

Partner responses to low desire among couples coping with male hypoactive sexual desire disorder and associations with sexual well-being

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Abstract

Background: Hypoactive sexual desire disorder (HSDD) is characterized by persistently low desire and associated distress. Low desire is one of the most common sexual complaints among men and is associated with poor well-being. Interpersonal factors are key to understanding low desire, yet there are few dyadic studies of HSDD in men. Previous work on genito-pelvic pain and low desire in women has established that greater facilitative (eg, affectionate) partner responses are associated with greater sexual satisfaction and function and that more negative (eg, critical) or solicitous (eg, sympathetic, avoidant) partner responses are associated with lower sexual satisfaction and function. Examining how partner responses are associated with adjustment to HSDD may shed light on the interpersonal dynamics of this understudied sexual dysfunction.

Aim: In a cross-sectional study, we examined whether partner responses to low desire in men were associated with sexual desire, sexual satisfaction, and sexual distress for both members of the couple.

Methods: Men with HSDD and their partners (N = 67 couples) completed measures of facilitative, negative, and avoidant partner responses to men's low sexual desire—as perceived by the man with HSDD and self-reported by their partner—and sexual desire, sexual satisfaction, and sexual distress. Data were analyzed using multilevel modeling guided by the actor–partner interdependence model.

Outcomes: Outcomes included the partner-focused subscale of the Sexual Desire Inventory–2, Global Measure of Sexual Satisfaction, and Sexual Distress Scale–Revised.

Results: When men with HSDD perceived more facilitative partner responses to their low desire, they and their partners reported greater sexual satisfaction. When men with HSDD perceived and their partners self-reported more negative partner responses, they each reported lower sexual satisfaction. In addition, when men with HSDD perceived more avoidant partner responses, their partners reported greater sexual distress. Partner responses were not associated with sexual desire for either member of the couple.

Clinical Implications: Findings support the importance of the interpersonal context for HSDD in men and suggest potential future targets of treatment when working with affected couples.

Strengths and Limitations: This study is one of the only dyadic studies of HSDD in men, as assessed via clinical interview or self-report symptoms reviewed by the clinical team. Despite our best efforts to recruit this sample over 6 years, the small size limited power to detect all predicted effects.

Conclusion: More facilitative and fewer negative or avoidant partner responses to low desire are associated with greater sexual well-being in couples coping with HSDD.

Keywords: hypoactive sexual desire disorder; sexual desire; sexual satisfaction; sexual distress; couples; dyad; partner responses.

Introduction

Sexual well-being—including sexual desire, sexual satisfaction, and low sexual distress—is associated with enhanced quality of life¹ as well as physical and mental health.^{2,3} However, low sexual desire is one of most common sexual function complaints for men and may manifest as low or absent levels of sexual activity, sexual thoughts, or sexual fantasy.^{2,4} When symptoms of low sexual desire in men have persisted for at least 6 months, cause clinically significant distress, and are not better accounted for by other factors that affect sexual functioning (eg, age, sociocultural context), they are consistent with a diagnosis of hypoactive sexual desire disorder (HSDD) as per the DSM-5.⁴ The DSM-5 diagnosis

is male hypoactive sexual desire disorder; men who are not male (eg, transgender, intersex) and nonbinary individuals can also meet the diagnostic criteria, and consistent with feedback from our past participants, patient partners, and best practices for inclusive research,⁵ we have dropped “male” from this label and from our eligibility criteria. To date, there are no prevalence rates for HSDD in men consistent with DSM-5 diagnostic criteria (ie, that account for both low desire and distress).⁶ However, HSDD prevalence rates are estimated to range from 1% to 20% in men, varying by method of assessment as well as sample age and country.⁶ A population-based study in the United Kingdom revealed that 14.9% of nearly 5000 men experienced low desire for at

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least 3 months of the previous year.² These high rates of low desire are concerning; low sexual desire has been linked with greater depression and stress, lower sexual satisfaction, lower relationship satisfaction and quality, and disruption to other aspects of sexual function such as erectile functioning.^{7–9}

Researchers espouse a biopsychosocial approach to understanding the etiology of HSDD.¹⁰ Although intraindividual factors including those that are biological (eg, hormones)^{11,12} and psychological (eg, anxiety)^{7,13–16} are known to be associated with HSDD, interpersonal factors have been neglected in comparison. This omission is striking, given that researchers are increasingly conceptualizing sexual dysfunctions, including low sexual desire, as dyadic because both partners impact and are impacted by these difficulties.^{17–19} For example, partners of individuals with erectile dysfunction,²⁰ premature (early) ejaculation,²¹ genito-pelvic pain,²² and low desire²³ report lower sexual satisfaction, relationship satisfaction, and poorer sexual functioning than those with partners not experiencing sexual dysfunction. Additionally, interpersonal factors²⁴ such as lack of emotional connection,²⁵ reduced attraction toward one's partner,^{7,26} not feeling desired by one's partner,^{25,27} and relationship conflict²⁶ have been consistently linked with men's low desire.

Despite the inherently interpersonal nature of low desire in partnered relationships, our research team is the first to our knowledge to recruit a dyadic sample of men with HSDD and their partners. We have published one study previously,²⁸ which focused on an intraindividual factor—emotion regulation. We found that when men with HSDD used more reappraisal strategies (eg, reinterpreting a situation linked with strong emotions),²⁹ they reported greater sexual assertiveness. However, when men with HSDD and their partners used more emotional suppression (eg, inhibiting emotional responses),²⁹ they each reported lower sexual assertiveness. In addition, when men with HSDD used more suppression, their partners reported poorer communication. These results highlight the interpersonal effects of emotion regulation strategies for the sexual communication of both members of a couple. The present study is the first to examine associations between a novel interpersonal factor—partner responses to low desire—and sexual desire, sexual satisfaction, and sexual distress among couples coping with male HSDD. Couple therapy is recommended for the treatment of HSDD,³⁰ yet little is known about potential empirical targets for intervention with this approach.^{10,18,28}

Partner responses to low sexual desire

Rosen and Bergeron's¹⁷ interpersonal emotion regulation model of women's sexual dysfunction proposes that interpersonal factors at both the distal (ie, predisposing relationship factors or traits) or proximal (ie, before, during, or after sexual activity or states) levels affect couples' coregulation of emotions, ultimately affecting their sexual, relationship, and psychological well-being when adjusting to sexual dysfunction. Although developed for women's sexual dysfunction, this model is likely relevant for men's sexual dysfunction, given that relational variables have also been linked to men's sexuality, including those with low desire.^{7,24–27} In addition, partners of men with sexual dysfunction report that they are impacted by their partners' dysfunction. Men with HSDD and their partners experience strong negative emotions regarding men's low sexual desire such as feelings of embarrassment, frustration, and disappointment,³¹ but there is a dearth

of research on HSDD in men, particularly in the couple context. As such, evidence is currently lacking regarding the application of Rosen and Bergeron's interpersonal model for men.

One interpersonal factor that has been identified as important for facilitating or hindering the coregulation of emotions when coping with sexual dysfunction in women is how a partner responds to the sexual difficulty.^{17,32} Previous work^{17,32–34} has established 3 distinct partner responses to sexual difficulties: positive or facilitative responses (eg, affectionate, empathetic), negative responses (eg, hostile, critical), and solicitous responses (eg, overly sympathetic or avoidant). The interpersonal emotion regulation model of women's sexual dysfunction suggests that in the face of sexual dysfunction, which is often stressful, positive or facilitative responses encourage the use of adaptive emotion regulation strategies (eg, problem solving, emotional expression) for both members of the couple, resulting in greater sexual well-being.³² In contrast, negative and solicitous responses promote the use of less adaptive regulation strategies such as avoidance or emotional suppression,^{17,32} ultimately contributing to lower sexual well-being.

In cross-sectional and daily diary studies of women with genito-pelvic pain and their partners, greater perceived facilitative responses to painful intercourse were associated with greater sexual functioning and sexual satisfaction, whereas greater negative partner responses were linked to poorer sexual functioning and lower sexual satisfaction.^{32–34} Greater solicitous partner responses were associated with poorer sexual functioning and lower sexual satisfaction for both members of affected couples.^{32,33} Overall, this work has established that partner responses to pain during intercourse has implications for women with genito-pelvic pain, which is typically associated with low sexual desire, as well as their partners.

Research examining partner responses to women's low sexual desire has also found that greater perceived positive partner responses relative to negative responses were associated with women's greater sexual satisfaction. Partners who reported more positive responses also reported lower sexual distress.³⁵ This work only focused on a spectrum of positive to negative affective responses and did not capture behavioral responses to low desire, such as avoidance. It also focused exclusively on women with low desire, and whether findings extend to men is currently unknown. The present study aimed to fill these gaps by examining 3 facets (facilitative, negative, solicitous) of partner responses to low desire in men with HSDD and their partners, including both affective and behavioral components of partner responses.

Present study

The goal of the present study was to examine the cross-sectional associations between partner responses to low sexual desire and sexual well-being (ie, partner-focused sexual desire, sexual satisfaction, and sexual distress) among men with symptoms consistent with a diagnosis of HSDD and their partners. To date, no research has explored the role of partner responses to low desire in men, and research that includes both members of a couple is rare. In the present study, men with HSDD reported on their perceptions of how partners responded to their low sexual desire whereas their partners self-reported their own responses to the low desire. In line with previous research on partner responses to low

desire in women and the interpersonal emotion regulation model of women's sexual dysfunction, we hypothesized that more facilitative partner responses would be associated with greater sexual desire and sexual satisfaction and lower sexual distress for both members of the couple. We also predicted that more negative and solicitous responses would be associated with lower sexual desire and sexual satisfaction and greater sexual distress for both members of the couple. Examining partner responses to HSDD may help to identify relevant treatment targets for men with HSDD in couple-based therapy.

Methods

Participants

Couples in this study were recruited from November 2016 to November 2022 via word of mouth, social media, online postings, and flyers. Eligible participants were from the United States or Canada, fluent in English, at least 18 years of age, in a romantic relationship for at least 6 months, and living together and/or interacting in person with their romantic partner at minimum 4 times per week. In addition, at least 1 member of the couple was either diagnosed with HSDD via a clinical interview or reported symptoms consistent with an HSDD diagnosis via an online self-report questionnaire (and subsequently reviewed by our clinical team) as per the DSM-5 criteria. Couples were ineligible if they reported no prior sexual experience or indicated that they were undergoing hormonal therapy, pregnant, up to 1 year postpartum, or breastfeeding.

An overview of the flow of recruitment is reported in Figure 1. For recruitment between November 2016 and December 2019, interested participants completed an initial screening call with a research assistant. Those who met basic eligibility requirements were assessed by a clinical psychologist or a senior PhD student in clinical psychology via a semi-structured clinical interview (30-45 minutes) to confirm the diagnosis of HSDD.

As of January 2020, due to the slow pace of recruitment, those who completed an initial screening questionnaire and responded in a way that suggested they were potentially eligible proceeded to complete an online clinical screening questionnaire (15 minutes), which asked the same key questions as in the clinical interview regarding symptoms of HSDD. These responses were reviewed by the clinical team and if additional information was required to confirm the diagnosis of HSDD, men were scheduled for a clinical interview. Please see²⁸ for details regarding the development of the clinical interview. The clinical interview and online eligibility clinical screening questionnaire are available on the Open Science Framework page for this study (https://osf.io/jrt6s/?view_only=64a7c807c36248ddb95f5dee95fc3e7). A total of 102 couples were enrolled in the study, and the final sample consisted of 67 couples (see Figure 1). Disingenuous responses were identified via duplicate IP addresses or duplicate email addresses. Most individuals with HSDD identified as male ($n = 66$), and 1 was a trans man. The majority of partners were female ($n = 61$), with some male partners ($n = 5$), and one partner was a trans woman. See Table 1 for more participant demographics. There were no significant differences in sociodemographic variables or core HSDD symptoms (ie, sexual desire and sexual distress) between those diagnosed via clinical interview ($n = 27$) or via self-report questionnaire ($n = 40$).

Procedure

This study was approved by our institution's ethical review board at Dalhousie University. Eligible men and their partners were sent unique links to separate emails to the online consent form and instructed to independently complete a single online survey (45 to 60 minutes). Participants had 4 weeks to complete the survey and received reminder phone calls and/or emails to encourage participation. Compensation ranged from \$10 CAD to \$15 CAD or USD per participant depending on when participants were enrolled (ie, due to slow recruitment, compensation was increased in July 2021). Once participants had completed the survey, they were provided with resources regarding accessing treatment.

Measures

All measures can be found on the study Open Science Framework page (https://osf.io/jrt6s/?view_only=64a7c807c36248ddb95f5dee95fc3e7).

Sociodemographics

An experimenter-derived measure was used to obtain participant sociodemographic information including age, level of education, ethnicity, gender/sex, relationship status, and relationship length. When we assessed this variable in 2016, we unfortunately conflated sex and gender in the question. Therefore, we refer to gender/sex, as it is impossible to separate the 2. Men with HSDD also reported the duration of their low sexual desire.

Partner responses to low sexual desire

Partner responses to low sexual desire were measured by items adapted from a scale assessing partner responses to women's pain during intercourse.³⁴ Scores on the partner responses to painful intercourse scale have demonstrated strong reliability and validity in previous work with clinical samples.^{22,23,32,33} For the present study, the instructions were modified to refer to low desire, as follows: "In general, how does your romantic partner respond to your feelings of low desire and arousal? Please keep in mind all situations related to your low desire and arousal, whether they involve sexual activity or not (eg, talking about this issue with your partner)." Men with HSDD reported on their perception of their partners' responses to their low desire and partners reported on their own responses to that individual's low desire. The original facilitative (6 items) and negative (4 items) items were maintained. An example of a facilitative item is "... says nice things to me" and an example of a negative item is "... expresses frustration at me." For the solicitous subscale (6 items), we adapted 3 items to the low-desire context, but the resulting reliability was adequate to poor for men with HSDD and partners ($\alpha = 0.69$ and 0.52 , respectively). Given the salience of avoidance in the context of low desire,^{31,36} we elected to retain only the 3 solicitous items related to avoidance of sexual activity and conceptualized this subscale as avoidant partner responses. Two original items from the solicitous subscale were retained, and 1 item was expanded to include avoidance via any non-sexual activities (ie, "suggests we turn on the TV or sleep" was adapted to "suggests we turn on the TV, sleep, or engage in other nonsexual activities"). All items fell on a 6-point Likert scale ranging from 1 (never) to 6 (very frequently), with greater average scores indicating greater frequency of each type of response. Scores could range from 6 to 36 on

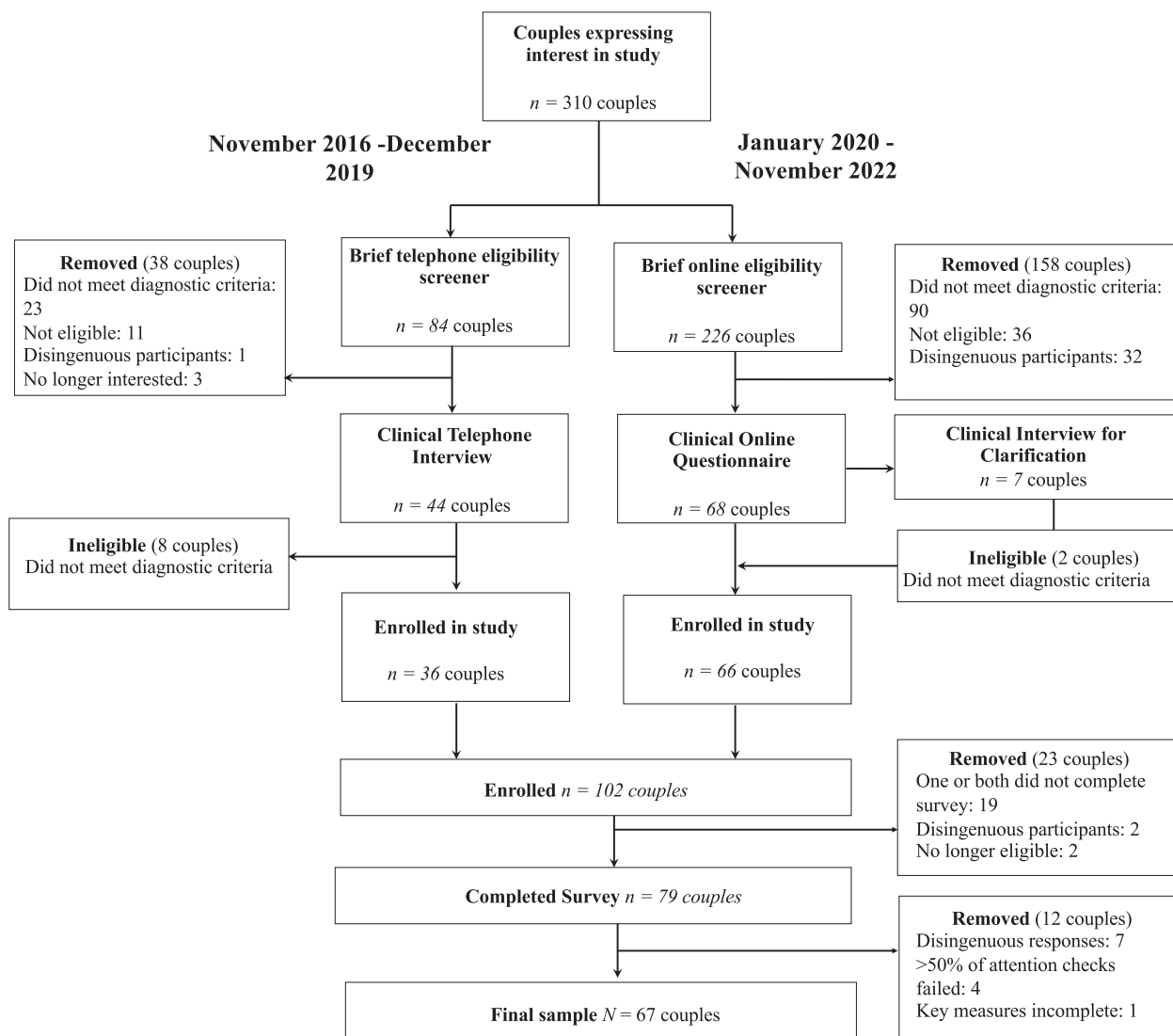


Figure 1. Recruitment and flow of participants throughout the study.

the facilitative subscale, 4 to 24 on the negative subscale, and 3 to 18 on the avoidant subscale, and are presented as means in Table 2. Cronbach's alphas in the present sample were 0.89 and 0.88 for the facilitative subscales, 0.91 and 0.89 for the negative subscales, and 0.78 and 0.78 for the avoidant subscales for men with HSDD and their partners, respectively.

Partner-focused sexual desire

Levels of partner-focused sexual desire in the previous 4 weeks were assessed using the dyadic subscale (7 items) of the Sexual Desire Inventory-2.³⁷ Item responses fell on a 9-point Likert scale ranging from 0 to 8, with varying anchors. Scores could range from 0 to 56. Higher average scores indicate higher sexual desire for partner-focused sexual activity. Scores on the Sexual Desire Inventory-2 have demonstrated good reliability and validity in previous research.^{37,38} The reliability in the present study was good for men with HSDD and their partners ($\alpha = 0.86$ and 0.84 , respectively).

Sexual distress

The 13-item Sexual Distress Scale-Revised³⁹ assessed sexual distress over the previous 4 weeks. Although originally

developed for use in women, items are gender neutral (eg, "How often did you feel distressed about your sex life?"), and scores have been validated for use with men.⁴⁰ Responses fell on a 5-point Likert scale ranging from 1 (never) to 5 (always). Scores could range from 13 to 65. Higher average scores reflect greater sexual distress. Scores on the Sexual Distress Scale-Revised have also demonstrated good reliability and validity in previous research.^{41,42} The reliability in the present study was excellent for men with HSDD and their partners ($\alpha = 0.92$ and 0.90 , respectively).

Sexual satisfaction

The Global Measure of Sexual Satisfaction⁴³ assessed global evaluations of the positive and negative aspects of, or satisfaction with, the participant's sexual relationship. Possible responses fell on five 7-point dimensions (eg, satisfying-unsatisfying). Scores could range from 7 to 35. Higher averaged scores reflect greater sexual satisfaction in the previous 4 weeks. Scores on the Global Measure of Sexual Satisfaction are well validated and have demonstrated good reliability in previous research.⁴³⁻⁴⁵ The reliability in the present study was excellent for men with HSDD and their partners ($\alpha = 0.94$ and 0.93 , respectively).

Table 1. Sociodemographic characteristics for the sample (N = 67 couples).

Variable	Mean (range)	n	SD	%
Age				
Men with HSDD, y	38.17 (23.05-60.87)	62 ^a	9.29	—
Partners, y	34.47 (19.30-60.09)	62	8.54	—
Education				
Men with HSDD, y	16.30 (10-30)	67	3.17	—
Partners, y	15.73 (10-21)	67	2.59	—
Ethnicity				
Men with HSDD				
White	—	47	—	70.1
East Asian	—	7	—	10.4
Biracial/multiracial	—	4	—	6.0
Aboriginal/Native American/American Indian/Alaska Native	—	3	—	4.5
Indigenous (eg, First Nations, Métis, Inuit)	—	2	—	3.0
Additional ethnicities ^b	—	6	—	9.0
Partners				
White	—	54	—	80.6
Biracial/multiracial	—	1	—	1.5
American/American Indian/Alaska Native/First Nations	—	0	—	0
Indigenous (eg, First Nations, Métis, Inuit)	—	1	—	1.5
East Asian	—	6	—	9.0
Additional ethnicities ^b	—	6	—	9.0
Gender/sex (HSDD)				
Male	—	66	—	98.5
Trans man	—	1	—	1.5
Gender/sex (partners)				
Male	—	5	—	7.5
Female	—	61	—	91.0
Trans woman	—	1	—	1.5
Relationship status				
Dating	—	9	—	13.4
Cohabiting	—	16	—	23.9
Common law	—	12	—	17.9
Engaged	—	2	—	3.0
Married	—	26	—	41.8
Relationship length, mo	95.55 (9-520)	67	97.67	—
Men's low desire duration, mo	45.46 (6-433)	67	58.20	—

Abbreviation: HSDD, hypoactive sexual desire disorder; y, years. ^a5 couples did not report their date of birth and are excluded from age calculations reported here. ^bAfrican American/Black, Hispanic, Latino/Latina/Latinx, South Asian, Southeast Asian, Middle Eastern/Central Asian.

Table 2. Descriptive information for study measures for men with HSDD and partners (N = 67 couples).

Variable	Mean	Observed range	SD
Facilitative responses			
Men with HSDD	4.47	1.5-6	1.17
Partners	5.06	1.33-6	1.02
Negative responses			
Men with HSDD	2.75	1-6	1.38
Partners	2.45	1-5.75	1.25
Avoidant responses			
Men with HSDD	2.60	1-6	1.21
Partners	2.85	1-6	1.28
Sexual desire			
Men with HSDD	3.26	0.43-6.43	1.46
Partners	5.40	0.86-7.29	1.39
Sexual satisfaction			
Men with HSDD	4.11	1-7	1.38
Partners	4.25	1-7	1.42
Sexual distress			
Men with HSDD	3.36	1.31-4.77	0.71
Partners	2.95	1-4.62	0.77

Abbreviation: HSDD, hypoactive sexual desire disorder.

Data analysis

After removing participants who did not complete the relevant measures for the present study, there were no missing data. We examined bivariate correlations for all study variables between members of the couple to establish interdependence. Using SPSS version 28 (IBM Corporation), we conducted multilevel modeling informed by the actor-partner interdependence model (APIM)⁴⁶ to analyze associations between partner responses to low sexual desire and sexual well-being outcomes for both members of the couple. This approach allowed us to account for interdependence between partners, in which participants were nested within couples. The APIM allowed us to examine how an individual's perceived (men with HSDD) or self-reported (partners) partner responses were associated with their own (ie, actor effects) and their partners' (ie, partner effects) sexual desire, sexual satisfaction, and sexual distress. A separate APIM was conducted for each of the 3 response styles and each of the 3 dependent variables to isolate their unique effects due to small sample size and moderate correlations between predictors. The identified data and syntax can be found on the Open Science Framework page for this project (https://osf.io/jrt6s/?view_only=64a7c807c36248ddb95f5dee95fc3e7).

Table 3. Bivariate correlations between partner responses to low desire and sexual well-being in men with HSDD and their partners (N = 67 couples).

Variables	1	2	3	4	5	6
1) Facilitative	0.44 ^{a,b}	-0.22	-0.19	0.13	0.41 ^a	-0.14
1) Negative	-0.47 ^a	0.32 ^{a,b}	0.28 ^c	-0.02	-0.21	0.23
1) Avoidant	-0.02	0.29 ^a	0.40 ^{a,b}	0.00	-0.11	0.42 ^a
1) Sexual desire	0.16	-0.14	0.18	0.32 ^b	-0.003	0.11
1) Sexual satisfaction	0.45 ^a	-0.31 ^c	0.14	0.28 ^c	0.32 ^{a,b}	-0.42 ^a
1) Sexual distress	-0.16	0.17	0.08	-0.18	-0.30 ^c	0.36 ^{a,b}

Correlations below the diagonal are for men with HSDD; correlations above the diagonal are for partners. Abbreviation: HSDD, hypoactive sexual desire disorder. ^a $P < .01$. ^bCorrelations on the diagonal are between men with HSDD and partners. ^c $P < .05$.

Table 4. Actor-partner interdependence models with partner responses to low desire as independent variables and sexual well-being outcomes.

	Facilitative					Negative					Avoidant				
	<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>	<i>b</i>	SE	<i>df</i>	<i>t</i>	<i>P</i>
Model 1: sexual satisfaction															
Actor effects															
Men with HSDD	0.43	0.15	64	2.94	.005	-0.29	0.13	64	-2.31	.02	0.20	0.15	67.5	1.35	.18
Partners	0.20	0.15	64	1.30	.20	-0.36	0.13	64	-2.88	.005	-0.11	0.18	67.5	-0.64	.52
Partner effects															
Men with HSDD	0.27	0.17	64	1.64	.11	-0.07	0.14	64	-0.49	0.63	-0.14	0.18	67.2	-0.78	.44
Partners	0.47	0.18	64	2.67	.01	-0.11	0.14	64	-0.77	0.45	-0.09	0.15	67.1	-0.58	.57
Model 2: sexual distress															
Actor effects															
Men with HSDD	-0.05	0.08	64	-0.61	.55	0.09	0.07	64	1.41	.16	0.01	0.08	67.8	0.18	.86
Partners	-0.02	0.09	64	-0.21	.83	0.02	0.07	64	0.30	.77	-0.05	0.09	67.9	-0.59	.56
Partner effects															
Men with HSDD	-0.12	0.10	64	-1.22	.23	-0.03	0.07	64	-0.45	.65	0.12	0.09	67.5	1.27	.21
Partners	-0.10	0.10	64	-0.94	.35	0.13	0.08	64	1.66	.10	0.28	0.07	67.4	3.81	<.001
Model 3: sexual desire															
Actor effects															
Men with HSDD	0.09	0.17	64	0.55	.59	-0.18	0.14	64	-1.32	.19	0.23	0.16	64	1.44	.15
Partners	0.10	0.16	64	0.61	.55	0.15	0.13	64	1.15	.26	0.02	0.18	64	0.12	.91
Partner effects															
Men with HSDD	0.27	0.19	64	1.40	.17	0.13	0.15	64	0.88	0.38	-0.04	0.19	64	-0.23	.82
Partners	0.12	0.19	64	0.65	.52	-0.08	0.15	64	-0.54	0.59	-0.01	0.15	64	-0.05	.96

Abbreviation: HSDD, hypoactive sexual desire disorder.

Results

Descriptive information for the study measures can be found in Table 2. Bivariate correlations between partner responses to low desire and sexual well-being outcomes are reported in Table 3. Correlations (range, 0.32-0.40) demonstrated interdependence between partners,⁴⁷ as expected.

As seen in Table 4, when men with HSDD perceived greater facilitative partner responses, men with HSDD and their partners each reported higher sexual satisfaction. There were no significant associations between partners' self-reported facilitative responses and sexual outcomes for men with HSDD or their partners. When men with HSDD perceived greater negative responses, they reported lower sexual satisfaction. In addition, when partners of men with HSDD self-reported greater negative responses, the partners also reported lower sexual satisfaction. There were no significant associations between perceived or reported negative partner responses and the other partner's sexual satisfaction. There also were not any significant associations between avoidant responses and sexual satisfaction for either member of the couple.

When men with HSDD perceived greater avoidant responses to their low sexual desire, their partners reported greater sexual distress, but there was no association with their own sexual distress. There were no other significant

associations between partners' self-reported avoidant responses and the sexual distress of either member of the couple. There were also no significant associations between negative or facilitative partner responses and sexual distress. As reported in Table 4, there were no significant associations between facilitative, negative, or avoidant responses and sexual desire for either member of the couple.

Discussion

This study was the first to our knowledge to examine associations between interpersonal factors and sexual well-being in a sample of couples coping with HSDD in men. The aim of this research was to examine whether partner responses to low desire—from the perspectives of men with HSDD and their partners—were associated with sexual desire, sexual satisfaction, and sexual distress. Our work revealed that partner responses to low sexual desire were associated with sexual satisfaction and sexual distress but not with sexual desire. Specifically, when men with HSDD perceived greater facilitative responses, they and their partners reported greater sexual satisfaction; partners were also more sexually satisfied when they self-reported greater facilitative responses. In contrast, when men with HSDD perceived and their partner

self-reported more negative responses, they each reported lower sexual satisfaction. Finally, when men with HSDD perceived their partners to respond in a more avoidant manner, their partners reported greater sexual distress. Overall, the results of this study are consistent with the interpersonal emotion regulation model of sexual dysfunction by demonstrating the relevance of an interpersonal factor—partner responses to low desire—for couples' sexual well-being in the context of HSDD. These results also extend this model by providing evidence to support its application to men's sexual dysfunction.

Consistent with our predictions, when men with HSDD perceived their partners to respond in a more facilitative way, they and their partners reported greater sexual satisfaction. This result echoes findings from the literature examining sexual dysfunction in women: greater perceived facilitative responses have been linked to greater sexual functioning and sexual satisfaction in women coping with genito-pelvic pain and low sexual desire.^{32–34} Consistent with theory, facilitative partner responses to low desire may enhance emotion regulation in the face of sexual dysfunction. For example, men with low desire may experience negative emotions (eg, shame, disappointment),^{48,49} and when partners respond with affection, support, and understanding (ie, facilitative responses), men with HSDD may feel more validated and less threatened by their sexual dysfunction, thereby reducing their negative emotions. In turn, couples may be more likely to manage their feelings about sex and desire more adaptively, such as by expressing their feelings or finding other ways to establish intimacy in the relationship,³⁵ resulting in greater sexual satisfaction. Emotional expression helps elicit support in close relationships,³⁵ and greater emotional expression has been linked with greater intimacy.^{50,51} Therefore, it is possible that partners who report greater facilitative responses are more sensitive to their partner's needs and feel more emotionally close, and as a result report greater sexual satisfaction.

Our finding that greater perceived negative responses were associated with lower sexual satisfaction for men with HSDD is consistent with our predictions and research on women's sexual dysfunction.^{32–34} Negative responses may be perceived as stressful independent of the stress associated with the sexual dysfunction itself³² because these responses may be interpreted as a partner's insensitivity and create a negative context for sexual activity.^{23,52} When men with HSDD perceive their partner as responding with more irritation, frustration, or anger (ie, negative responses), this negative style likely hinders effective emotion regulation by increasing the threat and emotional reactivity in response to low sexual desire, resulting in a lowered ability to engage in adaptive coping and ultimately, a more negative evaluation of the sexual relationship.

Similarly, our findings also highlight that as partners reported responding more negatively to men with HSDD's low desire, they also reported lower sexual satisfaction themselves. It may be that when partners are more critical or negative in response to men's low sexual desire, it also increases their negative emotions such as anxiety, resentment, or guilt. These negative emotions may be linked to negative beliefs⁵³ about one's partner's low desire (eg, my partner does not find me attractive), affecting their own sexual satisfaction. Negative sexual beliefs and emotions are indeed linked to sexual dysfunction and lower sexual satisfaction.^{54–56} Our findings are also consistent with previous work that has

demonstrated this link between negative partner responses to women's genito-pelvic pain and partners' sexual function.³²

Regarding sexual satisfaction, some of our findings were inconsistent with our predictions. Avoidant partner responses to low desire were not associated with sexual satisfaction for men with HSDD or their partners. However, other researchers have suggested that facilitative partner responses may be a better predictor of sexual satisfaction than solicitous responses, of which avoidance is a key component, because supportive responses to men's low desire may foster feelings of intimacy creating a more positive context for sexual interactions.³³ Considering our small sample size, which limited our power, we may have been unable to capture potential effects that exist but are smaller in size. Alternatively, our measure of avoidance was adapted from a scale developed to assess partner responses to painful intercourse. It may be that there are facets of avoidance that are important for sexual satisfaction that were not captured by our measure. For example, some couples coping with low sexual desire begin to avoid more than just sexual activity, such as affection more broadly.⁵⁷

Although unrelated to sexual satisfaction, we did observe that when men with HSDD perceived greater avoidance from their partners, their partners reported greater sexual distress, highlighting the interpersonal nature of navigating HSDD. Recent work on avoidance and other sexual dysfunctions has revealed strong links between sexual avoidance and sexual distress.³⁶ Research on low desire in women has indicated that women avoid situations in which their partner may initiate sex, whereas partners tend to avoid situations where they could be rejected⁵⁷; this pattern could also be true among couples coping with HSDD. Thus, when men with HSDD perceive that their partner is being avoidant—even if partners themselves may not feel this way—this perception may alter the way men with HSDD behave (eg, they no longer initiate sex or avoid situations in which their partner might initiate sex) in a way that increases sexual distress for their partners.

Regarding sexual distress and sexual desire—the core symptoms of HSDD—most of our predictions were not supported. With one exception discussed previously, partner responses were not associated with sexual desire or sexual distress for either member of the couple. Our lack of findings may reflect the fact that the inclusion criteria for the study required low sexual desire and sexual distress that met clinical significance for men with HSDD, resulting in restricted variability in our measures of desire and distress. These effects also may be smaller than the effects for sexual satisfaction, thus requiring greater power and larger sample sizes to detect them. Still, our results might indicate that partner responses to low sexual desire contribute more to sexual satisfaction relative to the core symptoms of HSDD; sexual satisfaction is a key indicator of the interference of HSDD to the quality of the couples' sexual life. Thus, targeting partner responses to low sexual desire may help couples better cope with HSDD, even while symptoms of HSDD remain.

This study is one of few dyadic studies of men's HSDD and is unique in its focus on an interpersonal factor. However, one of the limitations of this study is limited diversity in the sample. Although our sample included couples that were sex and gender diverse, and racially diverse, most couples were mixed gender/sex and White, limiting generalizability to more diverse populations. Additionally, this research was cross-sectional, limiting conclusions regarding causal links and our

ability to capture more nuanced variability across sexual interactions between partner responses and sexual well-being. Fluctuations in partner responses and sexual well-being may be better captured at the daily level in a more natural setting, as has been done with women with genito-pelvic pain.³²

Finally, our measure of partner responses to low sexual desire was adapted from a scale whose scores evidence good reliability and validity in samples of women with genito-pelvic pain and was not specifically developed for use in HSDD. As such, there may be additional types of partner responses to low desire that were not captured by our study (eg, behavior engaged in to influence one's partner's desire). For example, partner responses might focus on attempts to stimulate desire (eg, set the mood with romantic activities), suggest professional intervention, or partners might engage in coercive behaviors (eg, pressuring a partner for sex), none of which were captured by the present measure. Qualitative research will be instrumental in identifying the range of possible partner responses to men's low sexual desire, particularly work that includes both members of a couple. Further, we elected to focus on responses to low desire in general, but responses to the specific situation of sexual rejection (ie, when one's sexual advances are declined) are likely relevant in the context of low desire.³⁵ Recent research with community couples has conceptualized 4 potential partner responses to sexual rejection, including insecure, resentful, understanding, and enticing response styles, which have different associations with relationship and sexual satisfaction. Future research should consider additional partner responses to low desire such as cognitive, affective, and behavioral responses, including responses to sexual rejection.

Conclusion

In this research, we established links between perceived and self-reported facilitative, negative, and avoidant partner responses to low desire and sexual well-being outcomes in a sample of men with HSDD and their partners. Perceived and self-reported facilitative responses to low desire were linked to greater sexual satisfaction for each member of the couple, while perceived negative responses were linked to lower sexual satisfaction for men with HSDD. Additionally, perceived avoidant responses by men with HSDD were linked with their partner's greater sexual distress. These findings may be useful for couples navigating low desire to cue them to consider how their responses to low desire may relate to their adjustment to these difficulties. Clinicians working with couples in distress could include an assessment of partner responses to low desire and then discuss how each person's perception aligns with their partner's as well as possible strategies to change their behaviors to facilitate better adjustment. This research demonstrates that interpersonal factors such as partner responses to low desire may provide insight regarding a couple's adjustment when coping with HSDD in men. This work also enhances our understanding of interpersonal factors in the context of HSDD in men, a severely understudied sexual dysfunction with limited examination of interpersonal factors to date.

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Supplementary material

Supplementary material is available at *The Journal of Sexual Medicine* online.

Author Contributions

C.F.B. (Conceptualization-Equal, Data curation-Equal, Formal analysis-Equal, Validation-Equal, Writing – original draft-Lead, Writing – review & editing-Lead), S.C.-M. (Data curation-Equal, Investigation-Equal, Methodology-Equal, Project administration-Equal, Supervision-Equal, Writing – review & editing-Supporting), J.P.D. (Data curation-Equal, Investigation-Equal, Methodology-Equal, Writing – review & editing-Supporting), G.A.W. (Data curation-Equal, Investigation-Equal, Writing – review & editing-Supporting), N.O.R. (Conceptualization-Equal, Data curation-Equal, Formal analysis-Equal, Funding acquisition-Equal, Methodology-Equal, Project administration-Equal, Resources-Lead, Supervision-Equal, Validation-Equal, Writing – original draft-Supporting, Writing – review & editing-Supporting).

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