners (typically lower desire partners) and moving sex therapists and researchers toward investigating ways that partners can negotiate each of their sexual needs within their romantic relationships. The proliferation of research on sexual desire discrepancy over the past 10 years provides evidence that the field has begun to shift from examining sexual desire as an individual experience to a couple-level issue.

Though the framework for examining sexual desire difficulties in couples has recently moved toward an interpersonal lens, the research in this area remains sparse. The current program of research sought to address several existing gaps in the literature. For example, although research shows that sexual desire difficulties are the primary reason that couples seek sex therapy (Leiblum, 2010), it was still unclear whether nonclinical samples experience sexual desire as a primary problem at the dyadic (as opposed to individual) level. Further, while the academic community is beginning to recognize the multiple factors that influence sexual desire, individuals with low sexual desire (primarily women) continue to be viewed and treated as one homogenous group with the underlying assumption that their low desire is connected to similar factors. If, as Basson's (2001) model suggests, numerous factors can enhance or detract from

one's motivation to pursue sex, we might expect that individuals with low desire experience this issue for diverse reasons, and therefore, would require tailored assessment and treatment methods to address their desire difficulties. Finally, while previous work has established a robust link between sexual desire and overall satisfaction with one's sex life (Chao et al., 2011; Dosch, Rochat, et al., 2016; Štulhofer et al., 2014), the direction of this association remained unclear, as did the question of whether partners have mutual influence over one another's desire and satisfaction. This is an important question that deserves empirical attention as it can inform existing models of the sexual response including the dual control theory of sexual response (Bancroft & Janssen, 2000), the interpersonal exchange model of sexual satisfaction (Lawrance & Byers, 1995), and Basson's (2001) model of the female sexual response cycle. Each of these models proposes directional links between sexual constructs that warrant further examination through longitudinal research. Each of these models is discussed in light of the results of this research in greater detail below.

The current research added to the literature examining the interpersonal context of sexual desire by exploring: 1) the extent to which couples consider sexual desire issues to be a problem in their relationships, 2) whether women with low sexual desire can be distinguished from one another based on sexual and relational factors, and 3) the nature of the dyadic, longitudinal relationship between sexual desire and sexual satisfaction. The results of this work highlight the inextricable nature of sexual and relational constructs in romantic relationships, showing that not only is sexual desire considered to be a key relational issue by romantic partners, but that sexual desire also shapes, and is shaped by, partner-level factors.

The first study in this line of research aimed to determine which sexual issues couples considered to be most problematic in their relationship with their romantic partner. Partners in

mixed-sex dyads rated the extent to which each of 30 different relational sexual issues (e.g., when to have sex, sexual initiation) were a problem in their sexual relationship. The results were surprisingly consistent: both male and female partners rated 1) showing interest in having sex, 2) sexual initiation, and 3) sexual frequency as the top 3 concerns impacting their sexual relationships. Taken together, these issues point to primary problems related to motivation for sex (i.e., sexual desire) in the sexual relationship. This finding supports the idea that sexual desire issues are not only an individual concern related to one's own sexual functioning, but they are also an interpersonal concern with that is experienced by the couple as a unit.

The results of Study 1 led me to reflect on the factors that are most strongly tied to desire difficulties for couples. As low sexual desire is the most common sexual dysfunction affecting women (Laumann et al., 1999, 2005, 2008; West et al., 2008) and women tend to be the lower desire partner when sexual partners experience a mismatch in their desire levels (Sutherland et al., 2015), Study 2 explored the factors related to low desire levels for women. Specifically, I examined whether women with low desire could be distinguished from one another based on 4 contextual variables: 1) relationship satisfaction, 2) sexual satisfaction, 3) sexual communication, and 4) life stress. Results showed that women with low desire fall into two primary groups: a) a Sexually Dissatisfied Group that experiences primarily low sexual, but not relational, satisfaction, and b) a Globally Distressed Group that experiences very low relational satisfaction, as well as somewhat low sexual satisfaction. This finding highlights that women with low sexual desire are not a homogenous group. Specifically, it appears that women with low desire who fit into the Sexually Dissatisfied profile experience low desire that is confined to issues pertaining to sexual functioning or the sexual aspects of the relationship with their partner. For example, it is possible that women in this group experience low desire connected to physiological factors

such as menopause, or perhaps problems of skill such as (one's own or one's partner's) lack of knowledge about adequate sexual stimulation. In contrast, women who fit into the Globally Distressed profile appear to experience primary relational issues (e.g., high conflict, lack of intimacy) that may "spill over" into the sexual relationship, reducing sexual desire. However, as this research was cross-sectional in nature, I can only speculate about the direction of this association. Overall, these findings suggest that the contextual factors surrounding women's experiences of low desire should be considered to determine whether sexual concerns are the primary issue or whether more global relational discord may be associated with low motivation to engage in sex with a partner.

Previous research has shown that men and women's sexual desire tends to decline as relationships progress (McNulty et al., 2016, 2019) with women showing steeper declines in desire than men (Murray & Milhausen, 2012). However, to my knowledge, the factors linked to this decline, such as one's overall sense of sexual satisfaction in the relationship, had not been explored using a longitudinal design. Thus, the final study in my program of research examined the longitudinal relationship between sexual desire and sexual satisfaction for men and women in long-term romantic relationship. I found that, for men, higher initial sexual desire led to more positive changes in later sexual satisfaction. Consistent with the interpersonal exchange model of sexual satisfaction (Lawrance & Byers, 1995), it appears that sexual desire may be experienced as a sexual "reward" that leads to increased sexual satisfaction for men. Changes in men's sexual desire and sexual satisfaction were also positively impacted by their partners' initial sexual desire and sexual satisfaction, respectively. This suggests that men's sexual outcomes are closely connected to those of their partners, perhaps related to the fact that female partners are often the lower desire partner and therefore may be perceived as holding a "gatekeeper" role over sexual

activity. Thus, when women's desire (or satisfaction) is high, men's desire (or satisfaction) subsequently increases as they perceive that they will gain more access to sex when their partners are motivated or pleased.

For women, however, results were more unexpected and varied. Consistent with the dual control model of sexual response (Bancroft & Janssen, 2000), higher initial sexual satisfaction predicted more positive changes in sexual desire over time, suggesting that women may experience their own sexual satisfaction as an excitatory factor that increases motivation for sex over time. This finding is also consistent with Basson's (2001) circular model of the female sexual response cycle, which posits that earlier satisfaction with sexual encounters informs later motivation to pursue sex. Surprisingly, however, women's higher initial sexual desire and higher partner initial sexual satisfaction negatively predicted later changes in own sexual satisfaction and sexual desire, respectively. While unexpected, these results can be tentatively interpreted using a sexual desire discrepancy framework. Through this lens, it is possible that these results reflect a demand-withdraw cycle wherein higher initial levels of sexual desire for women and sexual satisfaction for men lead to an increased expectation for sex that becomes unrealistic or unwanted by women over time, as women's desire tends to wane more quickly, while men's desire tends to remain more consistent over time (Murray & Milhausen, 2012).

### **Interpersonal Context of Sexual Desire**

Scholars have argued that interpersonal factors are foundational to the experience of sexual desire in romantic relationships (Stuart et al., 1987). Research suggests that men and women alike experience sexual desire in relational terms, however, the way that desire is viewed within the relationship differs by gender. For example, Mark and colleagues (2014) have found that women are more likely to describe their experience of sexual desire as a longing for

relational intimacy, while men define sexual desire as primarily connected to the desire to please and be pleased by their partner.

The results of my research support the idea that sexual desire is closely linked to relational factors for men and women. I found that relational sexual concerns related to desire (i.e., sexual frequency, initiation, and interest) are considered equally problematic for male and female partners. As men typically report being the higher desire partner in a couple, while women report being the lower desire partner (e.g., Baumeister et al., 2001; Sutherland et al., 2015), this outcome supports the idea that problems of sexual desire are experienced as a key issue for both partners in the sexual partnership, regardless of one's own desire level. That is, the interplay between partners' experiences of desire seems to matter more than individual desire levels.

I also found that a unique subset of women have low desire that is closely connected to significant dissatisfaction in their relationships, while others have low desire that is primarily contained to dissatisfaction with the sexual aspects of their relationships. One interpretation of this finding is that women value the intimate and romantic aspects of their relationships and feel less inclined to engage in sex when these aspects are missing. This interpretation is in line with a robust line of research showing that women emphasize relational factors as key aspects of their sexual desire and sexual satisfaction (e.g., Dewitte & Mayer, 2018; Friedmann & Cwikel, 2021; Herbenick et al., 2014; van Lankveld et al., 2021). Thus, from the lens of the dual control theory (Bancroft & Janssen, 2000) the relationship appears to be a significant factor that either excites or inhibits sexual desire for women. In future research, it would be interesting to replicate the Study 2 typology with men to see if similar or distinct profiles emerge.

Another aspect of this program of research that supported the interpersonal nature of sexual desire was the finding that partners influenced one another's sexual desire and satisfaction over time. Longitudinal data showed that changes in one's own desire and satisfaction were dependent on partner's earlier desire and satisfaction levels for men and women, albeit in ways that varied uniquely by gender. This finding suggests that partner-level factors play an important role in determining one's own sexual desire and satisfaction. Importantly, for women, there was a negative relationship between partner's earlier sexual satisfaction and changes in their sexual desire, while for men, there was a positive association between partner's sexual desire and satisfaction, and later changes in these constructs. An important direction for future research would be to explore mediating variables (e.g., sexual frequency, initiation, perceived pressure to engage in sex) that might elucidate the observed gender differences in partner effects related to sexual desire and satisfaction.

### **Informing Existing Models of Sexual Desire**

Findings from this research inform several existing models of sexual desire and the sexual response system. Results also highlight the ways that different models might interact as well as the contexts within which each model may be most relevant and for whom. Currently, one of the most widely utilized models of sexual desire is Bancroft and Janssen's (2000) dual control theory, which posits that sexual desire come online when sexual excitation cues outweigh sexual inhibition cues in one's internal and external environment. As noted previously, results for women in Study 2 were consistent with this theory, showing that higher earlier sexual satisfaction predicted later increases in sexual desire. This suggests that sexual satisfaction may act as an excitatory factor that contributes to later sexual desire for women. This finding also supports Basson's (2001) model of the female sexual response cycle, which posits that the sexual

response system is circular with previously satisfying sex feeding into one's desire to pursue future sexual activity. Thus, these two models appear to overlap, such that Basson's (2001) model contains elements of the dual control theory within it, highlighting the specific inhibitory and excitatory factors that most significantly impact women's desire (sexual and relational satisfaction, sociocultural considerations). This is not to say that these factors are not important for men, but that they may have a less significant relationship with desire if other factors are more primary for men.

Results for men were consistent with the interpersonal exchange model of sexual satisfaction (Lawrance & Byers, 1995). This model posits that 4 factors influence one's overall level of satisfaction in a sexual relationship: 1) perceived rewards associated with the sexual relationship, 2) perceived costs associated with the sexual relationship, 3) one's expectations about rewards/costs in the sexual relationship, 4) equality of rewards/costs between partners. Given that higher earlier sexual desire predicted more positive changes in later sexual satisfaction for men, it follows that men experience desire as a sexual "reward" that increases their later sexual satisfaction. It is also possible that desire is not experienced as a reward in and of itself but that it leads to the pursuit of sexual rewards (e.g., sexual stimulation), which increase men's sexual satisfaction. This idea would need to be tested in the future using a mediation model that included sexual desire, sexual activity, and sexual satisfaction as variables of interest.

Through the lens of the interpersonal exchange model of sexual satisfaction, we might counterintuitively interpret that higher sexual desire is experienced as a "cost" in the sexual relationship for women, given that women's higher earlier desire predicted negative changes in sexual satisfaction over time. However, we can also examine how women's higher initial sexual desire may influence the other factors in the model, such as women's expectations of sexual



rewards/costs and equality of sexual rewards/costs. Women who have higher initial sexual desire may have higher expectations for reward in their sex lives, which may not match with the reality of partnered life. They may also find that their desires are given less priority in the relationship as compared to their partners', given that heteronormative ideals tend to center men's desire and sexual agency over women's (van Anders et al., 2022). Either (or both) of these factors could realistically lead to decreases in women's sexual satisfaction over time if expectations for reward and equality of reward are not met.

### **Strengths and Limitations**

The current program of research had several strengths as well as certain limitations. With respect to strengths, I used a multi-method approach that included individual and dyadic analyses, as well as cross-sectional and longitudinal approaches to data collection. Specifically, Study 1 was a cross-sectional design in which both members of a couple completed questionnaires in-lab and data was explored using descriptive analyses. Study 2 was also cross-sectional in nature, with women in long-term romantic relationships responding to questionnaires online. Study 3 employed a dyadic, longitudinal design to examine how actor and partner effects impact the relationship between sexual desire and sexual satisfaction over time. Using a multi-method approach allowed me to examine intra- and interpersonal experiences of sexual desire as well as directional relationships between the variables of interest. Previous work has examined the relationship between sexual desire and sexual satisfaction cross-sectionally (e.g., Chao et al., 2011; Dosch, Rochat, et al., 2016; Mark et al., 2018) and on an event level (Dewitte & Mayer, 2018), but this research is the first of my knowledge to examine these constructs using a dyadic, longitudinal design. Research that uses multiple methods of data collection and analysis offers a more holistic picture of the relationships between variables of interests by examining constructs

from a range of perspectives. It is hoped that the use of multiple methods in the current research will contribute to a fuller understanding of the interpersonal context of sexual desire.

In addition, in this research I used novel statistical modelling techniques that allowed for robust testing of effects and accounted for error that has been overlooked in previous work. In Study 2, I explored whether women with low desire can be differentiated from one another using latent profile analysis, a structural equation modelling approach that allows for testing of model fit. Other studies have used cluster analysis to explore subgroups in their datasets (e.g., Dosch, Rochat, et al., 2016), which determines the number of groupings present in the data using more arbitrary distance measures that cannot test for goodness-of-fit. In Study 3, I combined latent difference score and actor-partner interdependence modelling techniques to both control for the interdependence of partners' data and account for baseline levels of sexual desire and satisfaction when assessing change over time. Previous research examining sexual desire in couples' relationships has not appropriately controlled for interdependence and baseline values, making results more difficult to interpret (e.g., Willoughby et al., 2014).

The current program of research also had limitations which should be acknowledged and addressed in future research. The main limitations of this work related to the sampling approach used for recruiting participants across studies. In all three studies, data was collected from convenience samples of individuals and couples in mixed-sex relationships. At least two issues emerged in this work based on the use of this type of sampling method. First, the current sample was relatively homogenous with respect to age, socioeconomic background, relationship stage, racial/ethnic identity, and sexual/gender orientation. As a result, findings may speak primarily to the experiences of White, Westernized, heterosexual, cis-gender, middle-class couples, and may not generalize to couples who do not identify in these ways. As the current study sought to

explore gender differences in sexual desire in romantic relationships, I included only couples that included one male and one female-identifying partner. This decision was not made to minimize the importance of elucidating the sexual experiences of individuals in same-sex relationships, but to acknowledge that relational/sexual dynamics may be unique in mixed-sex versus same-sex relationships. While research shows that many of the same variables predict sexual and relationship satisfaction for couples in same-sex and mixed-sex relationships (e.g., Bridges & Horne, 2007; Kurdek, 2004), some variables have been found to be unique to couples who identify as gender and sexual minorities (Lindley et al., 2021). Further, research shows that partners from diverse gender and sexual orientations differ from more heteronormative couples in their relational dynamics (Perlesz et al., 2010). For these reasons, research specifically exploring the ways that sexual desire, relationship satisfaction, and sexual satisfaction are experienced for couples in same-sex/nonbinary relationships is necessary.

Examining these constructs among couples from non-Western cultures will also be an important direction for future work. The extant research shows that women from Eastern cultures report significantly lower desire connected to higher rates of sexual conservatism and, relatedly, “sex guilt” (Woo et al., 2011). It would be interesting to explore whether findings such as this have implications for sexual satisfaction among individuals from Eastern cultures. Culture may also influence the relevance of the sexual outcomes we assess. For example, Heinemann and colleagues (2016) note that sexual satisfaction is an important sexual outcome among (typically Western) cultures that value sex in the context of intimacy and pleasure but may be less important in cultures where procreation is a more highly valued outcome of sexual activity. Thus, it is not only critical that the current research be extended to individuals from diverse

cultural backgrounds, but also that we consider the various types of research questions related to sexuality that are most important for couples from different cultural settings.

A second concern related to the use of convenience sampling is that couples in this research tended to be highly sexually and relationally satisfied. Research has shown that couples who volunteer for sexuality studies tend to differ significantly in their sexual practices and attitudes toward sex as compared to those who do not volunteer for such studies (Wiedemann, 1999). Therefore, results may not generalize to couples from a more relationally distressed sample. Additionally, as couples reported a high level of sexual and relational satisfaction, variability in responses may have been restricted due to ceiling effects. Replicating this research among couples with a broader range of satisfaction levels is warranted.

### **Clinical Implications**

Though initial results require replication and refinement prior to informing clinical practice, findings from this line of research have some preliminary implications for clinical work with couples. Findings support the notion of sexual desire as an interpersonal issue that requires negotiation and joint navigation for couples. Therefore, clients who seek treatment for desire difficulties will likely fare better when they approach the issue from a dyadic perspective, considering the mutual contributions of each partner to the overall dynamic. As I found that couples in mixed-sex relationships report desire issues as the primary concern in their sexual relationships, clinicians who practice relational and sex therapy may benefit from assessing for this issue at the outset of treatment. Further, as the current work found heterogeneous profiles of women with low desire, it is possible that existing assessment and treatment protocols could be improved by tailoring them to address the specific difficulties that are most prominent for women seeking support for low desire. Specifically, it may be important to differentiate between

women who are experiencing low desire as a primarily sexual concern, which may be more closely tied to issues of sexual functioning, and those whose primary issue relates to relational distress with their partner. Each of these concerns would require unique approaches to treatment (e.g., sensate focus versus communication training) that could be misapplied if the underlying issue is not appropriately assessed.

## **Conclusion**

The current studies extended the existing literature by examining the interpersonal context of sexual desire using individual, dyadic, cross-sectional, and longitudinal approaches to data collection. Results showed that 1) men and women consider sexual desire issues to be a primary concern in their sexual relationship, 2) women with low desire fall into unique profiles related to relational and sexual satisfaction, and 3) actor and partner effects play a role in the complex relationship between sexual desire and sexual satisfaction. Findings from the three studies demonstrated that sexual desire is embedded within the context of couples' relationships and can be more fully understood when examined using an interpersonal perspective. These findings have important theoretical, empirical, and clinical implications that extend our understanding of the interpersonal factors that influence sexual desire for couples and will hopefully contribute to enhancing experiences of desire for couples in romantic relationships.

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