

## PSYCHOLOGY

## Determinants of Women's Sexual Dissatisfaction: Assessing a Cognitive-Emotional Model



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### ABSTRACT

**Introduction:** Recent studies have demonstrated the role of sexual dysfunctional beliefs, negative automatic thoughts, and emotional responses in relation to sexual functioning. Nevertheless, no studies seem to have evaluated the role of these cognitive-emotional factors in determining sexual dissatisfaction.

**Aim:** To test a cognitive-emotional model of sexual dissatisfaction in women.

**Methods:** In total, 207 women answered questionnaires assessing sexual dissatisfaction and cognitive and emotional variables that might affect sexual dissatisfaction.

**Main Outcome Measures:** Sexual dissatisfaction was measured by the Index of Sexual Satisfaction, sexual beliefs were measured by the Sexual Dysfunctional Beliefs Questionnaire, and thoughts and emotional responses were measured by the Sexual Modes Questionnaire.

**Results:** A path analysis was conducted to assess the conceptual model proposed. Results indicated that dysfunctional sexual beliefs work as predisposing factors by eliciting negative automatic thoughts and emotions, which impair the processing of erotic stimuli and interfere negatively with sexual satisfaction.

**Conclusion:** This finding suggests a role for cognitive and emotional factors in predisposing and maintaining sexual dissatisfaction in women, suggesting relevant implications for intervention.

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**Key Words:** Sexual Dissatisfaction; Sexual Beliefs; Automatic Thoughts; Emotional Responses

### INTRODUCTION

Sexual satisfaction is associated with overall relationship satisfaction.<sup>1–3</sup> Sexual satisfaction is influenced by personal and relational components in women,<sup>4</sup> which reflect contributing factors such as perceived compatibility of sexual desire,<sup>5</sup> sexual beliefs, values,<sup>6</sup> and attitudes.<sup>7,8</sup> Several studies have shown that sexual satisfaction is closely linked to indicators of relationship quality such

as perceived love,<sup>9,10</sup> stability,<sup>11</sup> and commitment<sup>11</sup> and is inversely associated to the likelihood of divorce.<sup>12,13</sup> Numerous studies have indicated the influence of different factors on women's sense of sexual satisfaction, including social factors such as age, marital status, and income level<sup>14</sup>; personality and affective factors such as self-esteem,<sup>15</sup> selfishness,<sup>16</sup> empathy,<sup>17</sup> sexual guilt,<sup>18</sup> irritability,<sup>3</sup> and anger<sup>19</sup>; and background variables such as physical affection and positive sexual attitudes in the family of origin.<sup>20</sup>

Recently, a growing body of research has indicated that cognitive factors such as cognitive distraction,<sup>21,22</sup> causal attributions,<sup>23</sup> cognitive schemas,<sup>24</sup> sexual beliefs,<sup>25,26</sup> and automatic thoughts<sup>27</sup> play a fundamental role in sexual functioning. According to Beck's cognitive theory,<sup>28</sup> beliefs are ideas or values learned through life experiences and, when conceptualized as dysfunctional, act as risk factors for several psychopathologies (eg, depression, anxiety). Moreover, sexual beliefs constitute core cognitive structures that influence sexual functioning, and sexual dysfunctional beliefs are usually conceptualized as vulnerability factors for the development of sexual dysfunctions.<sup>25,26,29,30</sup> Several studies have examined recurrent beliefs as causal factors for sexual dysfunction and suggested that religious beliefs and

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conservatism,<sup>31</sup> fear of intimacy and losing control,<sup>32–41</sup> beliefs related to body image,<sup>31,32</sup> and beliefs about the role of affection in sex<sup>35</sup> are commonly associated with female sexual dysfunction. Dysfunctional beliefs related to sexual activity and parenting patterns that inhibit expression of sexual needs have been considered the main factor in women's sexual dissatisfaction.<sup>36</sup> Empirical findings from studies by Nobre and Pinto-Gouveia<sup>27,37</sup> have shown that women with sexual dysfunction present more negative sexual beliefs, especially more age-related and negative body image beliefs, sexual conservatism, and beliefs related to sexual desire and pleasure as a sin, compared with sexually healthy women. Moreover, conservative attitudes and restricted sexual standards have been found in women with sexual desire problems<sup>38–40</sup> and vaginismus.<sup>41</sup> A theoretical model has suggested that beliefs work as a risk factor in the development of negative automatic thoughts and sexual dysfunctions, and that emotions play an important role thereafter as maintaining factors for sexual dysfunctions.<sup>29</sup>

Automatic thoughts are images or cognitions presented by individuals as a result of cognitive schemas or core beliefs, which are activated automatically during a particular event.<sup>42</sup> These images and thoughts are strongly associated with emotional and behavioral responses to that event. Several clinical studies have indicated that individuals with sexual dysfunction present more negative automatic thoughts and emotions during sexual activity, which lead to a decrease in the ability to process sexual stimuli, contributing to the maintenance of sexual problems.<sup>27,43–46</sup> Barlow<sup>47</sup> formulated a cognitive-affective model for sexual dysfunction. Barlow found that individuals with sexual dysfunction focus their attention on negative automatic thoughts regarding the social consequences of not performing and failure expectancies or other non-erotic concerns. Nobre and Pinto-Gouveia<sup>27,45,48</sup> reported corroborating evidence of the role of cognitive factors on sexual dysfunction. Their results demonstrated that women with sexual dysfunction present significantly more failure and disengagement thoughts (eg, "I'm not satisfying my partner," "I'm not getting turned on," "When will this be over?"), thoughts about being abused and disrespected by the partner (eg, "He is abusing me," "He only wants to satisfy himself"), and lack of erotic thoughts (eg, "The way he is talking turns me on," "Making love is wonderful") during sexual activity.<sup>27,45,46,48</sup> These automatic thoughts are associated with negative emotions such as sadness, guilt, and anger and with lack of pleasure and satisfaction.<sup>27,45,46,48</sup> Sexual dissatisfaction refers to as a multidimensional experience involving thoughts, emotions, and beliefs,<sup>49</sup> consisting of all remaining emotions after the positive and negative aspects of a sexual relationship.<sup>50</sup> Individuals' thoughts of their own sexuality or thoughts about the appropriate or inappropriate expression of sexual behavior influence sexual satisfaction and these feelings can cause negative emotions.<sup>51</sup> A study examining thoughts and emotions about sexuality indicated that negative thoughts about body image significantly correlated with sexual dissatisfaction.<sup>52</sup>

Based on previous findings, Nobre<sup>29,43,48</sup> developed and tested a conceptual model of sexual dysfunction in men and women. The structure of this model is based on cognitive theory. At the center are sexual beliefs that are conceptualized as conditional rules.<sup>28</sup> These sexual beliefs stipulate the conditions for the activation of negative schemas in specific unsuccessful sexual experiences. The activation of the cognitive schema elicits negative automatic thoughts and negative emotions, impairing the sexual response.<sup>29,43,48</sup>

Despite several studies focusing on determinants of sexual dysfunction, limited studies have examined the associations between cognitive factors and individuals' overall sexual satisfaction. Sexual satisfaction has been associated with individual characteristics, cognition, emotions, sexual behavior, and social background factors.<sup>53</sup> Although it might seem obvious that sexual functioning and sexual satisfaction are related, some research has indicated that sexual problems and sexual dissatisfaction do not always co-occur.<sup>54,55</sup> Thus, further studies need to be conducted to investigate the role of cognitive factors in sexual dissatisfaction.

Sexual dissatisfaction is considered a common problem in many countries.<sup>56</sup> Research findings have shown that sexual dissatisfaction is more common in women than in men,<sup>56</sup> and that 15.2% to 50.4% of women are not satisfied with their sexual life.<sup>36,57</sup> Taking into account the major role of cognitive-emotional variables on sexual functioning, a better understanding of their impact on sexual dissatisfaction might promote and enhance psychological interventions for the treatment of sexual problems. Therefore, the aim of the present study was to evaluate a conceptual model of women's sexual dissatisfaction by integrating the diverse cognitive-emotional components mentioned earlier. The model was based on the results of research into the role of sexual beliefs, automatic thoughts, and emotions presented during sexual activity. Previous research conducted by Nobre<sup>48</sup> on woman's sexual desire and the principles of cognitive theory were considered criteria for the development of the model. It is hypothesized that dysfunctional sexual beliefs act as predisposing factors and activate negative automatic thoughts and emotional responses in a congruent direction, impairing the sexual response and interfering with sexual satisfaction.

To assess the conceptual model, a path analysis using structural regression equations was conducted. The selection of the main predictors of sexual dissatisfaction (among sexual beliefs, automatic thoughts, and emotional responses) was based on theories and findings from previous studies. The predictors selected were belief of sexual desire and pleasure as a sin, failure and disengagement thoughts, lack of erotic thought, and emotional responses of worry, fear, pleasure, and satisfaction (Figure 1).

## METHODS

### Participants and Procedures

In total, 207 sexually active women in married and long-term relationships participated in this study. Participants were

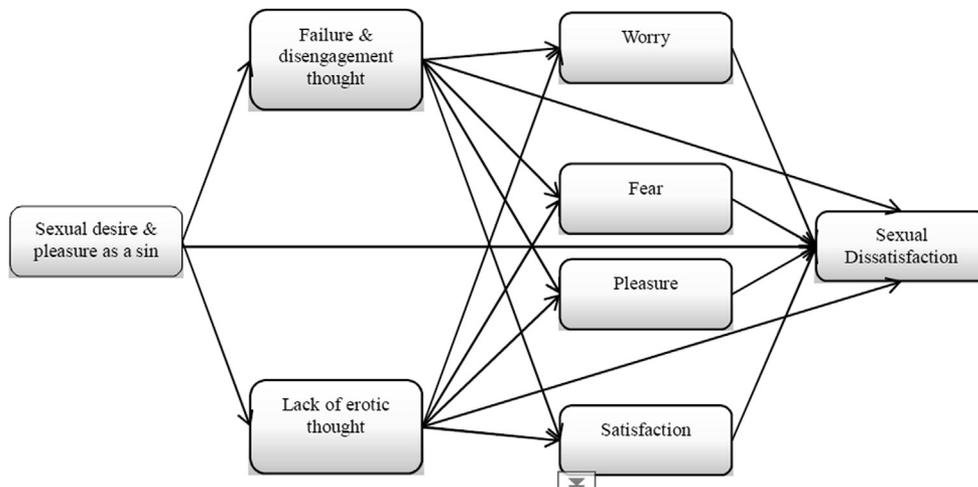


Figure 1. Path diagram of conceptual model.

recruited in different regions of New Zealand by advertising in social networks and by flyers inviting people to complete an online survey after reading a participant information sheet and giving their consent. No internet protocol address was recorded. The study was approved by the human research ethics committee of the University of Auckland (Auckland, New Zealand). Participants were excluded if they were younger than 18 years, were not in a marriage or a long-term relationship, or had not been sexually active in the past year (because the questionnaires measure the cognitive-affective variables during sexual activity). The data were collected from June through October 2015. The demographic characteristics for the sample are presented in Table 1.

**MAIN OUTCOME MEASURES**

**Sociodemographic Information**

Participants responded to items in a brief sociodemographic section assessing age, relationship status, sexual orientation, and educational level.

**Materials**

**Sexual Dysfunctional Beliefs Questionnaire**

The Sexual Dysfunctional Beliefs Questionnaire Female Version<sup>25</sup> is a 40-item self-report measurement assessing beliefs related to sexuality. Participants respond to items using a five-point Likert scale (“completely disagree” to “completely agree”). The instrument assesses six dimensions: sexual conservatism (eg, “Masturbation is wrong and sinful”), sexual desire and pleasure as sin (eg, “Experiencing pleasure during sexual activity is not acceptable in a virtuous woman”), age-related beliefs (eg, “As women age the pleasure they get from sex decreases”), body image beliefs (eg, “Women who are not physically attractive can’t be sexually satisfied”), motherhood primacy (eg, “The most wonderful emotions that a woman can experience are maternal”), and affection primacy (eg, “Sex without love is like food without

flavor”). Higher scores are associated with more dysfunctional sexual beliefs. Psychometric studies indicate good test-retest reliability ( $r = 0.80$ ), internal consistency (Cronbach  $\alpha = 0.81$ ), and discriminant validity.<sup>25</sup> In the present study, the Cronbach  $\alpha$  coefficient for the total of the Sexual Dysfunctional Beliefs Questionnaire Female Version was 0.97, with values for the subscales ranging from 0.60 to 0.97.

**Sexual Modes Questionnaire**

The Sexual Modes Questionnaire Female Version<sup>27</sup> is a 33-item self-report measurement for assessing automatic thoughts, emotions, and sexual responses during sexual activity.

Table 1. Sociodemographic characteristics of sample (N = 207)

	n	%
<b>Age (y)</b>		
18–25	98	47.3
26–35	70	33.8
36–45	24	11.6
46–55	9	4.3
56–65	6	2.9
<b>Educational levels</b>		
Less than high school	7	3.4
High school graduate	30	14.5
Some collage, no degree	36	17.4
Associate degree	4	1.9
Bachelor degree	81	39.1
PhD	13	6.3
Graduate or professional degree	36	17.4
<b>Sexually active relationship (y)</b>		
<1	45	21.7
1–2	44	21.3
3–5	50	24.2
6–10	38	18.4
11–15	14	6.8
16–20	8	3.9
>21	8	3.9

The questionnaire is composed of three subscales: automatic thoughts, emotional responses, and sexual response ratings in relation to the automatic thought subscale. Participants rate the frequency at which they have experienced specific automatic thoughts during sexual activity using a five-point Likert scale from 1 (never) to 5 (always). The Sexual Modes Questionnaire Female Version identifies six dimensions: sexual abuse thoughts (eg, “He only wants to satisfy himself”), failure and disengagement thoughts (eg, “I can’t feel anything”), partner’s lack of affection (eg, “He is not being as affectionate as he used to”), sexual passivity and control (eg, “If I let myself go he is going to think I’m promiscuous”), erotic thoughts (eg, “Making love is wonderful”), and low self-body image thoughts (eg, “I’m getting fat/ugly”). The emotional response component evaluates emotions reported by the participants during sexual activity. A list of 10 emotions is presented (worry, sadness, disillusion, fear, guilt, shame, anger, hurt, pleasure, and satisfaction) and each time participants endorse an automatic thought, they determine which emotion they usually experience. The sexual response component assesses the subjective sexual response experienced during sexual activity (subjective sexual arousal) using a five-point Likert scale (very low to very high). Psychometric studies indicate good internal consistency (Cronbach  $\alpha = 0.87$ ) and test-retest reliability ( $r = 0.95$ ).<sup>27</sup> In the present study, the Cronbach  $\alpha$  coefficients for the total of the Sexual Modes Questionnaire female version and its subscales ranged from 0.78 to 0.97.

### Sexual Satisfaction Index

The Sexual Satisfaction Index<sup>58</sup> is a 25-item self-report measurement assessing global sexual dissatisfaction and the degree, severity, or magnitude of a problem in the sexual component of a couple’s relationship. Participants answer the questions using a seven-point scale ranging from 1 (none of the time) to 7 (all of the time). Higher scores are indicative of sexual dissatisfaction and the likelihood of a clinically significant problem. Psychometric studies indicate excellent internal consistency (Cronbach  $\alpha = 0.92$ ) and good discriminant validity (sexually satisfied individuals vs individuals presenting with sexual difficulties).<sup>59</sup> For the present study, the Cronbach  $\alpha$  coefficient was 0.92.

### Statistical Analysis

Methods of statistical analysis included hierarchical regression analysis, an intercorrelations matrix, path analysis, and multiple regression analysis. The conceptual model was examined by path analysis.

## RESULTS

To assess the cognitive-affective model for women’s sexual dissatisfaction, a path analysis using structural regression equations was conducted. The selection of the main predictors of sexual dissatisfaction among the different structural components

identified (sexual beliefs, automatic thoughts, and emotional response) was based on Nobre’s model<sup>48</sup> and on the results of a hierarchical regression analysis. A three-stage hierarchical multiple regression was conducted, with sexual dissatisfaction as the dependent variable. Sexual beliefs were entered at stage 1 of the regression, negative automatic thoughts were entered at stage 2, and emotional responses were entered at stage 3. The relationship variables were entered in this order because it seemed chronologically plausible. The results are listed in Table 2.

The hierarchical multiple regression showed that at stage 1, among sexual beliefs denying affection, primacy was the only significant predictor of sexual dissatisfaction ( $F_{6,179} = 1.63$ ), accounting for 0.02% of the variation in sexual dissatisfaction. In step 2, the negative automatic thoughts variables explained an additional 26% of variation in sexual dissatisfaction, and this change in  $R^2$  was significant ( $F_{12,173} = 6.62$ ,  $P < .001$ ). The addition of emotional response to the regression model explained an additional 48% of the variation in sexual dissatisfaction, and this change in  $R^2$  also was significant ( $F_{22,163} = 8.94$ ,  $P < .001$ ). When all independent variables were included in stage 3 of the regression model, the most important predictors of sexual dissatisfaction were sexual desire and pleasure as a sin, failure and disengagement thoughts, lack of erotic thoughts, worry, disillusion, fear, heart, pleasure, and satisfaction. Together they accounted for 55% of the variance of sexual dissatisfaction.

To conduct the path analysis, the following independent variables were selected: sexual desire and pleasure as a sin, failure and disengagement thoughts, lack of erotic thoughts, worry, fear, pleasure, and satisfaction. Sexual dissatisfaction was selected as the criterion variable. Table 3 presents the correlation matrix for all variables submitted for path analysis. Results indicated statistically significant correlations between certain variables. The strongest correlations were between sexual desire and pleasure as a sin and between failure and disengagement thought during sexual activity ( $r = 0.78$ ,  $P < .01$ ).

Table 4 presents a summary of the path analysis indicating the direct, indirect, and total effects of the variables. Figure 2 presents the causal model proposed, with reference to the  $\beta$  coefficients (standardized regression coefficients) found for each direct effect.

The univariate tests indicated that various predictors had statistically significant effects on the criterion variable. Results showed the exogenous variable (belief of sexual desire and pleasure as a sin) had significant direct ( $-0.54$ ) and indirect ( $0.57$ ) effects on sexual dissatisfaction ( $P < .01$ ). The indirect effect operated through automatic thoughts and emotional responses. Therefore, automatic thoughts and emotional responses appear to play a mediating role between belief of sexual desire and pleasure as a sin and sexual dissatisfaction.

Furthermore, the indirect effect of sexual desire and pleasure as a sin on pleasure ( $\beta = -0.17$ ,  $P < .01$ ), and satisfaction ( $\beta = -0.28$ ,  $P < .01$ ) was significant and operated through

**Table 2.** Hierarchical regression analysis assessing sexual dysfunctional beliefs, automatic negative thoughts, and emotions as predictors of sexual dissatisfaction

Variables	Stage 1					Stage 2					Stage 3				
	B	SE B	$\beta$	t	P value	B	SE B	$\beta$	t	P value	B	SE B	$\beta$	t	P value
Sexual conservatism	-0.14	0.58	-0.06	-0.24	.81	-0.07	0.52	-0.03	-0.13	.89	0.59	0.45	0.23	1.30	.19
Sexual desire and pleasure as a sin	-10.08	0.82	-0.39	-1.32	.19	-2.23	0.80	-0.81	-2.80	.006	-3.15	0.72	-1.14	-4.39	.00
Age related beliefs	1.11	0.85	0.19	1.32	.19	0.43	0.75	0.07	0.58	.56	0.93	0.63	0.16	1.47	.14
Body image beliefs	.19	1.24	0.04	0.15	.88	0.67	1.1	0.15	0.61	.54	0.60	0.94	0.14	0.64	.52
Denying affection primacy	1.27	0.53	0.24	2.39	.02	-0.01	0.50	-0.002	-0.02	.98	-0.26	0.45	-0.05	-0.58	.56
Motherhood primacy	1.30	0.92	0.18	1.42	.16	1.57	0.80	0.22	1.97	.05	1.06	0.70	0.14	1.52	.13
Sexual abuse thoughts						-0.18	0.47	-0.08	-0.37	.71	0.11	0.43	0.05	0.27	.79
Failure and disengagement thought						1.79	0.70	0.38	2.56	.01	1.78	0.61	0.38	2.91	.00
Parents' lack of affection						-0.36	0.54	-0.09	-0.66	.51	-0.20	0.47	-0.05	-0.43	.67
Sexual passivity and control						0.30	0.45	0.10	0.66	.51	0.14	0.39	0.04	0.34	.73
Lack of erotic thought						2.39	0.43	0.47	5.53	.00	2.38	0.39	0.47	6.03	.00
Low self- body image thought						0.49	0.56	0.07	0.87	.39	0.45	0.51	0.07	0.89	.37
Worry											-1.19	0.29	-0.28	-4.08	.00
Sadness											-0.60	0.50	-0.10	-1.20	.23
Disillusion											1.30	0.47	0.18	2.79	.01
Fear											2.03	0.67	0.25	3.03	.00
Guilt											-0.22	0.71	-0.03	-0.32	.75
Shame											-0.51	0.66	-0.07	-0.77	.44
Anger											0.03	0.90	0.003	0.03	.97
Hurt											1.84	0.71	0.26	2.59	.01
Pleasure											1.13	0.51	0.15	0.15	.03
Satisfaction											-1.34	0.58	-0.17	-0.17	.02
R <sup>2</sup>	0.05					0.31					0.55				
F	1.63					6.62					9.94				

SE = standard error.

**Table 3.** Intercorrelations between variables included in path analysis (N = 207)

Number	Variables	1	2	3	4	5	6	7	8
1	sexual desire and pleasure as a sin	—							
2	failure and disengagement thought	0.78 <sup>†</sup>	—						
3	lack of erotic thought	0.57 <sup>†</sup>	0.64 <sup>†</sup>	—					
4	worry	-0.03	0.09	0.09	—				
5	fear	-0.06	0.24 <sup>†</sup>	-0.11	0.42 <sup>†</sup>	—			
6	pleasure	-0.15*	-0.12	-0.26 <sup>†</sup>	-0.45 <sup>†</sup>	-0.33 <sup>†</sup>	—		
7	satisfaction	-0.13	-0.20 <sup>†</sup>	-0.25 <sup>†</sup>	-0.37 <sup>†</sup>	-0.36 <sup>†</sup>	0.55 <sup>†</sup>	—	
8	sexual dissatisfaction	0.16*	0.21 <sup>†</sup>	0.19*	0.33 <sup>†</sup>	0.47 <sup>†</sup>	-0.26 <sup>†</sup>	-0.44 <sup>†</sup>	—

\* $P < .05$ ; <sup>†</sup> $P < .01$ .

automatic thoughts. However, the indirect effects of sexual desire and pleasure as a sin on worry ( $\beta = 0.09$ ,  $P < .08$ ) and fear ( $\beta = -0.11$ ,  $P < .07$ ) were not significant. In contrast, failure and disengagement thoughts and lack of erotic thought had a mediating role between sexual belief and emotional responses. The direct effects of failure and disengagement thoughts were significant only for fear ( $-0.20$ ) and satisfaction ( $-0.19$ ). Moreover, the direct effects of lack of erotic thoughts were significant only for pleasure ( $-0.20$ ) and satisfaction ( $-0.23$ ).

The results regarding emotional response showed moderate direct effects on sexual dissatisfaction (worry =  $-0.19$ , fear =  $0.27$ , pleasure =  $-0.20$ , satisfaction =  $-0.14$ ). The remaining direct effects proposed in the model (Figure 1) indicated an influence of sexual desire and pleasure as a sin on failure and disengagement thought ( $\beta = 0.77$ ,  $P < .01$ ) and lack of

erotic thought ( $\beta = 0.56$ ,  $P < .01$ ). Overall, the direct effects of this group of predictors explained 38% of the variance in female sexual dissatisfaction in the proposed model (Table 4).

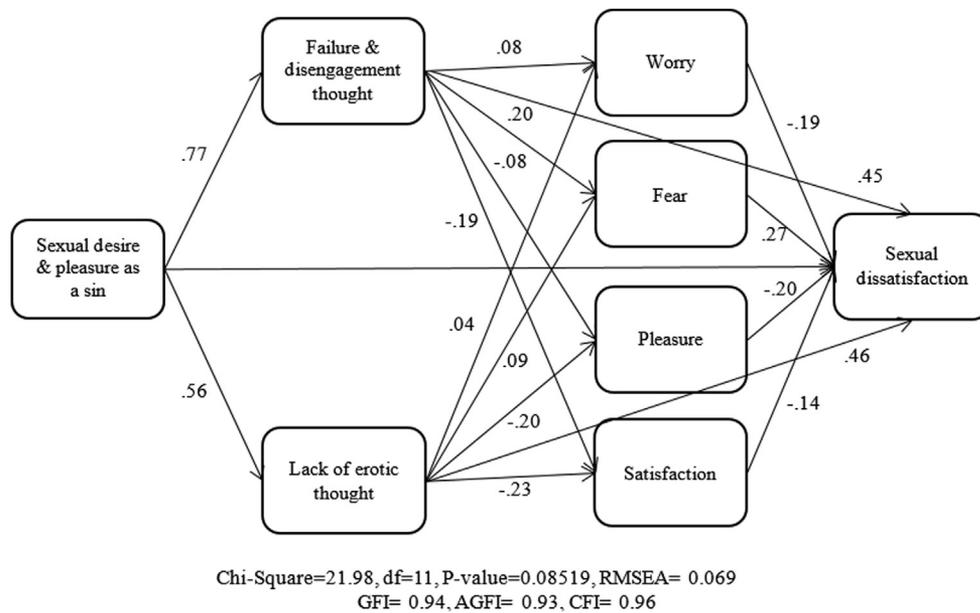
Table 5 presents the fit indices of predicting the sexual dissatisfaction model.

The overall fit of the model was assessed according to several indices: the goodness-of-fit index, adjusted goodness-of-fit index, comparative fit index, normed fit index, non-normed fit index, and root mean square error of approximation. Generally speaking, values higher than 0.90<sup>60</sup> for these indices and values lower than 0.08<sup>61</sup> for the root mean square error of approximation are indicative of optimal model fit. Values at or above 1.0 for the root mean square error of approximation reflect a poor fitting model.<sup>61</sup> Values lower than 5.00<sup>62</sup> for  $\chi^2$ (df) and values higher than 0.90<sup>63</sup> for the comparative fit index are

**Table 4.** Standardized direct, indirect, and total effects in the final model

Predictor	Criterion	Direct effect	Indirect effect	Total effect
Sexual desire and pleasure as a sin	Failure and disengagement thought	0.77*	—	0.77*
Sexual desire and pleasure as a sin	Lack of erotic thought	0.56*	—	0.56*
Sexual desire and pleasure as a sin	Worry	—	0.09	0.09
Failure and disengagement thought		0.08	—	0.08
Lack of erotic thought		0.04	—	0.04
Sexual desire and pleasure as a sin	Fear	—	-0.11	-0.11
Failure and disengagement thought		-0.20*	—	-0.20*
Lack of erotic thought		0.09	—	0.09
Sexual desire and pleasure as a sin	Pleasure	—	-0.17*	-0.17*
Failure and disengagement thought		-0.08	—	-0.08
Lack of erotic thought		-0.20*	—	-0.20*
Sexual desire and pleasure as a sin	Satisfaction	—	-0.28*	-0.28*
Failure and disengagement thought		-0.19*	—	-0.19*
Lack of erotic thought		-0.23*	—	-0.23*
Sexual desire and pleasure as a sin	Sexual dissatisfaction	-0.54*	0.57*	0.03
Failure and disengagement thought		0.45*	-0.06	0.39*
Lack of erotic thought		0.46*	0.01	0.47*
Worry		-0.19*	—	0.30*
Fear		0.27*	—	0.43*
Pleasure		-0.20*	—	-0.25*
Satisfaction		-0.14*	—	-0.39*

\* $P < .01$ .



**Figure 2.** Path diagram of relation between sexual dissatisfaction and the seven predictors. AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; GFI = goodness-of-fit index; RMSEA = root mean square error of approximation.

indicative of good fit. Taken together, the statistics presented in Table 5 indicate a quite reasonable fit of the measurement model to the data. Overall, results from the path analysis confirmed the theoretical model proposed, indicating the influence of various cognitive-affective variables on women's sexual dissatisfaction.

Furthermore, multiple regression analysis (Enter method) using the significant variables in the final path model yielded a significant model ( $F = 16.76, P < .001$ ) accounting for 40% of the variance in sexual dissatisfaction. The standard regression coefficients showed the highest values for sexual desire and pleasure as a sin ( $\beta = -1.31, P < .001$ ), failure and disengagement thought ( $\beta = -1.77, P < .001$ ), lack of erotic thought ( $\beta = 2.62, P < .001$ ), and emotional responses of worry ( $\beta = -1.04, P < .001$ ) and fear ( $\beta = 3.03, P < .001$ ; Table 6).

**DISCUSSION**

These results suggest that cognitive and emotional variables influence sexual dissatisfaction in women.<sup>45,64</sup> The present study suggests that dysfunctional sexual beliefs, automatic thoughts, and emotional responses during sexual activity interfere with women's sexual satisfaction. The model tested using path analysis provides support for the role of cognitive-emotional factors on

women's sexual dissatisfaction. In line with the theoretical model proposed, it was hypothesized that dysfunctional sexual beliefs would act as predisposing factors for sexual dissatisfaction, promoting negative automatic thoughts and emotional responses, impairing the processing of erotic stimuli, and interfering with sexual response and sexual satisfaction. The results of the study confirm the hypothesis and provide support for the model.

Results indicated that women with sexual beliefs related to sexual desire and pleasure as a sin (eg, "Sex is dirty and sinful," "Experiencing pleasure during sexual activity is not acceptable in a virtuous woman") are more likely to report sexual dissatisfaction. This finding corroborates previous studies regarding the role of dysfunctional sexual beliefs in sexual problems.<sup>26,35,43,65</sup>

The findings suggested that sexual beliefs related to sexual desire and pleasure as a sin present a significant direct effect on automatic thoughts. Women with dysfunctional sexual beliefs presented difficulties in processing sexual erotic stimuli during sexual activity (low frequency of erotic thoughts). This lack of

**Table 5.** Fit indices of sexual dissatisfaction model

$\chi^2$ (df)	RMSEA	GFI	AGFI	CFI	NFI	NNFI
21.98	0.069	0.94	0.93	0.96	0.94	0.93

AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; GFI = goodness-of-fit index; NFI = normed fit index; NNFI = non-normed fit index; RMSEA = root mean square error of approximation.

**Table 6.** Main predictors of woman's sexual dissatisfaction: multiple regression analysis (Enter method)

Predictors	B	SE	$\beta$
Sexual desire and pleasure as a sin	-1.31	0.259	-0.490 <sup>†</sup>
Failure and disengagement thought	1.77	0.454	0.392 <sup>†</sup>
Lack of erotic thought	2.62	0.377	0.530 <sup>†</sup>
Worry	-1.04	-0.268	0.244 <sup>†</sup>
Fear	3.037	0.541	0.373 <sup>†</sup>
Pleasure	1.05	0.517	-0.135*
Satisfaction	-1.02	0.514	-0.128*

SE = standard error.  
 \* $P < .05$ ; <sup>†</sup> $P < .001$ .

erotic thoughts evoked negative emotional responses (lack of pleasure and satisfaction) and impaired sexual satisfaction. In contrast, sexual beliefs related to sexual desire and pleasure as a sin promoted failure and disengagement thoughts (“when will this be over?” “I’m only doing this because he asked me to,” “I’m not getting turned on”) and emotional responses of fear and lack of satisfaction (with the latter negatively influencing sexual satisfaction in a direct way).

Dysfunctional beliefs related to sexual desire and pleasure as a sin affect sexual dissatisfaction, but this effect seems to be mediated by failure and disengagement thoughts, lack of erotic thoughts, and, to a certain extent, emotional responses. The present finding supports the conclusion that there is an effect of cognitive factors on female sexuality and on cognitive distraction during sexual activity. Previous studies have shown that lack of erotic thoughts is common in women with sexual dysfunctions.<sup>37,65</sup> Some research has assumed that weak information processing for sexual stimuli creates a lack of erotic thoughts, accompanied by an increased attentional focus on failure and disengagement thoughts.<sup>37</sup> Other studies have indicated that failure and disengagement thoughts and lack of erotic thoughts are the most important predictors of women’s sexual desire,<sup>65</sup> a finding in accordance with those of the present study.

The present findings indicate a significant impact of emotions during sexual activity on sexual functioning and responses. This finding corroborates the findings of previous studies.<sup>37,46,66</sup> In the present study, worry, fear, and lack of pleasure and satisfaction played a central role in sexual dissatisfaction. Previous studies have assessed the effect of emotional responses during sex on specific sexual dysfunctions. For example, the role of fear as one of the main predictors of vaginismus and the roles of sadness, disillusion, guilt, and lack of pleasure and satisfaction as predictors of hypoactive sexual desire are well documented.<sup>37</sup> Negative emotional responses (eg, guilt, sadness, lack of satisfaction) might prompt an inhibitor effect on the sexual response, decreasing desire and sexual satisfaction.

The present study had some limitations. Variables such as psychopathology (eg, depression, anxiety) or medical conditions, which can influence sexual dissatisfaction, were not assessed. In addition, the role of the partner in sexual context was not examined, despite women possibly experiencing changes in sexual satisfaction prompted by their partner’s own sexual dissatisfaction.

Despite these limitations, the present findings support the effect of cognitive-emotional variables on sexual dissatisfaction in women. The present findings have important implications for the assessment and treatment of sexual dissatisfaction. Assessing cognitive and emotional factors related to sexuality would allow a better understanding of the psychological processes in sexual dissatisfaction and would promote the development of better targeted psychological interventions for the treatment of sexual dissatisfaction. In other words, the study points to the importance of increasing the use of cognitive therapeutic strategies in

sexual dissatisfaction related to sexual beliefs, automatic thoughts, and emotions.

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