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Motivation when desire is low: Associations between sexual motivation and sexual intimacy, sexual satisfaction, and sexual distress for men with hypoactive sexual desire disorder and their partners

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Abstract

Hypoactive sexual desire disorder (HSDD) in men, characterized by chronically low sexual desire, is associated with poor sexual wellbeing, such as lower sexual satisfaction and higher sexual distress. Additionally, despite their low desire, men with HSDD often report wanting sexual intimacy and validation within their sexual lives/relationships. Studies that apply self-determination theory to sexual relationships demonstrate that adopting more autonomous (e.g., engaging in sex for its inherent pleasure) and less controlled (e.g., engaging in sex for some external reward or consequence) motives for engaging in sex is associated with greater sexual wellbeing for both members of the couple. Given that autonomous motivation in relationships is associated with intimacy and sexual satisfaction, and lower sexual distress, having sex for autonomous reasons may allow men with HSDD and their partners to feel more sexually intimate despite their lower sexual desire, whereas having sex for controlled reasons may hinder sexual intimacy and satisfaction and augment sexual distress. In this dyadic cross-sectional study, we examined the associations between types of sexual motivation and sexual intimacy, sexual satisfaction, and sexual distress for men with HSDD and their partners ($n = 64$ couples). Men with HSDD who reported having sex for more autonomous reasons reported more sexual satisfaction and both partners reported more sexual intimacy. Men with HSDD who had sex for more controlled reasons had partners who felt less sexual intimacy and satisfaction, and both partners were more sexually distressed. Promoting autonomous sexual motivation and decreasing controlled motivation may help couples navigating HSDD to feel closer in their relationship, more sexually satisfied, and less sexually distressed.

Keywords: hypoactive sexual desire disorder, low desire, sexual motivation, sexual intimacy, self-determination.

1 **Motivation when desire is low: Associations between sexual motivation and sexual**
2 **intimacy, sexual satisfaction, and sexual distress for men with hypoactive sexual desire**
3 **disorder and their partners**

4 Low sexual desire is a distressing sexual problem estimated to affect up to 30% of men in
5 their lifetime (Segraves & Segraves, 1991). Lack of sexual desire is not only distressing but may
6 also contribute to relational problems such as lack of intimacy and lower sexual satisfaction
7 (Birnbaum et al., 2016; Rosen et al., 2019a; van Lankveld et al., 2018). Despite their low or
8 absent sexual desire, qualitative research has indicated that men with low desire report a strong
9 need for intimacy within their sexual relationship (i.e., feeling as though one's partner shares
10 their thoughts and emotions, and feeling understood, validated, and cared for by one's partner
11 related to sexual experiences; Murray et al., 2017; Reis & Shaver, 1988). Research suggests
12 sexual motivation is a pathway through which couples can promote intimacy and sexual
13 satisfaction and reduce sexual distress for couples coping with sexual dysfunction (Bockaj et al.,
14 2019; Gain & la Guardia, 2009; Muise et al., 2018; Rosen et al., 2015). Applied to sexuality,
15 self-determination theory demonstrates that adopting more autonomous motives for engaging in
16 sexual activities (e.g., engaging in sex for its inherent pleasure) and less controlled motives (e.g.,
17 engaging in sex for an external reward or consequence) has positive implications for sexual and
18 relational outcomes for both members of the couple (Brunell & Webster, 2013; Gravel et al.,
19 2016, 2019, 2020; Wood et al., 2018). Similarly, autonomous motivation in relationships (i.e., an
20 authentic willingness to engage in a relationship) predicts greater commitment and intimacy
21 (Gaine & La Guardia, 2009). In contrast, controlled motivation (i.e., engaging in a relationship
22 for some external consequence, such as status) contributes to lower relational quality, lower
23 engagement and trust in the relationship, and lower intimacy (Gaine & La Guardia, 2009; Kasser

1 & Ryan, 2001; Wild et al., 1997). Given the potential for sexual motivation to enhance sexual
2 wellbeing and closeness, this study examined the associations of autonomous and controlled
3 sexual motivation with sexual intimacy, sexual satisfaction and sexual distress for men coping
4 with clinically low sexual desire and their partners. Findings have the potential to identify factors
5 that may have implications for couples' intimacy and closeness when coping with low desire.

6 **Low Sexual Desire**

7 Male hypoactive sexual desire disorder (HSDD) is characterized by chronically low or
8 absent desire for sexual activity, accompanied by marked distress and interpersonal difficulty
9 (American Psychiatric Association [APA], 2013). HSDD is estimated to have a prevalence of
10 around 5% in men (Bhasin & Basson, 2016) and due to the increase in prevalence with age, it is
11 estimated that up to 30% of men may meet the diagnostic criteria for HSDD in their lifetime
12 (Segraves & Segraves, 1991). Further, HSDD is significantly associated with distress for
13 affected men, as evidenced by greater levels of depression, anxiety, and stress (Corona et al.,
14 2004; McCabe & Cobain, 1998; McCabe & Connaughton, 2014). Although low desire is a
15 common reason for couples to seek sex and couples therapy (Doss et al., 2004), treatment for
16 low desire often focuses on pharmacotherapies that neglect the subjective aspects of sexual
17 relationships (Brotto, 2010). As such, identifying links between types of motivation for sexual
18 activities and sexual outcomes may be an important step in developing psychological
19 interventions that target the subjective aspects of sexual relationships, such as satisfaction and
20 feeling close.

21 **When sexual desire is directed towards one's partner, termed dyadic desire, it is helpful**
22 **to examine low sexual desire within the relationship and in terms of its impact on the relationship**
23 **(Herbenick et al., 2014; Mark & Lasslo, 2018).** While low desire is associated with greater

1 distress and poorer sexual and relational satisfaction for affected individuals (Rosen et al., 2019a,
2 2019b), it also has implications for their partners. **Partners** of individuals coping with female
3 sexual interest and arousal disorder (FSIAD), genito-pelvic pain/penetration disorder (GPPD)
4 and erectile dysfunction (ED) also report negative consequences, such as lower sexual and
5 relationship satisfaction and more sexual distress, compared to couples without sexual
6 dysfunctions (Fisher et al., 2005; Rosen et al., 2019a, 2019b; Smith & Pukall, 2014). Further,
7 lack of desire may have specific implications for couples' feelings of closeness and intimacy,
8 and vice versa. **A** daily diary study found that intimacy plays a key role in the maintenance of
9 sexual desire over time (Lankveld et al., 2018), and thus may be a particularly important
10 outcome to consider for couples coping with low desire. Considering the interpersonal nature of
11 the problem, dyadic studies will expand our knowledge of this understudied population.

12 **Sexual Intimacy**

13 Given that intimacy in romantic relationships is hypothesized to behave as both a trigger
14 and reward for sexual desire (Basson, 2000), it may be a crucial factor for couples coping with
15 HSDD to navigate their low desire. The interpersonal process model of intimacy posits that
16 intimacy involves both disclosure and perceived partner responsiveness, in which disclosure
17 involves feeling as though one's partner shares their personal thoughts and emotions; while
18 perceived partner responsiveness involves feeling understood, validated, and cared for by one's
19 partner within relationships (Reis & Shaver, 1988). Couples who report high disclosure and
20 perceived partner responsiveness also report high sexual desire (Birnbaum et al., 2016; van
21 Lankveld et al., 2018). Further, a qualitative study, which focused on the factors implicated in
22 men's desire, identified intimate communication about sex as a factor that can promote desire,
23 while a lack of emotional connection was identified as an inhibiting factor (Murray et al., 2016).

1 However, this may be especially challenging for couples coping with low desire as expressing
2 low desire to a partner comes with consequences not only for the individual (e.g., as a threat to
3 masculine virility), but for partners as well (e.g., perceptions of rejection or disinterest in them
4 more generally; Murray et al., 2016, 2017). As such, identifying factors that are linked with high
5 levels of intimacy may be particularly important for couples coping with HSDD.

6 **Sexual Satisfaction**

7 Sexual satisfaction is defined as “an affective response arising from one’s subjective
8 evaluation of the positive and negative dimensions associated with one’s sexual relationship”
9 (Lawrence & Byers, 1995, p.268). Couples who are sexually satisfied are more likely to report
10 high levels of relationship satisfaction and commitment, making it integral to the quality of
11 romantic relationships (Sprecher et al., 2002). However, couples coping with one partner’s
12 sexual dysfunction often report low sexual satisfaction (Bois et al., 2016; Fisher et al., 2005;
13 Parish & Hahn, 2016; Rosen et al., 2019b). A cross-sectional comparison indicated that in
14 couples where one member was diagnosed with FSIAD, both members of the couple reported
15 lower sexual satisfaction than control couples with no sexual dysfunction reported by either
16 partner (Rosen et al., 2019a). Further, research has shown that couples who report high levels of
17 sexual desire are more sexually and relationally satisfied than couples with low or discrepant
18 desire (Kim et al., 2020). Moreover, sexual satisfaction may play a role in maintaining levels of
19 desire over time, with some research suggesting that sexual dissatisfaction is a risk factor for low
20 desire, especially for men (Hurlbert & Apt, 1994; Mark, 2012, 2015; Mark & Murray, 2012). In
21 fact, a common approach to treating low desire in couples is to promote sexual satisfaction,
22 rather than prescribing medications for low desire (Mark & Lasslo, 2018). As such, identifying a

1 factor that is linked to higher sexual satisfaction may have significant implications for couples
2 coping with HSDD.

3 **Sexual Distress**

4 Sexual distress refers to one's concerns or negative feelings (e.g., worry, frustration)
5 about their sexual experiences and relationships (Santos-Iglesias et al., 2018). One common
6 cause of sexual distress in committed relationships is the decline in sexual desire after the
7 relationship has been established (Birnbaum, 2018; Ellison, 2002; Parish & Hahn, 2016).
8 Consequently, this distress may be augmented and particularly challenging for couples coping
9 with one partner's desire disorder, who generally experience higher levels of distress than control
10 couples (Rosen et al., 2019b). A cross-sectional comparison indicated that in couples where one
11 member was diagnosed with FSIAD, both members of the couple reported higher sexual distress
12 than control couples with no persistent sexual difficulties (Rosen et al., 2019a). For women
13 experiencing low sexual desire, having a partner was predictive of the presence of distress
14 (Shifren et al., 2008), but no corresponding evidence exists for men with low sexual desire, to
15 our knowledge. Given that societal pressure to have normal or high levels of desire can further
16 contribute to the distress experienced when desire wanes or is discrepant for couples (Clement,
17 2002), sex therapists have proposed that distress, rather than the low sexual desire itself, be the
18 treatment target (Frost & Donovan, 2014). Given that low sexual desire can be present without
19 distress, the marker of distress becomes an important target for intervention, particularly for men
20 experiencing low sexual desire and couples coping with HSDD, for whom there is little data
21 about their experiences of distress.

22 **Sexual Motivation**

1 Since low sexual desire can hinder men and partners' sense of sexual intimacy and
2 satisfaction, and contribute to their sexual distress, identifying pathways through which overall
3 sexual wellbeing can be promoted are paramount. Previous research on sexual motivation has
4 identified various motives for engaging in sex, including sexual attraction, physical pleasure and
5 expression of love to curiosity, pleasing a partner and mere opportunity (Meston & Buss, 2007).
6 However, not all motives yield equal effects on wellbeing. Motivational theories, such as
7 approach-avoidance and communal motivation frameworks have identified that some motives
8 may be more beneficial for sexual and relational wellbeing than others (for a review see Muise et
9 al., 2017; Muise 2013a; Muise 2013b; Impett et al., 2008). For example, Muise and colleagues
10 (2013a), identified that an engaging in sex for avoidance motives (e.g., to avoid a fight) was
11 associated with increased conflict in the relationship, lower sexual and relationship satisfaction,
12 and lower desire for both them and their partner. Whereas an engaging in sex for approach
13 motives (e.g., because it feels good) was associated with higher sexual and relationship
14 satisfaction and higher desire for both members of the couple (Muise et al., 2013a). Despite
15 these meaningful findings, the approach-avoidance framework neglects to consider the
16 individual/personal aspects of motivation (e.g., the personal value one attributes to a behaviour).
17 Self-determination theory may provide a framework for motivation and wellbeing that moves
18 beyond approach-avoidance motives to understand how one's personal values relates to their
19 sexual motives. For example, if, as mentioned above, high sexual desire is valued as an
20 important aspect of male virility, men might engage in sex to prove themselves sexually. While
21 from an approach-avoidance framework this would be seen as an approach motive and
22 associated with positive outcomes, for men with low desire, it may also cause distress. Recent
23 work applying self-determination theory to sexual motivation may present a potential avenue to

1 address the impact of low levels of sexual desire for men with HSDD and their partners (see
2 Gravel et al., 2016-2020; Brunell & Webster, 2013; Hadden et al., 2015; Knee et al., 2005;
3 Shoikhedbrod et al., 2022). According to self-determination theory, autonomous motivation in
4 relationships (i.e., an authentic willingness to participate in the relationship) contributes to higher
5 satisfaction and psychological wellbeing for both members of the couple as well as high partner
6 responsiveness, one of the building blocks of intimacy (Hadden et al., 2015; Knee et al., 2005;
7 Ryan & Deci, 2014, 2017). Controlled motivation, on the other hand, involves engaging in
8 relationships for some internal or external reward or punishment (e.g., engaging in a relationship
9 for status or to please others) and is associated with more negative emotions and lower life
10 satisfaction and psychological wellbeing (Gravel et al., 2016; Knee et al., 2002; Ryan & Deci,
11 2014). While autonomous motivation is generally guided by one's own interests and desires,
12 those of a romantic partner may also be relevant, as caring for a partner in a strong manner may
13 encourage integration of a partner's interests and desires into one's own motivation (i.e., one's
14 personal interest is to nurture the relationship through adopting their partners' interests as either
15 their own, or as their shared interests; Gaine & La Guardia, 2009; Gore, Cross & Kanagawa,
16 2009). This differs from controlled motivation in that the act of nurturing one's relationship is in
17 itself rewarding rather than something that is performed for some other, external consequence.
18 The motives that an individual adopts for engaging in the relationship can have an impact on
19 their feelings of closeness and intimacy (Gaine & La Guardia, 2009; Knee et al., 2002, 2005).
20 When couples were asked to discuss differences in their relationship, romantic partners who
21 were autonomously motivated communicated with behaviours that promoted closeness and
22 intimacy, such as more expression of emotion, acceptance, emotional support, and less
23 behavioral disengagement. In contrast, partners who were controlled in their motivation

1 communicated with more denial and more venting of emotions (Knee et al., 2002), which may
2 hinder intimacy.

3 Applied to sexuality, engaging in sex for more autonomous reasons (e.g., “because I
4 enjoy sex” or “because sexuality is a meaningful part of my life”) is associated with higher
5 sexual satisfaction, more positive sexual affect and less negative sexual affect (i.e., feelings,
6 emotions, or mood towards sex), and a greater feeling of belonging in one’s relationship (Gravel
7 et al., 2016; Gravel et al., 2020). In contrast, engaging in sex for more controlled reasons is
8 associated with lower sexual satisfaction, higher sexual distress, and higher negative sexual
9 affect (Gravel et al., 2016; Gravel et al., 2020). Further, dyadic analyses have identified that an
10 individual’s motivation has implications for their partners’ outcomes (Brunell & Webster, 2013;
11 Hadden et al., 2015; Knee et al., 2005). For example, a daily diary study found that men’s self-
12 determined sexual motivation was positively related to their partners’ relationship satisfaction
13 and psychological wellbeing (Brunell & Webster, 2013). For couples coping with HSDD,
14 understanding how autonomous and controlled sexual motivation is associated with sexual
15 intimacy, sexual satisfaction and sexual distress for both partners may help identify a correlate
16 through which sexual intimacy and satisfaction can be promoted, and sexual distress can be
17 reduced in targeted interventions. Interventions grounded in self-determination theory may
18 protect a sense of autonomous choice in a distressed group of couples who may feel a lack of
19 control or pressure to show desire for their partner.

20 **The Current Study**

21 The current study utilized self-determination theory as a theoretical framework to
22 examine the dyadic associations between sexual motivation and sexual intimacy, sexual
23 satisfaction, and sexual distress among men with HSDD and their partners. Previous research on

1 self-determination theory has identified that autonomous and controlled motivation have
2 implications for intimacy, sexual satisfaction, and sexual distress. However, these associations
3 have not yet been applied to the context of couples coping with HSDD. We hypothesized that
4 when men with HSDD report having sex for more autonomous reasons (e.g., “because it is
5 pleasurable” or “because sexuality is a key part of who they are”), they and their partners would
6 report higher sexual intimacy and sexual satisfaction, and lower sexual distress. Conversely, we
7 hypothesized that when men report having sex for more controlled reasons (e.g., to meet their
8 partners’ expectations or because they want to prove something to themselves), they and their
9 partners would report lower sexual intimacy and sexual satisfaction, and higher sexual distress.
10 Similarly, for partners of men with HSDD, we hypothesized that for those who report more
11 autonomous reasons for having sex both themselves and men with HSDD would report higher
12 sexual intimacy and sexual satisfaction, and lower distress. Whereas for partners who report
13 more controlled reasons for having sex, both themselves and men with HSDD would report
14 higher lower sexual intimacy and satisfaction and higher sexual distress.

15 Method

16 Participants

17 Participants were recruited throughout Canada and the United States via social media
18 advertisements (e.g., through posts on Instagram, Facebook, and Reddit), flyers posted around
19 university campuses and local neighbourhoods, and word-of-mouth (i.e., through friends and
20 family of researchers, through staff at therapy clinics) and online survey platforms (i.e.,
21 respondent.io) from November 2016 to September 2021. To be eligible, couples were required to
22 be at least 18 years of age, in a committed relationship of six months or more, either living
23 together or with a minimum of four in-person contacts per week, fluent in English, and both

1 members of the couple had to agree to participate. One member of the couple had to meet the
2 diagnostic criteria for HSDD as defined by the *DSM-5* (American Psychiatric Association
3 [APA], 2013) and determined via a clinical interview or an online clinical screening form,
4 described below in *Procedure*. There were no significant differences on the core symptoms of
5 HSDD (i.e., sexual desire and sexual distress) or sociodemographic characteristics between
6 couples whose diagnoses were confirmed via the clinical interview compared to couples who
7 completed the screening form. Additionally, there were no significant differences for variables of
8 interest reported by participants when compared year to year throughout the recruitment period.
9 Exclusion criteria for men reporting low sexual desire included: low sexual desire attributed to
10 another psychiatric or medical condition or medication; undergoing hormonal therapy; pregnant
11 or breastfeeding partner; undergoing psychological treatment; and no previous sexual
12 experience.

13 A total of 310 partnered individuals contacted the laboratory and completed an initial
14 screening call with a research assistant ($n = 84$) or an online screening survey ($n = 226$) to
15 determine eligibility. Of the 84 individuals that contacted the laboratory between November
16 2016 and December 2019, 44 individuals reporting low desire participated in a clinical interview.
17 Following the clinical interview, 8 individuals were deemed ineligible (i.e., did not meet the
18 *DSM-5* diagnostic criteria for HSDD, undergoing hormonal treatment for their sexual
19 difficulties, did not report prior sexual experience, and no longer interested in participating in the
20 study). Thus 36 individuals and their partners were recruited between November 2016 and
21 December 2019. All of the individuals ($n = 226$) that contacted the study between January 2020
22 and September 2021 were screened using the online survey. Following the survey, 158
23 individuals were removed (i.e., did not meet diagnostic criteria, ineligible across other criteria,

1 disingenuous participants) and of the 68 deemed eligible, 7 were contacted by telephone for a
2 clinical interview clarification and a total of 66 were enrolled. Together, 102 ($n = 36$ and $n = 66$)
3 men (and their partners) were deemed eligible following the initial screening process. Of those
4 102 couples, 79 completed the survey. Fifteen eligible couples were excluded from the final
5 analyses due to failed attention checks, evidence of disingenuous responses, or incomplete key
6 measures. Therefore, the final sample for this study was 64 couples ($n = 128$ individuals)¹ with
7 valid and complete data.

8 Our final sample was primarily white ($n = 96$ individuals). Although the sample was
9 inclusive of gender- and sex-diverse couples, participants were largely cisgendered ($n = 121$
10 individuals) and heterosexual ($n = 57$ couples). Relationship length ranged in years from 0.5 to
11 40 with an average length of 7.68 years. Additionally, the duration of men's HSDD symptoms
12 ranged from 6 to 180 months with the average length of 40.2 months. Participant characteristics
13 are listed in Table 1.

14 **Procedure**

15 This study was part of a larger study, with one prior publication (*citation masked for
16 review*), investigating predictors of psychological, sexual, and relationship wellbeing in couples
17 where a man has HSDD and was approved by the Research Ethics Board at *masked for
18 review*. In the first phase of recruitment, men with HSDD who were interested in the study
19 completed a structured telephone screening with a research assistant to assess initial eligibility.
20 Those who met basic eligibility criteria were then scheduled for a semi-structured clinical
21 interview via telephone (approximately 30-45 minutes) with a member of our clinical team to
22 confirm low desire consistent with HSDD. A diagnosis of HSDD is characterized as: 1)

¹ All men with HSDD enrolled in this study identified as either a man ($n = 63$) or transgender (identify as man $n = 1$). All participants approved of the terminology "men with HSDD" for the purposes of this study.

1 persistently or recurrently deficient (or absent) sexual/erotic thoughts or fantasies and desire for
2 sexual activity; 2) these symptoms have persisted for a minimum duration of approximately 6
3 months; 3) symptoms cause clinically significant distress for the individual; not better explained
4 by a non-sexual mental disorder, consequence to severe relational distress (e.g., intimate partner
5 violence), other significant stressors, and not attributable to substance/medication or medical
6 condition. The clinical interview was modeled after prior studies of FSIAD (Sarin et al., 2016;
7 Paterson et al., 2017; *masked for review*) and revised based on the clinical expertise of the
8 research team. Eligible men were asked to confirm their partners' eligibility and willingness to
9 participate. Due to the slow pace of recruitment, in the second phase of recruitment, potential
10 participants completed eligibility questions via an online survey that covered the same set of
11 questions as the clinical interview. Their answers were reviewed by a clinical psychologist and a
12 senior PhD student in clinical psychology. If necessary, potential participants were contacted for
13 a clinical interview to confirm diagnostic information (e.g., timing of low sexual desire in
14 relation to other reported symptoms). The clinical interview and online eligibility screening
15 survey are available on the Open Science Framework (OSF):

16 https://osf.io/vfrgx/?view_only=1ad048215a624b32a5a7530eeb30ee53

17 Eligible couples were e-mailed individual links to the online consent form and survey,
18 hosted via Qualtrics XM software, which took approximately 45 to 60 minutes to complete.
19 Couples were instructed to complete their surveys independently from each other. Participants
20 who did not complete the survey within one week received a reminder phone call. Reminder
21 emails were sent two and three weeks thereafter, and the survey expired four weeks after being
22 sent to participants. For couples that completed the survey between December 2016 and June
23 2021 ($n = 44$ couples), each individual was compensated \$10 CAD for completing the survey.

1 Due to the slow pace of recruitment and to encourage participation, for couples that completed
2 the survey from July 2021 onwards, each individual was compensated \$15 CAD, with the
3 exception of participants recruited through Respondent.io ($n = 1$ couple), who were each
4 compensated \$15 USD². Following participation, participants were sent a debrief email that
5 included information on the study purpose and treatment resources.

6 **Measures**

7 **Sociodemographics.** Participants self-reported their age, gender, sexual orientation,
8 sexual frequency, education, race/ethnicity, relationship status (i.e., dating, living together or
9 married) and length, and household income and men with HSDD reported the duration of the low
10 desire/arousal problem. **Reports of partnered sexual frequency and relationship duration should**
11 **be consistent across couples. However, couples often differ slightly in their self-reports of**
12 **partnered sexual frequency and relationship duration, therefore couple**-level averages were
13 calculated for sexual frequency (defined as giving and receiving manual and oral stimulation,
14 and vaginal and anal intercourse) and relationship duration.

15 **Sexual motivation.** The Sexual Motivation Scale (SexMS; Gravel et al., 2016) is a 24-
16 item measure of sexual motivation that corresponds with the six regulation styles of motivation
17 outlined by Ryan and Deci's (2000) self-determination theory. Participants rated the extent to
18 which each statement corresponded to their motives for engaging in sex on a 7-point Likert scale
19 from 1 (*does not correspond at all*) to 7 (*corresponds completely*). Scores range from 4 to 28 on
20 each subscale, with higher scores indicating greater endorsement of that regulation style.

21 Separate measures of autonomous (e.g., *because sex is fun*) and controlled (e.g., *because my*
22 *partner demands it of me*) sexual motivation were created by averaging all autonomous items

² Respondent.io guidelines require that participants are compensated in increments of \$5 USD

1 (intrinsic, integrated, and identified) into one scale and all controlled items (introjected and
2 external) into another scale (Gravel et al., 2019). Cronbach's alpha on the autonomous
3 motivation subscale was .93 for men with HSDD and .94 for partners. Cronbach's alpha on the
4 controlled motivation subscale was .81 for men with HSDD and .89 for partners.

5 **Sexual intimacy.** Sexual intimacy was measured using the 7-item sexual intimacy
6 measure (Bois et al., 2013), which was adapted to the sexual context based on Reis and Shavers
7 (1988) interpersonal process model of intimacy. The measure assessed self-disclosure (e.g., *With*
8 *regard to your sexual relationship with your partner, how much do you disclose your private*
9 *sexual thoughts to your partner?*), perceived partner disclosure (e.g., *With regard to your sexual*
10 *relationship with your partner, how much does your partner disclose his or her feelings about*
11 *sex to you?*), and partner responsiveness (e.g., *During or immediately following sexual activity,*
12 *how much do you feel your partner accepts you as you are?*). The measure is rated on a 7-point
13 scale of 1 = *not at all* to 7 = *a lot*. Scores range from 12 to 49, where higher scores represent
14 higher sexual intimacy. Cronbach's alpha was .83 for men with HSDD and .86 for partners.

15 **Sexual satisfaction.** The Global Measure of Sexual Satisfaction (GMSEX; Lawrance &
16 Byers, 1995) was used to measure sexual satisfaction (i.e., the overall evaluation of the positive
17 and negative aspects of the sexual relationship). Participants selected the number that best
18 described their sexual relationship on a 7-point scale using 5 bipolar items (e.g., *very bad-very*
19 *good; unsatisfying-satisfying*). Scores ranged from 5 to 35, with higher scores indicating greater
20 sexual satisfaction. Cronbach's alpha was .94 for men with HSDD and .93 for their partners.

21 **Sexual distress.** The Female Sexual Distress Scale – Revised (FSDS-R; DeRogatis et al.,
22 2008) uses gender neutral language and was used to measure sexual distress. Participants rated
23 how frequently they experienced an emotion (e.g., *how often do you feel worried about sex*) or

1 sexuality related problem (*e.g., how often do you feel inferior because of sexual problems*) on a
2 5-point Likert scale from 1 (*never*) to 5 (*always*). Scores ranged from 13 to 62, with higher
3 scores indicating greater sexual distress. Cronbach's alpha was .91 for men with HSDD and .90
4 for their partners.

5 **Sexual frequency.** Partnered sexual frequency was measured using six items from the
6 Sexual Behaviours Questionnaire (SBQ) developed for us as a descriptive variable and used in
7 previous research assessing sexual outcomes (Rosen et al., 2018). The SBQ consists of nine
8 items that assess how often in the last 4-week participants engaged in various sexual behaviours
9 (*i.e., kissing, caressing/touching, oral sex, manual stimulation, and sexual intercourse*) on a 7-
10 point scale (0 *Not at all*; 1 *once or twice*; 2 *once a week*; 3 *two to three times a week*; 4 *four to*
11 *five times a week*; 5 *once a day*; 6 *more than once a day*). In the present study, items pertaining
12 to oral and manual stimulation, and vaginal and anal penetration were retained, and items
13 pertaining to kissing, and caressing/touching were removed. Scores are summed, with higher
14 scores indicating higher frequency of sexual behaviour and lower scores indicating lower
15 frequency of sexual behaviour. **Since there can be discrepancy between partners self-reported**
16 **sexual frequency, scores** were averaged within each couple for consistency.

17 **Data Analysis**

18 Analyses were conducted using RStudio 4.1.0. **Due to the lack of diversity in the sample,**
19 **couples were not differentiated in the analysis based on sociodemographic characteristics (e.g.,**
20 **sexual orientation), with the exception of sexual frequency.** Bivariate correlations between
21 sociodemographic characteristics of the sample (*e.g., sexual frequency*), sexual motivation (*i.e.,*
22 *autonomous and controlled motivation*), and outcome variables (*i.e., sexual intimacy, sexual*
23 *satisfaction, and sexual distress*) were examined to determine any relevant covariates.

1 Correlations between sample characteristics and outcome variables were examined using a two-
2 tailed test of significance. A two-level modelling technique that nests individual data (Level 1)
3 within dyads (Level 2) was used to account for the non-independence of dyadic data (Kenny et
4 al., 2006). The associations between sexual motivation (both autonomous and controlled) and
5 outcome variables for men with HSDD and partners were analyzed using multilevel modeling
6 guided by the Actor-Partner Interdependence Model (APIM; Kenny et al., 2006). The APIM
7 identifies actor effects (e.g., the associations for both autonomous and controlled sexual
8 motivation in men with HSDD and their own outcomes) as well as partner effects (e.g., the
9 associations for both autonomous and controlled sexual motivation in men with HSDD and their
10 partner's outcomes). All predictors in the models were grand-mean centered and represent
11 between-person differences. Coefficients (b) are unstandardized and can be interpreted as the
12 change in the dependent variable for every one-unit change in the participant's average predictor
13 value. Separate models were conducted for sexual intimacy, sexual satisfaction, and sexual
14 distress.

15 Results

16 Descriptives and Intercorrelations

17 Descriptive information for each of the study measures are reported in Table 2.
18 Autonomous motivation was significantly lower ($t(126) = -7.00, p < .001$) for men with HSDD
19 ($M = 4.31, SD = 1.21$) than their partners ($M = 5.74, SD = 1.10$). Men with HSDD ($M = 3.77, SD$
20 $= 1.16$) scored significantly higher than their partners ($M = 3.07, SD = 1.36$) on controlled
21 motivation ($t(123) = 3, p = .002$). Men with HSDD ($M = 43.5, SD = 9.20$) were significantly
22 more sexually distressed ($t(125) = 3.00, p = .005$) than their partners ($M = 38.60, SD = 9.96$).
23 There were no significant differences for sexual intimacy ($t(121) = 0.08, p = .90$) or sexual

1 satisfaction ($t(126) = -0.60, p = .60$) between men with HSDD ($M = 32.50, SD = 7.27; M =$
2 $20.20, SD = 6.81$, respectively) or their partners ($M = 32.4, SD = 8.92; M = 20.90, SD = 7.20$,
3 respectively). Bivariate correlations for autonomous and controlled motivation and outcome
4 measures are reported in Table 3.

5 **Sexual Intimacy**

6 As reported in Table 4, when men with HSDD reported more autonomous motivation,
7 both they and their partners reported higher levels of sexual intimacy. However, when men with
8 HSDD reported more controlled motivation, their partners reported lower sexual intimacy. No
9 significant associations were found between controlled motivation in men with HSDD and their
10 own sexual intimacy, nor were any associations found between partners' sexual motivation and
11 their own sexual intimacy or sexual intimacy in men with HSDD (see Figure 1).

12 **Sexual Satisfaction**

13 When men with HSDD reported more autonomous motivation for sex, their partners
14 reported higher levels of sexual satisfaction (see Table 4). However, when men with HSDD
15 reported more controlled motivation for sex, their partners reported lower levels of sexual
16 satisfaction. No associations were found between men's sexual motivation (autonomous or
17 controlled) and their own sexual satisfaction, nor were any associations found between partners'
18 sexual motivation and their own or men's sexual satisfaction (see Figure 2).

19 **Sexual Distress**

20 When men with HSDD reported more controlled motivation for sex, both they and their
21 partners reported higher levels of sexual distress (see Table 4). No associations were found
22 between men's autonomous motivation for sex and sexual distress for men or their partners.

1 Similarly, no associations were found between partners' sexual motivation and sexual distress
2 for either member of the couple (see Figure 3).

3 **Ruling Out Alternative Hypotheses**

4 To rule out alternative hypotheses and provide evidence for the generalizability of our
5 findings, we conducted an additional analysis including covariates. Since sexual frequency has
6 been shown to be highly correlated with sexual outcomes, such as sexual satisfaction, sexual
7 motivation and sexual distress (Muise et al., 2016, 2018), it was tested and used as a covariate in
8 the current study (for studies assessing sexual frequency as a covariate for sexual outcomes see
9 Corsini-Munt et al., 2020; Muise et al., 2018, 2017; Rosen et al., 2019a). Bivariate correlations
10 (see Table 3) indicated that sexual frequency was only significantly positively associated with
11 sexual satisfaction. Therefore, the main analyses presented above did not control for sexual
12 frequency, however, an additional model was conducted for sexual satisfaction to assess the
13 associations between sexual motivation and sexual satisfaction controlling for sexual frequency.
14 Both effects (i.e., the association between men's higher autonomous motivation for sex and their
15 partners' higher sexual satisfaction and the association between men's higher controlled
16 motivation and their partners' lower sexual satisfaction) remained significant when controlling
17 for sexual frequency.

18 **Discussion**

19 This study reports on the dyadic associations between sexual motivation and sexual
20 outcomes for men with HSDD and their partners. Specifically, results revealed that higher
21 autonomous motivation in men with HSDD was associated with higher reports of sexual
22 intimacy for both members of the couple and higher sexual satisfaction for their partners, even
23 when accounting for sexual frequency. Conversely, men's higher controlled motivation was

1 associated with their partners' lower sexual intimacy and sexual satisfaction (controlling for
2 sexual frequency), and more sexual distress for their partner. Finally, higher controlled
3 motivation **in men with HSDD** was also associated with their own higher levels of sexual
4 distress. No associations were found between partners' sexual motivation and their own or the
5 sexual wellbeing of men with HSDD.

6 Consistent with our predictions, when men with HSDD were more autonomously
7 motivated for sex, they and their partners reported more sexual intimacy and their partners were
8 more sexually satisfied. These results are in line with research demonstrating that autonomous
9 motivation in romantic relationships is associated with more positive relational outcomes such as
10 greater levels of intimacy and relationship satisfaction for both members of the couple (Brunell
11 & Webster, 2013; Gaine & La Guardia, 2009). Individuals who adopt more autonomous motives
12 in relationships have been found to be more responsive to their partners' needs (Hadden et al.,
13 2015). Therefore, when men with HSDD have sex for more autonomous reasons (e.g., because
14 they enjoy sex or they feel that sex is a meaningful part of their life) it may encourage an
15 intimate interaction whereby men may be more responsive to the sexual needs of their partner
16 and feel more comfortable disclosing their own sexual needs. This responsiveness and disclosure
17 may in turn provide their partner with opportunity to be responsive to those sexual needs while
18 simultaneously feeling as though their own sexual needs have been met. It is also possible that
19 when men with HSDD are more autonomously motivated for sex it may signal to their partners
20 that despite their low desire, men care about their partners' sexual needs and enjoy pleasuring
21 their partner, which may contribute to more sexual satisfaction for partners, regardless of the
22 frequency of their sexual activity. As our results are correlational, it could also be that when men
23 with HSDD and their partners are feeling more sexually intimate and satisfied, men with HSDD

1 may adopt more autonomous reasons for engaging in sex in the future (e.g., sex for pleasure or
2 connecting with their partner sexually). In fact, semi-structured interviews, analyzed using
3 grounded theory methodology, of men's sexual desire indicated that intimate communication
4 (involving disclosure and understanding of sexual interests) is important for men's sexual desire
5 and often leads to sexual activity (Murray et al., 2017).

6 In contrast, greater controlled sexual motivation in men with HSDD was linked to lower
7 levels of sexual intimacy and satisfaction for their partners and higher levels of distress for
8 themselves and their partners. It is well-documented that controlled motivation is associated with
9 poorer psychosocial outcomes (Ryan & Deci, 2017). Controlled motivation, in relationships, is
10 associated with lower levels of intimacy (Gaine & La Guardia, 2009). In a sexual context,
11 controlled motivation is associated with lower sexual and relationship satisfaction, and higher
12 negative affect, depression, and anxiety (Brunell & Webster, 2013; Gravel et al., 2016). It may
13 be the case that when men with HSDD have sex for controlled reasons (e.g., to prove themselves
14 sexually) partners may focus on being responsive to the sexual needs of men with HSDD, while
15 neglecting to disclose their own sexual needs, resulting in lower sexual intimacy and satisfaction.
16 Indeed, across a set of two dyadic studies, higher controlled sexual motivation was associated
17 with higher endorsement of meeting a partner's sexual needs at the expense of one's own, and
18 those partnered with someone who reported undermining their own needs to meet their partner's
19 needs also reported more controlled sexual motivation (Shoikenbrod et al., 2022). Further, when
20 men with HSDD have sex for controlled reasons, partners may feel pressure to ensure that the
21 sexual encounter is perceived as positive by the men with HSDD, in order to promote future
22 motivation for sexual activity. For example, partners of individuals with low desire have been
23 shown to have higher sexual distress than those partnered with individuals without sexual desire

1 difficulties (Rosen et al., 2019a). Finally, when men with HSDD have sex for controlled reasons,
2 they may feel pressure to prove themselves sexually or to live up to their partners' expectations,
3 resulting in greater anxiety around sexual experiences and consequently greater sexual distress
4 when those experiences are unsuccessful. In fact, men with sexual desire difficulties have
5 reported that their primary motivating factor when engaging in sex is providing sexual pleasure
6 to their partner (Murray, 2019). This may create a cycle where their controlled motives for sex
7 lead to sexual distress, which further promotes their use of controlled motives, making controlled
8 sexual motivation a particularly important factor to consider regarding sexual desire.

9 We found no significant associations between men's autonomous motivation and their
10 own sexual satisfaction and distress or men's controlled motivation and their own sexual
11 intimacy and satisfaction. Additionally, no significant associations were found between partners'
12 autonomous or controlled motivation and their own sexual outcomes (intimacy, satisfaction, and
13 distress) or the sexual outcomes of men with HSDD. These findings were unexpected, given
14 previous findings indicating that one's sexual motivation is directly associated with their own
15 sexual outcomes (Gravel et al., 2016), and the previously established benefits of autonomous
16 sexual motivation for sexual satisfaction and sexual distress of both partners (Brunell & Webster,
17 2013; Gravel et al., 2020; Sanchez et al., 2011; Wood et al., 2018). It may be the case that when
18 partners of men with HSDD engage in sex for any reason, their intimacy and satisfaction is
19 dependent on other relational or sexual factors (e.g., erectile performance, orgasm quality,
20 partner's pleasure). In addition, a narrative exists for heterosexual men where they feel a social
21 pressure (based in traditional masculinity norms) to display high levels of sexual desire (Murray,
22 2018). As such, it may be the case that men with HSDD and their partners are motivated to feel
23 desire for sexual activity, but are inhibited by desire difficulties. Therefore, despite the

1 endorsement of motivation, autonomous or controlled, men with HSDD and their partners do not
2 experience the typical need fulfillment and subsequent outcomes of well-being because of the
3 low desire. This may be particularly salient for partners of men with HSDD given that they may
4 seldom be able to act on their own sexual motivation for partnered sexual activity. Future
5 research should examine additional aspects of self-determination theory (e.g., fulfillment of basic
6 psychological needs for competence or feeling like a good sexual partner) alongside motivational
7 considerations of men coping with HSDD.

8 **Strengths and Limitations**

9 This study adds to the growing body of research on low desire in men. Additionally, this
10 study adds to the growing body of literature on self-determined motivations within the field of
11 sexuality, and one of the first studies to our knowledge to assess self-determined motivation in a
12 clinical sample of couples coping with **one partner's desire difficulty**. Notably, our study
13 included partners of men with HSDD, highlighting the dyadic aspect of sexual motivation for
14 couple's sexual intimacy, satisfaction, and distress. Recruitment efforts for this study extended
15 over a period of 6 years, underscoring the difficulty of reaching this population despite the
16 reported prevalence of HSDD. Thus, although our sample size is small, it remains a strength of
17 this study.

18 This study, however, is not without limitations. First, due to the cross-sectional nature of
19 the study, we cannot make causal interpretations. While self-determination theory posits the
20 direction of the associations as motivation precedes emotions, cognitions and behaviours, the
21 cross-sectional nature of the study cannot determine whether this is the case. It may be that when
22 men with HSDD perceive their partners' sexual intimacy, satisfaction and/or distress it
23 contributes to their sexual motivation. For example, greater perceived partner satisfaction may

1 provide men with HSDD the reassurance they need to adopt autonomous motives for sex.
2 Second, the willingness to participate in dyadic studies relating to sexual difficulties has been
3 theorized to exclude more distressed couples (Corsini-Munt et al., 2017), therefore the sample
4 may be biased to include individuals who are in less distress and in more satisfying sexual
5 relationships. Third, most participants identified as white, cisgender and heterosexual and all
6 couples resided in Canada or the United States, meaning the generalizability of this study is
7 limited. Future work should aim to reflect the experiences of couples coping with HSDD over a
8 diverse sample, or more specifically in minority samples in order to gain more insight into
9 couples' experiences on a sociocultural level. This means designing studies using targeted
10 sampling of minority groups and providing a safe and comfortable environment from which to
11 conduct this research. Fourth, despite recruitment efforts sustained over an extended period of
12 time (i.e., 6 years), the current sample may be underpowered, and the results should thus be
13 considered within this context.

14 **Conclusions**

15 The purpose of this study was to examine the associations of autonomous and controlled
16 motives for engaging in sexual activity with sexual intimacy, sexual satisfaction, and sexual
17 distress for couples coping with HSDD. Results from this study identified sexual motivation in
18 men with HSDD as a correlate of sexual satisfaction, intimacy and distress. Autonomous
19 motivation in men with HSDD is associated with higher intimacy for both members of the
20 couple and higher satisfaction for partners and controlled motivation is associated with lower
21 intimacy and satisfaction for partners and higher distress for both members of the couple. We did
22 not find support for hypothesized associations for the controlled motivation of men with HSDD
23 and partners' autonomous or controlled motivation and their own outcomes. As such, our results

1 highlight the importance of capturing the interpersonal aspect when analyzing the relationship
2 between sexual motivation and outcomes and may help to inform interventions for couples
3 coping with HSDD. Findings from this study extend our knowledge of self-determination theory
4 in sexual experiences, specifically for individuals with difficulties with sexual desire disorders
5 and their partners. Given the significant findings related only to sexual intimacy, satisfaction and
6 distress, it is likely premature to recommend the full adoption of a self-determined approach for
7 clinicians working with men with HSDD and their partners. However, clinicians may consider
8 targeting intimacy, satisfaction and distress for men with HSDD and their partners by using
9 cognitive behavioral couple therapy approaches that encourage autonomous motivation within
10 the sexual relationship.

11

12 **Declarations**

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14 This study was funded by a grant from *masked for review* and held by *masked for
15 review.*

16 **Conflicts of interest/Competing interests**

17 No potential conflict of interest was reported by the authors.

18 **Availability of data and material**

19 The clinical interview and online eligibility screening survey are available on the Open
20 Science Framework (OSF):

21 https://osf.io/vfrgx/?view_only=1ad048215a624b32a5a7530eeb30ee53

22 **Code availability**

23 Analyses were conducted using RStudio 4.1.0.

References

- 1
2 American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental*
3 *disorders*. 5th ed. Washington, DC: American Psychiatric Publishing.
- 4 Beck, A., Robinson, J., & Carlson, L. (2013). Sexual values as the key to maintaining satisfying
5 sex after prostate cancer treatment: The physical pleasure-relational intimacy model of
6 sexual motivation. *Archives of Sexual Behaviour*, 42, 1637 – 1647.
7 <https://doi.org/10.1007/s10508-013-0168-z>
- 8 Bhasin, S. & Basson, R. (2016). Sexual Dysfunction in Men and Women. *Williams Textbook of*
9 *Endocrinology*. 13th ed. 785 – 830.
- 10 Birnbaum, G. E., Reis, H. T., Mizrahi, M., Kanat-Maymon, Y., Sass, O., & Granovski-Milner, C.
11 (2016). Intimately connected: The importance of partner responsiveness for experiencing
12 sexual desire. *Journal of Personality and Social Psychology*, 111(4), 530–
13 546. <https://doi.org/10.1037/pspi0000069>
- 14 Birnbaum, G. E. (2018). The fragile spell of desire: A functional perspective on changes in
15 sexual desire across relationship development. *Personality and Social Psychology*
16 *Review*, 22(2), 101 – 127. <https://doi.org/10.1177/108886831771535>
- 17 Bois, K., Bergeron, S., Rosen, N. O., McDuff, P., & Grégoire, C. (2013). Sexual and relationship
18 intimacy among women with provoked vestibulodynia and their partners: Associations
19 with sexual satisfaction, sexual function, and pain self-efficacy. *The Journal of Sexual*
20 *Medicine*, 10(8), 2024-2035. <https://doi.org/10.1111/jsm.12210>
- 21 Bois, K., Bergeron, S., Rosen, N., Mayrand, M., Brassard, A., & Sadijk, G. (2016). Intimacy,
22 sexual satisfaction and sexual distress in vulvodynia couples: An observational study.
23 *Health Psychology*, 35(6), 531–540. <https://doi.org/10.1037/hea0000289>

- 1 Bringle, R. G., & Byers, D. (1997). Intentions to seek marriage counseling. *Family Relations*,
2 46(3), 299–304. <https://doi.org/10.2307/585128>
- 3 Brotto, L. (2010). The DSM diagnostic criteria for hypoactive sexual desire disorder in men.
4 *Journal of Sexual Medicine*, 7, 2015–2030. [https://doi.org/10.1111/j.1743-
5 6109.2010.01860.x](https://doi.org/10.1111/j.1743-6109.2010.01860.x)
- 6 Brunell, A., & Webster, G. (2013). Self-determination and sexual experience in dating
7 relationships. *Personality and Social Psychology Bulletin*, 39(7), 970–987.
8 <https://doi.org/10.1177/0146167213485442>
- 9 Clement, U. (2002). Sex in long-term relationships: A systemic approach to sexual desire
10 problems. *Archives of Sexual Behavior*, 31, 241–246.
11 <https://doi.org/10.1023/A:1015296718952>
- 12 Corona, G., Mannucci, E., Petrone, L., Giommi, R., Mansani, R., Fei, L., Forti, G., & Maggi, M.
13 (2004). Psycho-biological correlates of hypoactive sexual desire in patients with erectile
14 dysfunction. *International Journal of Impotence Research*, 16(3), 275–281.
15 <https://doi.org/10.1038/sj.ijir.3901158>
- 16 Corsini-Munt, S., Rancourt, K. M., Dubé, J. P., Rossi, M. A., & Rosen, N. O. (2017).
17 Vulvodynia: A consideration of clinical and methodological research challenges and
18 recommended solutions. *Journal of Pain Research*, 10, 2425–2436.
19 <https://doi.org/10.2147/JPR.S126259>
- 20 Derogatis, L.R., Rosen, R., Leiblum, S., Burnett, A., & Heiman, J. (2002). The female sexual
21 distress scale (FSDS): Initial validation of a standardized scale for assessment of sexual
22 related personal distress in women. *Journal of Sex and Marital Therapy*, 28, 317 – 330.
23 <https://doi.org/10.1080/00926230290001448>

- 1 Doss, B. D., Atkins, D. C., & Christensen, A. (2003). Who's dragging their feet? Husbands and
2 wives seeking marital therapy. *Journal of Marital and Family Therapy*, 29(2), 165–177.
3 <https://doi.org/10.1111/j.1752-0606.2003.tb01198.x>
- 4 Doss, B. D., Simpson, L. E., & Christensen, A. (2004). Why do couples seek marital therapy?
5 *Professional Psychology: Research and Practice*, 35(6), 608–614.
6 <https://doi.org/10.1037/0735-7028.35.6.608>
- 7 Dubé, J. P., Corsini-Munt, S., Muise, A., & Rosen, N. O. (2019). Emotion regulation in couples
8 affected by Female Sexual Interest/Arousal Disorder. *Archives of Sexual Behavior*,
9 48(8), 2491–2506. <https://doi.org/10.1007/s10508-019-01465-4>
- 10 Ellison, C. R. (2002). A research inquiry into some American women's sexual concerns and
11 problems. *Women and Therapy*, 24(1-2), 147–159.
12 https://doi.org/10.1300/J015v24n01_17
- 13 Fisher, W. A., Rosen, R. C., Eardley, I., Sand, M., & Goldstein, I. (2005). Sexual experience of
14 female partners of men with erectile dysfunction: the female experience of men's attitudes
15 to life events and sexuality (FEMALES) study. *The Journal of Sexual Medicine*, 2(5),
16 675–684. <https://doi.org/10.1111/j.1743-6109.2005.00118.x>
- 17 Frost, R. N. & Donovan, C. L. (2015). Low sexual desire in women: amongst the confusion,
18 could distress hold the key? *Sexual and Relationship Therapy*, 30(3), 338-350,
19 <https://doi.org/10.1080/14681994.2015.1020292>
- 20 Gaine, G., & La Guardia, J. (2009). The unique contributions of motivations to maintain a
21 relationship and motivations toward relational activities to relationship well-being.
22 *Motivation & Emotion*, 33, 184-202. <http://dx.doi.org/10.1007/s11031-009-9120-x>

- 1 Gore, J. S., Cross, S. E., & Kavangawa, C. (2009). Acting in our interests: Relational self-
2 construal and goal motivation across cultures. *Motivation and Emotion*, 33(1), 75 – 87.
3 <https://doi.org/10.1007/s11031-008-9113-1>
- 4 Gravel, E., Pelletier, L., & Reissing, E. (2016). “Doing it” for the right reasons: Validation of a
5 measurement of intrinsic motivation, extrinsic motivation, and motivation for sexual
6 relationships. *Personality and Individual Differences*, 92, 164 – 173.
7 <https://doi.org/10.1016/j.paid.2015.12.015>
- 8 Gravel, E. E., Reissing, E. D., & Pelletier, L. G. (2019). Global, relational, and sexual
9 motivation: A test of hierarchical versus heterarchical effects on well-being. *Journal of*
10 *Happiness Studies*, 20(7), 2269-2289. <https://doi.org/10.1007/s10902-018-0047-3>
- 11 Gravel., E., Reissing, E., & Pelletier, L. (2020). The ebb and flow of sexual wellbeing: The
12 contributions of basic psychological needs and autonomous and controlled sexual
13 motivation to daily variations in sexual wellbeing. *Journal of Social and Personal*
14 *Relationships*, 37(7), 2286-2306. <https://doi.org/10.1177/026540752092155>
- 15 Hadden, B. W., Rodrigues, L. M., Knee C. R., & Porter, B. (2015). Relationship autonomy and
16 support provision in romantic relationships. *Motivation and Emotion*, 39, 359 – 373.
17 <https://doi.org/10.1007/s11031-014-9455-9>
- 18 Hurlbert, D. F., & Apt, C. (1994). Female sexual desire, response, and behavior. *Behavior*
19 *Modification*, 18, 488–504. <https://doi.org/10.1177/01454455940184006>
- 20 Impett, E., Strachman, A., Finkel, E., & Gable, S. (2008). Maintaining sexual desire in intimate
21 relationships: The importance of approach goals. *Journal of Personality and Social*
22 *Psychology*, 94, 808–823.
- 23

- 1 Kasser, T., & Ryan, R. M. (2001). Be careful what you wish for: Optimal functioning and the
2 relative attainment of intrinsic and extrinsic goals. In P. Schmuck & K. M. Sheldon
3 (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp.
4 116–131). Hogrefe & Huber Publishers.
- 5 Kenny, D.A., Kashy, D.A., & Cook, W.L. (2006). *Dyadic data analysis*. New York: Guilford
6 Press.
- 7 Kim, J. J., Muise, A., Barranti, M., Mark, K. P., Rosen, N. O., Harasymchuk, C., & Impett, E.
8 (2021). Are couples more satisfied when they match in sexual desire? New insights from
9 response surface analyses. *Social Psychological and Personality Science*, 12(4), 487-496.
10 <https://doi.org/10.1177/1948550620926770>
- 11 Knee, C. R., Patrick, H., Vietor, N. A., Nanayakkara, A., & Neighbors, C. (2002). Self-
12 determination as growth motivation in romantic relationships. *Personality and Social*
13 *Psychology Bulletin*, 28(5), 609–619. <https://doi-org/10.1177/0146167202288005>
- 14 Knee, C. R., Lonsbary, C., Canevello, A., & Patrick, H. (2005). Self-determination and conflict
15 in romantic relationships. *Journal of Personality and Social Psychology*, 89(6), 997–
16 1009. <https://doi.org/10.1037/0022-3514.89.6.997>
- 17 Laurenceau, J., Barrett, L.F., & Rovine, M.J. (2005). The interpersonal process model of
18 intimacy in marriage: A daily-diary and multilevel modeling approach. *Journal of Family*
19 *Psychology*, 19(2), 314 – 323. <https://doi.org/10.1037/0893-3200.19.2.314>
- 20 Lawrence, K.A., & Byers, E.S. (1995). Sexual satisfaction in long-term heterosexual
21 relationships: The interpersonal exchange model of sexual satisfaction. *Personal*
22 *Relationships*, 2, 267 – 285. <https://doi.org/10.1111/j.1475-6811.1995.tb00092.x>

- 1 Mark, K. P. (2012). The relative impact of individual sexual desire and couple desire discrepancy
2 on satisfaction in heterosexual couples. *Sexual and Relationship Therapy*, 27, 133–146.
3 <https://doi.org/10.1080/14681994.2012.678825>
- 4 Mark, K. P. (2015). Sexual desire discrepancy. *Current Sexual Health Reports*, 7, 198–202.
5 <https://doi.org/10.1007/s11930-015-0057-7>
- 6 Mark, K. P., & Lasslo, J. A. (2018) Maintaining sexual desire in long-term relationships: A
7 systematic review and conceptual model, *The Journal of Sex Research*, 55(4-5), 563-581.
8 <https://doi.org/10.1080/00224499.2018.1437592>
- 9 Mark, K. P., & Murray, S. H. (2012). Gender differences in desire discrepancy as a predictor of
10 sexual and relationship satisfaction in a college sample of heterosexual romantic
11 relationships. *Journal of Sex and Marital Therapy*, 38, 198–215.
12 <https://doi.org/10.1080/0092623X.2011.606877>
- 13 McCabe M. P. & Cobain, M. J. (1998). The impact of individual and relationship factors on
14 sexual dysfunction among males and females. *Sexual and Marital Therapy*, 13(2), 131 –
15 143. <https://doi.org/10.1080/02674659808406554>
- 16 McCabe, M. P., & Connaughton, C. (2014). Psychosocial factors associated with male sexual
17 difficulties. *Journal of Sex Research*, 51(1), 31–42.
18 <https://doi.org/10.1080/00224499.2013.789820>
- 19 Meston, C. & Buss, D. (2007). Why humans have sex. *Archives of Sexual Behaviour*, 36, 477-507.
- 20 Moyano, N., Vallejo-Medina, P., & Sierra, J.C. (2017). Sexual desire inventory: Two or three
21 dimensions? *Journal of Sex Research*, 54, 105 – 116.
22 <https://doi.org/10.1080/00224499.2015.1109581>

- 1 Murray, S.H., Milhausen, R.R., Graham, C.A., & Kuczynski, L. (2017). A qualitative
2 exploration of factors that affect sexual desire among men aged 30 to 65 in long-term
3 relationships. *The Journal of Sex Research*, 54(3), 319 – 330.
4 <https://doi.org/10.1080/00224499.2016.1168352>
- 5 Murray, S. H. (2018). Heterosexual men’s Sexual Desire: Supported by, or deviating from,
6 traditional masculinity norms and sexual scripts? *Sex Roles*, 78, 130-141. [https://doi-
8 org/10.1007/s11199-017-0766-7](https://doi-
7 org/10.1007/s11199-017-0766-7)
- 8 Murray, S. H. (2019). *Not always in the mood: The new science of men, sex, and relationships*.
9 Rowman & Littlefield Publishers.
- 10 Muise, A., Impett, E., & Desmarais, S. (2013a). Getting it on versus getting it over with: Sexual
11 motivation, desire, and satisfaction in intimate bonds. *Personality and Social Psychology
12 Bulletin*, 39(10), 1320-1332.
- 13 Muise, A., Impett, E., Kogan, A., & Desmarais, S. (2013b). Keeping the spark alive: Being
14 motivated to meet a partner’s sexual needs sustains sexual desire n long-term romantic
15 relationships. *Social Psychology and Personality Science*, 4(3), 267-273
- 16 Muise, A., Boudreau, G., & Rosen, N. (2017). Seeking connection versus avoiding
17 disappointment: An experimental manipulation of approach and avoidance sexual goals
18 and the implications for desire and satisfaction. *The Journal of Sex Research*, 54(3), 296-
19 307.
- 20 Muise, A., Bergeron, S., Impett, E., Delisle, I., & Rosen, N. (2018). Communal motivation in
21 couples coping with vulvodynia: Sexual distress mediates associations with pain,
22 depression, and anxiety. *Journal of Psychosomatic Research*, 106, 34 – 40.
23 <https://doi.org/10.1016/j.jpsychores.2018.01.006>

- 1 Paterson, L.Q.P., Handy, A.B., Brotto, L.A. (2017). A pilot study of eight-session mindfulness-
2 based cognitive therapy adapted for women's sexual interest/arousal disorder. *Journal of*
3 *Sex Research*, 54, 850 – 861. <https://doi.org/10.1080/00224499.2016.1208800>
- 4 Parish, M., & Hahn, S. (2016). Hypoactive Sexual Desire Disorder: A Review of Epidemiology,
5 Biopsychology, Diagnosis, and Treatment. *Sexual Medicine Reviews*, 4(2), 103-120.
6 <https://doi.org/10.1016/j.sxmr.2015.11.009>
- 7 Reis, H.T., & Shaver, P., (1988). Intimacy as an interpersonal process, In S. Duck (Ed.),
8 *Handbook of personal relationships* (pp.367 – 389). Chichester, England: Wiley.
- 9 Rosen, N. O., Muise, A., Bergeron, S., Impett, E., & Boudreau, G. (2015). Approach and
10 avoidance goals in couples with provoked vestibulodynia: Associations with sexual,
11 relational, and psychological wellbeing. *Journal of Sexual Medicine*, 12, 1781-1790.
12 <https://doi.org/10.1111/jsm.12948>
- 13 Rosen, N. O., Dubé, J. P., Corsini-Munt, S., & Muise, A. (2019a). Partners experience
14 consequences, too: A comparison of the sexual, relational, and psychological adjustment
15 of women with sexual interest/arousal disorder and their partners to control couples. *The*
16 *Journal of Sexual Medicine*, 16(1), 83-95. <https://doi.org/10.1016/j.jsxm.2018.10.018>
- 17 Rosen, N. O., & Bergeron, S. (2019b). Genito-pelvic pain through a dyadic lens: Moving
18 toward an interpersonal emotion regulation model of women's sexual dysfunction.
19 *The Journal of Sex Research*, 56(4-5), 440–461.
20 <https://doi.org/10.1080/00224499.2018.1513987>
- 21 Ryan, R., & Deci, E. (2000). Self-determination theory and the facilitation of intrinsic motivation,
22 social development, and well-being. *American Psychologist*, 55(1), 68-78.
23 <https://doi.org/10.1037/0003-066X.55.1.68>

- 1 Ryan R., & Deci, E., (2017). *Self-determination theory: Basic psychological needs in motivation,*
2 *development, and wellness.* New York: Guilford Publishing.
- 3 Ryan, R., & Deci, E. (2014). Autonomy and need satisfaction in close relationships:
4 Relationships motivation theory. *Human motivation and interpersonal relationships:*
5 *Theory, research, and applications* (pp. 53-73). Springer Science + Business Media.
6 https://doi.org/10.1007/978-94-017-8542-6_3
- 7 Sanchez, D.T., Moss-Racusin, C.A., Phelan, J.E., & Crocker, J. (2011). Relationship contingency
8 and sexual motivation in women: Implications for sexual satisfaction. *Archives of Sexual*
9 *Behavior, 40,* 99–110. <https://doi.org/10.1007/s10508-009-9593-4>
- 10 Santos-Iglesias, P., Mohamed, B., Danko, A., & Walker, L.M. (2018). Psychometric validation
11 of the female sexual distress scale in male samples. *Archives of Sexual Behaviour, 47,*
12 1733 – 1743. <https://doi.org/10.1007/s10508-018-1146-2>
- 13 Sarin, S., Amsel, R., & Binik, Y.M. (2016). A streetcar named “derousal”? A
14 psychophysiological examination of the desire-arousal distinction in sexual functional
15 and dysfunctional women. *Journal of Sex Research, 53,* 711 – 729.
16 <https://doi.org/10.1080/00224499.2015.1052360>
- 17 Segraves, K. B., & Segraves, R. T. (1991) Hypoactive sexual desire disorder: Prevalence and
18 comorbidity in 906 subjects. *Journal of Sex & Marital Therapy, 17*(1), 55-58.
19 <https://doi.org/10.1080/00926239108405469>
- 20 Shifren, J.L., Monz, B.U., Russo, P.A., Segreti, A., & Johannes, C.B. (2008). Sexual problems
21 and distress in United States women. *Obstetrics & Gynecology, 112*(5), 970-978.
22 <https://doi.org/10.1097/AOG.0b013e3181898cdb>
- 23 Shoikhedbrod, A., Rosen, N. O., Corsini-Munt, S., Harasymchuk, C., Impett, E. A., & Muise,

- 1 A. (2022). Being responsive and self-determined when it comes to sex: How and why
2 sexual motivation is associated with satisfaction and desire in romantic relationships. *The*
3 *Journal of Sex Research*. <https://doi.org/10.1080/00224499.2022.2130132>
- 4 Smith, K. B., & Pukall, C. F. (2014). Sexual function, relationship adjustment, and the relational
5 impact of pain in male partners of women with provoked vulvar pain. *Journal of Sexual*
6 *Medicine*, 11(5), 1283–1293. <https://doi.org/10.1111/jsm.12484>
- 7 Spector, I.P., Carey M.P., Steinberg, L. (1996). The sexual desire inventory: Development, factor
8 structure, and evidence of reliability. *Journal of Sex and Marital Therapy*, 22(3), 175 –
9 190. <https://doi.org/10.1080/00926239608414655>
- 10 Sprecher, S. (2002). Sexual satisfaction in premarital relationships: Associations with
11 satisfaction, love, commitment, and stability. *Journal of Sex Research*, 39(3), 190-196.
12 <https://doi.org/10.1080/00224490209552141>
- 13 van Lankveld, J., Jacobs, N., Thewissen, V., Dewitte, M., & Verboon, P. (2018). The
14 associations of intimacy and sexuality in daily life: Temporal dynamics and gender
15 effects within romantic relationships. *Journal of Social and Personal*
16 *Relationships*, 35(4), 557–576. <https://doi.org/10.1177/0265407517743076>
- 17 Wild, T. C., Enzle, M. E., Nix, G., & Deci, E. L. (1997). Perceiving others as intrinsically or
18 extrinsically motivated: Effects on expectancy formation and task
19 engagement. *Personality and Social Psychology Bulletin*, 23(8), 837–848. [https://doi-](https://doi.org/10.1177/0146167297238005)
20 [org/10.1177/0146167297238005](https://doi.org/10.1177/0146167297238005)
- 21 Wood, J., Desmarais, S., Burleigh, T., Milhausen, R. (2018). Reasons for sex and relational
22 outcomes in consensually non-monogamous and monogamous relationships: A self-

1 determination theory approach. *Journal of Social and Personal Relationships*, 35(4), 632
2 – 654. <https://doi-org/10.1177/0265407517743082>

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1 **Table 1**2 *Sociodemographic Characteristics for the Sample*

Variable	<i>M</i> (range)	<i>N</i>	<i>SD</i>	%
Age (years)				
HSDD	39 (23-61)	59 ^b	9.52	
Partners	36 (20-60)	59 ^b	8.67	
Education (years)				
HSDD	16.3	64	3.17	
Partners	15.6	64	2.56	
Gender				
HSDD				
Man		63		49.2
Transgender (identify as man)		1		0.8
Partners				
Man		5		3.9
Woman		58		45.3
Transgender (identify as woman)		1		0.8
Ethnicity				
HSDD				
Asian American/Asian		7		5.5
White		44		34.3
Additional ethnicities ^a		13		10.2
Partners				
Asian American/Asian		6		4.7
White		52		40.6
Additional ethnicities ^a		6		4.7
Relationship Status				
Married		49		38.3
Dating		16		12.5
Living together		32		25.0
Common-law		27		21.1
Engaged		4		3.1
Relationship Length (years)	7.68 (0-40)	64	8.19	
HSDD duration (months)	40.2 (6-180)	64	33.4	

3

4 *Note.* *N* = 128 participants.5 ^a*Additional* ethnicities included the following: African American/Black, East Indian,

6 Hispanic/Latino/Latina, Middle Eastern/Central Asian, Biracial/Multiracial.

7 ^b Five participants did not report their date of birth and were excluded from the reported age

8 calculations.

1 **Table 2**2 *Descriptives for Study Measures for Men with HSDD and*3 *Partners*

Variable	<i>M</i>	Range	SD
Autonomous motivation			
HSDD	4.31	(1.92-6.83)	1.21
Partners	5.74	(3-7)	1.10
Controlled motivation			
HSDD	3.77	(1.25-6.88)	1.16
Partners	3.07	(1-6.75)	1.36
Sexual intimacy			
HSDD	32.5	(15-45)	7.27
Partners	32.4	(12-49)	8.92
Sexual satisfaction			
HSDD	20.2	(5-35)	6.81
Partners	20.9	(5-35)	7.20
Sexual Distress			
HSDD	43.5	(19-62)	9.20
Partners	38.6	(13-60)	9.96
Sexual Frequency	4.66	(0-15)	4.00

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5 *Note. N = 128 participants*

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Table 3

Bivariate Correlations between Autonomous and Controlled Motivation and Outcome Variables in Men with HSDD and Partners

Measure	1	2	3	4	5	6
1. Autonomous Motivation	.09	.03	.26*	.13	-.01	.12
2. Controlled Motivation	.19	.31**	.02	-.10	.36**	.20
3. Sexual Intimacy	.23	.13	.36**	.57***	-.11	.20
4. Sexual Satisfaction	.03	-.06	.54***	.31**	-.27*	.26*
5. Sexual Distress	.26*	.29*	-.25*	-.38**	.36**	.01
6. Sexual Frequency	.23	.12	.24	.22	-.05	1.00***

Note: Correlations above the diagonal are for men with HSDD. Correlations below the diagonal are for partners. Bold correlations on the diagonal are between men with HSDD and their partners. Bivariate correlations in the ranges of .10, .30, and .50 indicate small, medium, and large effect sizes, respectively.

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

1 **Table 4**2 *Actor-partner Interdependence Models with Autonomous and Controlled Sexual Motivation as*3 *Independent Variables, Sexual Intimacy, Sexual Satisfaction, and Sexual Distress as Outcomes,*4 *and Sexual Frequency as a Control Variable*

	Autonomous Motivation					Controlled Motivation				
	<i>b</i>	SE	<i>df</i>	<i>t</i>	<i>p</i>	<i>b</i>	SE	<i>df</i>	<i>t</i>	<i>p</i>
Model 1: Sexual Intimacy										
Actor effects										
HSDD	1.5	0.755	126	2.04	.044	-0.1	0.826	126	-0.14	.888
Partner	1.6	0.925	126	1.76	.081	1.2	0.776	126	1.49	.139
Partner effects										
HSDD	0.0	0.850	126	-0.03	.974	0.6	0.713	126	0.82	.412
Partner	2.8	0.822	126	3.45	.001	-2.2	0.899	126	-2.42	.017
Model 2: Sexual Satisfaction										
Actor effects										
HSDD	0.84	0.717	126	1.17	.243	-0.64	0.784	126	-0.81	.419
Partner	0.30	0.812	126	0.37	.715	0.08	0.682	126	0.12	.904
Partner effects										
HSDD	-0.86	0.807	126	-1.07	.286	0.35	0.677	126	0.52	.602
Partner	1.62	0.722	126	2.24	.027	-1.65	0.790	126	-2.10	.038
Model 3: Sexual Distress										
Actor effects										
HSDD	-0.3	0.912	126	-0.30	.765	2.7	0.997	126	2.66	.009
Partner	1.8	1.090	126	1.61	.111	1.3	0.915	126	1.39	.167
Partner effects										
HSDD	1.5	1.026	126	1.48	.141	-0.2	0.861	126	-0.19	.853
Partner	-0.4	0.970	126	-0.46	.648	2.2	1.060	126	2.07	.041
Model 4: Sexual Satisfaction controlling for Sexual Frequency										
Actor effects										
HSDD	0.68	0.692	126	0.98	.329	-0.92	0.763	126	-1.21	.229
Partner	-0.01	0.805	126	-0.01	.991	0.03	0.665	126	0.05	.962
Partner effects										
HSDD	-1.22	0.789	126	-1.55	.124	0.30	0.651	126	0.45	.650

Partner	1.48	0.707	126	2.09	.039	-1.90	0.778	126	-2.44	.016
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2 *Note:* $N = 128$ individuals. The coefficients reported are unstandardized betas (b) and interpreted

3 as the change in outcome for every one unit increase in the predictor from the sample mean.

4 Actor effects refer to the association between men's or partners' sexual motivation and their own

5 outcomes, whereas partner effects refer to the association between men's or partners' sexual

6 motivation and their partners outcomes (e.g., the association between men's greater autonomous

7 motivation and men's greater sexual satisfaction). Significant effects are bolded.

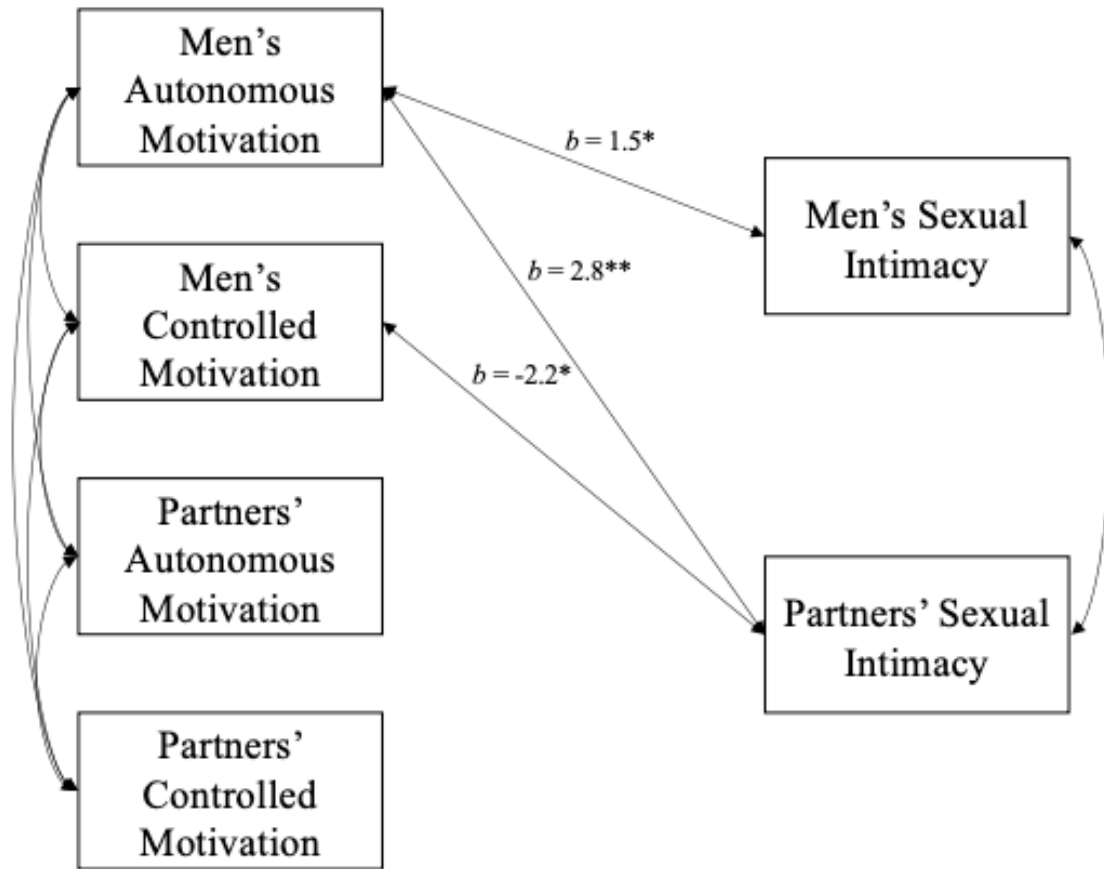
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1 **Figure 1**

2 *Actor-partner Interdependence Models of Autonomous and Controlled Sexual Motivation on*

3 *Sexual Intimacy*



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5 *Note. N = 128 individuals. The coefficients reported are unstandardized betas (b) and interpreted*

6 *as the change in outcome for every one unit increase in the predictor from the sample mean.*

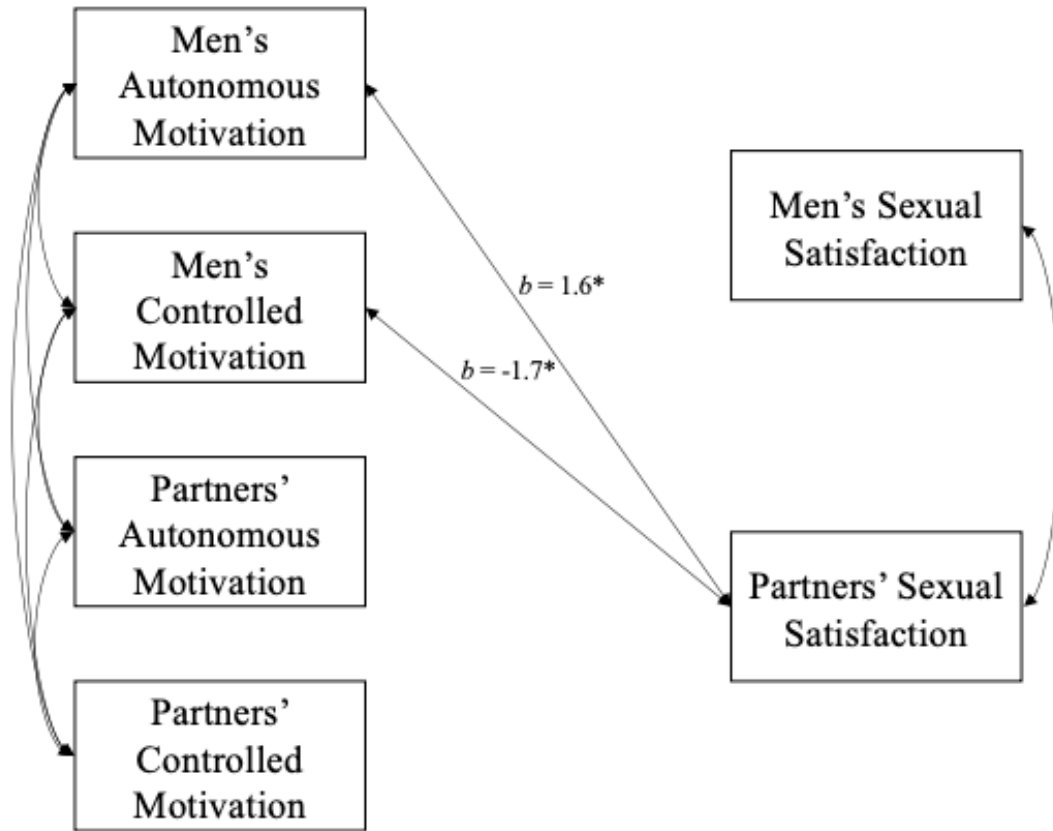
7 **p < .05; **p < .01*

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1 **Figure 2**

2 *Actor-partner Interdependence Models of Autonomous and Controlled Sexual Motivation on*

3 *Sexual Satisfaction*



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5 *Note.* $N = 128$ individuals. The coefficients reported are unstandardized betas (b) and interpreted

6 as the change in outcome for every one unit increase in the predictor from the sample mean.

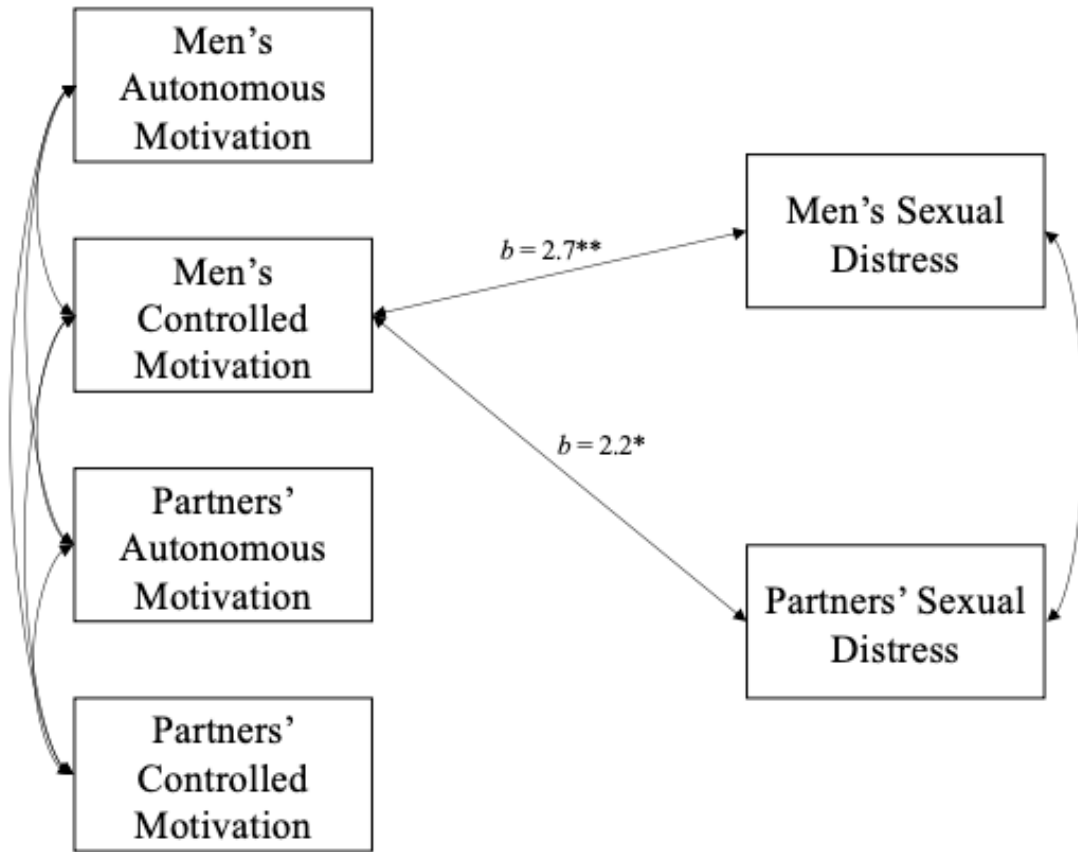
7 $*p < .05$

8

1 **Figure 3**

2 *Actor-partner Interdependence Models of Autonomous and Controlled Sexual Motivation on*

3 *Sexual Distress*



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5 *Note.* $N = 128$ individuals. The coefficients reported are unstandardized betas (b) and interpreted

6 as the change in outcome for every one unit increase in the predictor from the sample mean.

7 $*p < .05$; $**p < .01$

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