

ORIGINAL RESEARCH—PSYCHOLOGY

Sexual Desire in Women: An Integrative Approach Regarding Psychological, Medical, and Relationship Dimensions

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ABSTRACT

Introduction. Sexual desire depends on the balance between biologic, psychological, and cultural values. Therefore, conceptualizations of female sexual desire difficulties should consider the interrelated role of those factors.

Aim. The aim of this study was to test a conceptual model regarding factors often implicated on female sexual desire, in order to understand the way those factors interact in sexual interest. Moreover, we intended to evaluate the mediation role of cognitive–emotional factors between sexual desire and other dimensions such as age, medical problems, psychopathology, or dyadic adjustment.

Methods. Two hundred and thirty-seven women from the general population participated in the study. We evaluated psychopathology, dysfunctional sexual beliefs, automatic thoughts and emotions during sexual activity, dyadic adjustment, and presence of medical problems.

Main Outcome Measures. Psychopathology measured by the Brief Symptom Inventory, dysfunctional sexual beliefs measured by the Sexual Dysfunctional Beliefs Questionnaire, thoughts and emotions in sexual context measured by the Sexual Modes Questionnaire, dyadic adjustment measured by the Dyadic Adjustment Scale, medical condition measured by the Medical History Formulation, and sexual desire measured by the Sexual Desire subscale of the Female Sexual Function Index.

Results. Results from the proposed conceptual model suggest that cognitive factors (mainly automatic thoughts during sexual activity) were the best predictors of sexual desire. In a more specific way, age, failure/disengagement thoughts, and lack of erotic thoughts during sexual activity, showed a significant direct effect on reduced sexual desire. Furthermore, sexual conservatism beliefs, and medical factors showed indirect effects, acting on sexual desire via the presence of lack of erotic thoughts, and failure/disengagement sexual thoughts, respectively.

Conclusions. Results from this integrative approach support the need to include cognitive dimensions in the assessment and treatment of sexual desire problems, considering their implication as vulnerability or resilient factors regarding deficient sexual interest in women. **Carvalho J, and Nobre P. Sexual desire in women: An integrative approach regarding psychological, medical, and relationship dimensions. J Sex Med 2010;7:1807–1815.**

Key Words. Female Sexual Desire; HSDD—Hypoactive Sexual Desire Disorder; Biopsychosocial Model

Deficient sexual desire is a common sexual difficulty among women [1–5]. However, few conceptual models explain general sexual desire, or hypoactive sexual desire disorder [6]. Sexual desire depends on the balance among three fundamental dimensions: biologic, psychological or idiosyncratic dimensions, and cultural values [7–9]. The conceptualization of sexual desire difficulties

should consider the interrelated role of those factors. For instance, the involvement of medical pathology in sexual desire is already well-known [10–14]. Nevertheless, medical factors can also act on psychological and dyadic adjustment causing a negative impact on sexual desire, beyond the physical effects caused by the organic pathology [15]. Moreover, chronic diseases can result in lack

of sexual desire not only because of its direct effects, but also as a result of the interference on the couples' life, and changes in the routines and roles of the dyad [16]. Medical factors often interact with other dimensions. In order to understand the role of biological determinants on sexual desire, we should consider how medical problems intervene in other areas such as psychological and dyadic adjustment.

The negative role of psychopathology on sexual desire has also been shown [17–23]. Psychopathology can interfere in sexual desire because of the presence of dysfunctional cognitions typical from psychopathological conditions, and because long periods of psychological disorders are often related to poor dyadic adjustment [15]. Cognitive, emotional, and relationship dimensions seem to mediate the role among medical problems, psychopathology, and sexual desire.

Cognitive and emotional factors are strongly related to sexual dysfunction [24–28]. Conservative sexual beliefs, failure/disengagement sexual thoughts, and lack of erotic thoughts during sexual activity, are significant predictors of female deficient sexual desire [29]. Studies on the role of sexual self-schemas indicated that schemas related to more liberal sexual standards or the tendency to experience passionate/romantic emotions, were associated with higher levels of sexual desire in women [30]. Moreover, women with sexual dysfunction present more emotions of sadness, disillusion, guilt, and anger, as well as less pleasure, and satisfaction during sexual activity [27]. The role of cognitive [24–26,28,31–35] and emotional dimensions [27,36–39] has been recognized in the context of sexual difficulties. Although cognitive and emotional factors are culturally mediated, depending on the individual's acculturation and experience, they could be promoted by the presence of more circumstantial conditions. Organic pathologies or lack of psychological adjustment could modulate cognitive content, determining its impact on sexual difficulties. Therefore, it would be important to clarify the interactive role between cognitive–emotional variables and other set of factors such as medical, psychopathological, or relationship factors on sexual desire difficulties.

The aim of the present study was to test a conceptual model considering the interrelated role of age, medical problems, psychopathology, dyadic adjustment, and cognitive–emotional factors on female sexual desire. The dimensions included in the model were selected according to both theoretical and empirical criteria, attending to previous

studies about predictive factors of sexual desire in women [40]. The predictors included in the model were: age, medical factors, dyadic adjustment, psychopathology, sexual conservatism beliefs, failure and disengagement sexual thoughts, lack of erotic thoughts, and pleasure during sexual activity. The model was tested using path analysis (an integrative approach of causal directions). Although tested as a unidirectional model, the relationship between variables is naturally bidirectional. According to this integrative perspective, we hypothesized that cognitive–emotional factors (sexual beliefs, thoughts, and emotions in sexual context) would mediate the relationship between the other predictors and sexual desire in women. We also predicted that dyadic adjustment and psychopathology would mediate the relationship between medical problems and sexual desire.

Methods

Participants and Procedures

A total of 237 women from the general population (convenience sample) participated in the study. Women were recruited in different regions of Portugal, including medical centers, with the help of researchers working in the sexology field. Participants were given instructions, and then answered the questionnaires when alone (at home or at private rooms in the medical centers). Questionnaires were then returned by mail using pre-stamped envelopes or delivery directly to the researchers in health centers. Women were not paid for their participation. Data was collected between March and July 2007. The rate of response was 93%. All participants were informed about the purpose of the study, and signed an informed consent. Women's mean age was 35 years (SD = 11.8; range = 18–73). Regarding marital status, the majority of women were married (50.6%), and most had a graduate degree (54.3%). Moreover, 11.0% had no partner, and 0.9% had multiple partners. Regarding the frequency of sexual activity, most of the women (58.7%) had sex 1–3 times a week. We found no homosexual participants (demographic characteristics presented in Table 1). Participants with no partner were excluded (N = 26) since we were interested in the quality of the dyadic adjustment.

Materials

The Female Sexual Function Index (FSFI)

The FSFI [41] is a 19-item measure that assesses sexual functioning in women according to six

Table 1 Demographic characteristics: age, marital status, and educational level ($n = 237$)

Age	M	35.3
	SD	11.8
	Range (years)	18–73
Marital status	Single	34.6%
	Married	50.6%
	Divorced	6.1%
	Widow	2.2%
	Living together	6.5%
Educational level	0–4 years	3.8%
	5–6 years	5.1%
	7–9 years	12.1%
	10–12 years	22.6%
	13–15 years	2.1%
	+15 years	54.3%
Sexual activity	Never	5.5%
	Rarely	3.7%
	Once a month	5.5%
	2 to 3 times month	19.7%
	1 to 3 times week	58.7%
	Every day	6.9%
Actual partner	No partner	11%
	Boyfriend	33%
	Husband	55.1%
	Multiple	0.9%

dimensions: sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and sexual pain. Psychometric studies support test–retest reliability ($r = 0.79$ to $r = 0.86$; $r = 0.83$ for the sexual desire domain), internal consistency (0.82 Cronbach's alpha value), and validity (significant differences between clinical and nonclinical sample's scores). A sexual function index can be calculated, as well specific indexes according to each dimension. In this study we used only the sexual desire index in order to assess sexual desire in women. Studies with the Portuguese version of the FSFI suggest good psychometric proprieties (P.J. Nobre, unpublished data).

The Brief Symptom Inventory (BSI)

The BSI [42] is a 53-item measure that assesses the presence of psychopathological symptoms (0.71 to 0.85 Cronbach's alpha values) according to nine dimensions: somatization, depression, hostility, anxiety, phobic anxiety, psychoticism, obsessive-compulsive, paranoid ideation, and interpersonal sensitivity. Portuguese psychometric studies support the internal consistency (0.62 to 0.80 Cronbach's alpha values), test–retest reliability ($r = 0.63$ to $r = 0.81$), and validity (significant differences between emotional adjusted and nonadjusted individuals) of the measure [43].

Sexual Dysfunctional Beliefs Questionnaire (SDBQ)

The SDBQ female version [28] is a 40-item self report measure that assesses sexuality related beliefs. Participants answer the questionnaire according to a 7-point Likert scale (“completely disagree” up to “completely agree”). The measure assesses six dimensions: sexual conservatism, sexual desire and pleasure as sin, age related beliefs, body-image beliefs, denying affection primacy, and motherhood primacy. Psychometric studies indicated good test–retest reliability ($r = 0.80$), internal consistency (0.81 Cronbach's alpha value), and discriminant validity [28].

Sexual Modes Questionnaire (SMQ)

The SMQ female version [44] is a 33-item self-report measure that assesses the relationship between automatic thoughts, emotions, and sexual response in sexual context. SMQ female version is composed of the following dimensions: failure and disengagement sexual thoughts, sexual abuse thoughts, partner's lack of affection thoughts, sexual passivity and control thoughts, lack of erotic thoughts, and low self body-image thoughts. Psychometric studies supported test–retest reliability ($r = 0.95$), and internal consistency (0.87 Cronbach's alpha value) of the measure. The SMQ female version discriminates women with and without sexual problems, and is also significantly associated with measures of sexual functioning [44].

Dyadic Adjustment Scale (DAS)

The DAS [45] is a 32-item self report measure that assesses dyadic adjustment quality according to four dimensions: dyadic consensus, dyadic satisfaction, dyadic cohesion, and dyadic affection. Psychometric studies showed good internal consistency values (between 0.73 and 0.90 Cronbach's alpha values), and construct validity [46]. The Portuguese version of the DAS shows also good psychometric proprieties (P.J., Nobre, unpublished data).

Medical History Form (MHF)

The MHF [46] consists of a checklist regarding several medical conditions often involved in the etiology and maintenance of sexual problems. It collects data about participant's medical pathologies, pharmacological consumption, medical surgeries, and medical hospitalizations. In the present study, we considered as medical group women with, at least, one of the following conditions: hypertension, cardiovascular disease, diabetes,

cancer, neurological disease, sexually transmitted disease, pelvic inflammation, vaginal dryness, and pelvic endometriosis.

Conceptualization of the Model

In order to evaluate the role of psychological, medical, and relationship factors on women’s sexual desire, a model is proposed. This model tests potential causal directions between those factors. We present a recursive model that does not invalidate the bidirectional nature that predictors might logically assume. Variables were chosen according to previous findings about main predictors of women’s sexual desire [40]. The main cognitive and emotional predictors were selected. Total scores of DAS, BSI, and medical problems (dummy-variable) were also chosen. Predictors selected for path analysis were: age, medical factors, dyadic adjustment, psychopathology, sexual conservatism beliefs (e.g., “masturbation is wrong and sinful,” “sexual activity must be initiated by men”), failure and disengagement sexual thoughts (e.g., “I’m not getting turned on,” “when will be this over?”), lack of erotic thoughts (e.g., “the way he is talking turn me on,” “my body turns him on”), and pleasure. Age was located as an exogenous variable in the model since we considered its independency regarding other variables. Medical factors and sexual conservatism beliefs were located as endogenous variables, depending on age, and mediating the relationship between

age and sexual desire. Dyadic adjustment and psychopathology were located as endogenous variables, mediating the relationship between medical factors and sexual desire. Regarding negative automatic thoughts (endogenous variables in the model) we proposed its mediation role between medical factors and sexual desire, and between conservatism sexual beliefs and sexual desire. Particularly, failure and disengagement sexual thoughts were expected to mediate the relationship between medical factors and sexual desire since this set of thoughts is related to sexual performance’s capacity (often impaired as a result of medical problems). Lack of erotic thoughts was expected to mediate the relationship between conservatism sexual beliefs and sexual desire because of the role of conservative beliefs on female cognitive processing during sexual activity. Finally, pleasure was located in the model mediating the relationship between automatic thoughts and sexual desire. Automatic thoughts can influence sexual desire indirectly, because of its potential role on emotions during sexual activity (see Figure 1).

Results

Statistical Approach

We used path analysis to test a theoretical model about the interrelated role of biopsychosocial factors on female sexual desire. We present a path

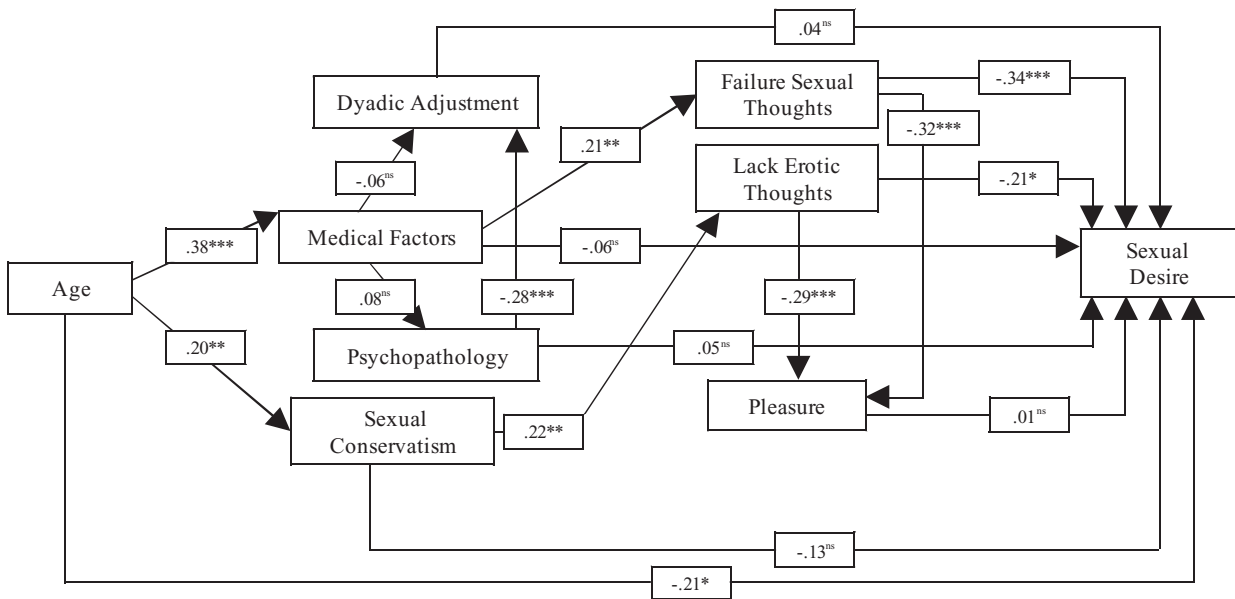


Figure 1 Path diagram of causal directions (using regression analysis Enter method) between predictors and sexual desire in women. Standardized regression coefficients, β, are presented (n = 211).

diagram of causal directions (using regression analysis Enter method) between the predictors and sexual desire, with reference to the standardized regression coefficients (regression coefficients of the several regression analyses). In order to avoid multi-collinearity between age and length of relationship ($r = 0.83, P < 0.001$), we conducted a separate regression analysis Enter method to test the role of length of relationship on sexual desire.

Integrative Model Regarding Factors Implicated on Women's Sexual Desire

Zero order Pearson correlations (Spearman correlation was used for medical factors) between sexual desire and predictors (see Table 2) showed the following significant associations: age ($r = -0.45; P < 0.001$), medical factors ($r_s = -0.29; P < 0.001$), dyadic adjustment ($r = 0.36; P < 0.001$), sexual conservatism beliefs ($r = -0.32; P < 0.001$), failure and disengagement sexual thoughts ($r = -0.56; P < 0.001$), lack of erotic thoughts ($r = -0.41; P < 0.001$), pleasure ($r = 0.30; P < 0.001$); and a nonsignificant association: psychopathology ($r = -0.10; P = 0.13$).

Univariate tests performed in the context of path analysis between predictors and sexual desire (see Table 3) showed the following significant direct effects: age ($t = -2.63, P < 0.05$), failure and disengagement sexual thoughts ($t = -3.86, P < 0.001$), and lack of erotic thoughts ($t = -2.57, P < 0.01$). The direct effects of this model account for 39% of sexual desire variance (adjusted $R^2 = 0.387$) indicating a statistically significant model ($F[8|124] = 11.412, P < 0.001$).

Regarding other direct effects proposed in the model (see Figure 1), we found the following significant effects: effect of age on medical factors ($t = 6.11, P < 0.001$) and sexual conservatism beliefs ($t = 3.04, P < 0.01$), effect of medical factors on failure and disengagement sexual thoughts

($t = 3.13, P < 0.01$), effect of sexual conservatism beliefs on lack of erotic thoughts ($t = 3.24, P < 0.01$), effect of failure and disengagement sexual thoughts on pleasure ($t = -4.89, P < 0.001$), effect of lack of erotic thoughts on pleasure ($t = -4.43, P < 0.001$), and effect of psychopathology on dyadic adjustment ($t = -3.64, P < 0.001$). Although sexual conservatism beliefs did not show a significant direct effect on sexual desire as we predicted, these set of beliefs showed an indirect effect on sexual desire via lack of erotic thoughts ($\beta = 0.22 \times -0.21 = -0.05$). Moreover, medical factors interfered in sexual desire via the presence of failure and disengagement sexual thoughts ($\beta = 0.21 \times -0.34 = -0.07$). Lack of erotic thoughts mediated the relationship between sexual conservative beliefs and sexual desire. Failure and disengagement sexual thoughts mediated the relationship between medical factors and sexual desire (see Table 3 and Figure 1).

Assessment of the model's adequacy to data from the correlation matrix (observed zero order Pearson correlations) was performed through the calculus of differences between observed Pearson correlations (Spearman correlation was used for medical factors) and implicit correlations (sum of direct, indirect, and spurious effects). Results showed that the average value from absolute differences is -0.03 , suggesting the adequacy of the proposed model to the correlation matrix (see Table 4).

Length of the Relationship and Sexual Desire in Women

Because of the high correlation between age and length of the relationship ($r = 0.83, P < 0.001$) we did not consider length of relationship for path analyses in order to avoid multi-collinearity. Therefore, we performed a separated regression analysis Enter method using length of relationship

Table 2 Zero order Pearson correlations between variables included in path analysis (n = 211)

	1	2	3	4	5	6	7	8	9
1 Age	—	—	—	—	—	—	—	—	—
2 Medical factors	0.36***	—	—	—	—	—	—	—	—
3 Psychopathology	0.01	0.09	—	—	—	—	—	—	—
4 Dyadic adjustment	-0.20*	-0.08	-0.28***	—	—	—	—	—	—
5 Sexual conservatism	0.20**	0.17**	0.25***	-0.18*	—	—	—	—	—
6 Failure disengagement	0.32***	0.15*	0.28***	-0.45***	0.26***	—	—	—	—
7 Lack erotic thoughts	0.14*	0.19**	0.10	-0.37***	0.22**	0.25***	—	—	—
8 Pleasure	-0.07	-0.14*	-0.22**	0.42***	-0.21**	-0.40***	-0.38***	—	—
9 Sexual desire	-0.45***	-0.29***	-0.10	0.36***	-0.32***	-0.56***	-0.41***	0.30***	—

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

Note: Regarding Medical Factors (dummy variable) we performed a Spearman correlation analysis.

Table 3 Direct, indirect and spurious effects regarding sexual desire's predictors (n = 211)

Predictors	Correlations (zero order)	Direct effects	Indirect effects	Spurious effects	Total
Age	-0.45***	-0.21*	-0.1	—	-0.31
via sexual conservatism			-0.03		
via medical factors			-0.02		
via Sexual Conservatism × Lack Erotic Thoughts			-0.01		
via Medical Factors × Failure Disengagement Thoughts			-0.03		
via Medical Factors × Failure Disengagement Thoughts × Pleasure			-0.00		
Medical factors	-0.29***	-0.06 ^{ns}	-0.07	-0.08	-0.13
via Dyadic Adjustment			-0.00		
via Failure Disengagement Thoughts			-0.07		
via Psychopathology			-0.00		
via Failure Disengagement Thoughts × Pleasure			-0.00		
via Age				-0.08	
Dyadic adjustment	0.36***	0.04 ^{ns}	—	-0.01	0.04
via Medical Factors				0.00	
via Psychopathology				-0.01	
Psychopathology	-0.10 ^{ns}	0.05 ^{ns}	-0.01	-0.01	0.04
via Dyadic Adjustment			-0.01		
via Medical Factors				-0.01	
Sexual conservatism	-0.32***	-0.13 ^{ns}	-0.05	-0.04	-0.18
via Lack of Erotic Thoughts			-0.05		
via Lack of Erotic Thoughts × Pleasure			-0.00		
via Age				-0.04	
Failure Disengagement Thoughts	-0.56***	-0.34***	-0.00	-0.03	-0.34
via Pleasure			-0.00		
via Medical Factors				-0.01	
via Age × Medical Factors				-0.02	
Lack of erotic thoughts	-0.41***	-0.21*	-0.00	-0.04	-0.21
via Pleasure			-0.00		
via Sexual Conservatism				-0.03	
via Age × Sexual Conservatism				-0.01	
Pleasure	0.30***	0.01 ^{ns}	—	0.17	0.01
via Failure Disengagement Thoughts				0.11	
via Lack of Erotic Thoughts				0.06	

P* < 0.05; *P* < 0.01; ****P* < 0.001.
ns = not significant.

(duration in months) as the predictor variable, and sexual desire (assessed with FSFI) as the dependent variable. Regression analysis (Enter method) showed a significant model ($F[1180] = 40.392$, $P < 0.001$) accounting for 18% of sexual desire's variance (adjusted $R^2 = 0.179$; $\beta = -0.43$, $P < 0.001$).

Discussion

The proposed conceptual model about biopsychosocial predictors of sexual desire showed, as predicted, the role of cognitive factors mediating the relationship between several variables and sexual desire. More specifically, it was found that the

Table 4 Implied correlations (sum of direct effects, indirect effects, and spurious effects) between the variables included in the model (in bold, below the diagonals) and values from absolute differences between the zero order Pearson correlations (Spearman correlation was used for medical factors) and the implied correlations (above the diagonals) (n = 211)

	Age	Medical factors	Psychopathology	Dyadic Adjustment	Sexual Conservatism	Failure Disengagement Thoughts	Lack Erotic Thoughts	Pleasure	Sexual Desire
Age	—	-0.02			0.00				-0.14
Medical Factors	0.38	—	0.01	0.00		-0.06			-0.08
Psychopathology		0.08	—	0.01					-0.13
Dyadic Adjustment		-0.08	-0.29	—					0.33
Sexual Conservatism		0.20			—		0.00		-0.1
Failure Disengagement		0.21				—		-0.08	-0.19
Lack Erotic Thoughts					0.22		—	-0.09	-0.16
Pleasure						-0.32	-0.29	—	0.12
Sexual Desire	-0.31	-0.21	0.03	0.03	-0.22	-0.37	-0.25	0.18	—

presence of medical problems, although not showing a significant direct effect on reduced sexual desire, acted on sexual desire through the presence of failure and disengagement sexual thoughts. Also, sexual conservative beliefs did not show a significant direct effect on sexual desire. However, the lack of erotic thoughts mediated the relationship between sexual conservatism beliefs and reduced sexual desire. Psychopathology, dyadic adjustment, and pleasure, did not show a significant direct nor indirect effect on sexual desire. Predictors that showed a significant direct effect on reduced sexual desire were: age, lack of erotic thoughts (e.g., "the way he is talking turn me on," "my body turns him on") and failure/disengagement sexual thoughts (e.g., "I'm not getting turned on," "when will be this over?"). Regarding lack of erotic thoughts and failure/disengagement sexual thoughts, age and medical problems had a spurious effect on the relationship between those thoughts and sexual desire. Likewise, age and sexual conservatism beliefs had also a spurious effect on the relationship between lack of erotic thoughts and sexual desire. Overall, the model accounts for 39% of sexual desire's variance, considered as a significant effect size [47]. Age and automatic thoughts during sexual activity showed up in the model because of its direct effects on sexual desire. Sexual beliefs and medical factors played a secondary role, acting on sexual desire via undirected paths.

This perspective integrates several dimensions often implicated on sexual desire, considering in a nonfragmented way the importance of the different factors. For that reason, factors that were significant predictors of sexual desire in previous studies [40] (which was the case of dyadic adjustment, and medical factors) or that were strongly related to sexual desire (see Table 2) decreased their impact when evaluated in interaction with the remaining dimensions. That fact does not mean that previous dimensions do not have an impact on women's sexual desire, specially when its known the importance of psychopathology [17–23], medical problems [10–14], or relationship factors [48–52] in female sexual desire. Instead, it suggests that those factors may have an indirect impact on sexual desire with cognitive factors (particularly, lack of erotic thoughts and failure/disengagement sexual thoughts) acting as mediators. Moreover, it would be interesting to understand that mediation role since cognitive factors might operate as vulnerability or resilient factors on sexual desire changes. For instance, it

could be tested the specific role of sexual thoughts related to sexual performance during periods of medical disease, as this set of cognitive dimensions (e.g., failure/disengagement sexual thoughts) could increase the impact of medical pathology in sexual desire. Therefore, the assessment of sexual desire disorders should attend to cognitive factors and specific interventions could be made in order to change dysfunctional cognitive profiles related to sexual desire problems in women.

Contrary to our predictions, pleasure did not show a significant effect on sexual desire despite its relationship to sexual thoughts. On a previous model regarding cognitive–emotional determinants of hypoactive sexual desire disorder in women, Nobre [29] found that negative emotions of anger and guilt had in fact direct effects on sexual desire, potentially promoting a shift of attention from sexual stimuli. Our results suggest the need to better understand the impact of different emotions on female sexual desire, according to differences between clinical and normative samples.

Regarding age, and as it was predicted, it did show a significant direct effect on sexual desire. In a more specific way, age was also related to the presence of medical problems, and conservative sexual beliefs. Moreover, as age has been strongly related to reduced sexual interest [53–57], it would be important to specify how age interferes in sexual motivation since it is a dimension that operates along with several other dimensions (e.g., medical pathologies, menopause, length of marriage). In this case, its implication on dysfunctional sexual beliefs (sexual conservatism) shows the importance of culturally shared values regarding female sexuality in sexual desire, and more specifically, the way those beliefs are related to more idiosyncratic experiences during sexual activity (lack of erotic thoughts). Moreover, relationship length (significantly related with age) also predicted lower sexual desire. Future studies could test how the previous sexual beliefs mediate the relationship between length of marriage and sexual desire since some of those cognitive factors could not only result from age but also be shaped within the relationship, and supported by women's companions.

According to Wylie et al. [58], loss of sexual desire in women is sustained by a complex net of several problems, demanding a biopsychosocial approach to the assessment and treatment of sexual desire difficulties. That approach should consider simultaneously the broad factors that are responsible for the etiology and maintenance of

hypoactive sexual desire disorder. This perspective is supported by the present study as the interaction between predictors can explain in a more comprehensive way how does each factor affect sexual desire in women.

The present study presents some limitations. On one hand, we did not control for physiologic variables, especially for testosterone levels or other hormone indexes that may change along with women's aging. On the other hand, the lack of experimental methodology makes impossible the determination of causal relationships between variables. Regarding the proposed unidirectional model about women's sexual desire, it does not invalidate the circularity between variables that might result in bidirectional paths. For instance, it would be important to evaluate the impact of reduced sexual desire on dyadic adjustment or on the type of thoughts and emotions that women present in sexual context. Moreover, the validity of recursive models like the one we tested must be assessed by its replication in other studies, or by comparing the present model to several other alternative models. As a result of the small number of participants within each pathology, we had to consider a broader category for medical disorders, including participants with different pathologies in the same medical group. Although the pathologies are related to sexual desire difficulties, in this study we cannot infer the role of specific pathologies on female sexual desire.

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Statement of Authorship

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