

Dysfunctional Sexual Beliefs as Vulnerability Factors for Sexual Dysfunction

Pedro J. Nobre

Universidade de Trás-os-Montes e Alto Douro, Portugal

José Pinto-Gouveia

Universidade de Coimbra, Portugal

We investigated the differences in sexual beliefs presented by men and women with sexual dysfunction and their sexually functional counterparts. A total of 488 participants (160 females and 232 males without sexual problems; 47 females and 49 males with a DSM-IV diagnosis of sexual dysfunction) answered the Sexual Dysfunctional Beliefs Questionnaire. Findings showed that, although effects have only reached statistical significance for the female group, both dysfunctional men and women endorsed more sexually dysfunctional beliefs than functional beliefs. Women presented significantly more age-related beliefs (e.g., after menopause women lose their sexual desire; as women age, the pleasure they get from sex decreases) and body image beliefs (women who are not physically attractive can't be sexually satisfied). Additionally, sexually dysfunctional males presented higher scores (not statistically significant) on "macho" belief (a real man has sexual intercourse very often) and beliefs about women's satisfaction (the quality of the erection is what most satisfies women). Overall, findings supported the idea that sexual beliefs play a role as vulnerability factors for sexual dysfunction.

The effect of sexual beliefs and myths on sexual functioning, although it is receiving some attention from clinical studies, has not been submitted to systematic empirical test. Regarding clinical data, Zilbergeld's works deserve a special mention. Zilbergeld (1992, 1999) stated that men with erectile disorders present a set of myths and erroneous beliefs about sexuality that work as a vulnerability factor to the development of their difficulties: "a man always wants and is ready to have sex"; "a real man is sexually functional"; "sex is centered in a rigid penis and what we can do with it"; and "sex equals intercourse." Additionally, Wincze and Barlow (1997) identified a set of sexual myths underlying male sexual dysfunctions with emphasis on excessively high sexual performance beliefs and erroneous ideas about sexual response and women's sexual satisfaction. According to Zilbergeld (1999), a man who presents this set of erroneous beliefs about sexuality is more susceptible to developing catastrophic ideas about the potential consequences of an eventual sexual failure. Confronted with these situations, men with high beliefs in the myths mentioned above usually develop negative ideas about themselves: "I'm less than a man"; "I'm a sexual failure"; or "I will never solve this problem." These beliefs, and the

subsequent negative self-concepts, not only predispose these men to developing sexual difficulties, but also play a central role in maintaining the problem.

Hawton (1985) presented a list of sexual myths conceptualized as predisposing factors to the development of sexual dysfunctions. In addition to the male myths similar to those proposed by Zilbergeld, Hawton called attention to a set of female myths that reflect the double standard: permissive but demanding for men, and repressive for women. The main female sexual myths listed were "any woman who initiates sex is immoral"; "sex must only ever occur at the instigation of the man"; "masturbation is dirty or harmful"; and "it is wrong to have fantasies during intercourse." Kaplan (1979), LoPiccolo and Friedman (1988), and Masters and Johnson (1970) also mentioned conservative beliefs as a common factor to most women with sexual dysfunction. Additionally, Tevlin and Leiblum (1983) indicated primacy of affection over sexual pleasure as a typical belief among sexually dysfunctional women.

Heiman and LoPiccolo (1988), in a work dedicated to orgasmic difficulties, mentioned a set of myths typical of women with sexual dysfunction. The proposed myths not only integrate beliefs related to female sexual conservatism (e.g., "decent women do not become excited with erotic material"; "feminine women do not start any sexual activity"; "vaginal orgasms are more feminine and mature than clitoridian orgasms"), but also include dimensions related to the role of age and physical appearance (e.g., "sex is only for women under 30 years old"; "female sexual life ends with menopause") and beliefs about performance demands ("normal women have orgasm whenever they have sex"; "every women might have multiple orgasms"; "a functional woman can always be excited by her partner"; "something is wrong with a woman if she can't achieve orgasm easily and quickly").

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Address correspondence to Pedro Nobre, Rua Amorim de Carvalho, 97, 4460 Senhora da Horas, Portugal; e-mail: pedro.j.nobre@clix.pt.

The inclusion of sexual beliefs related to female performance demands (usually associated with male sexuality) challenges the supremacy of the sexual double standard. According to Heiman and LoPiccolo (1988), women as well as men suffer from the negative influence of a set of myths related to excessive and erroneous demands for sexual performance.

Empirical studies from Baker and de Silva (1988), Adams et al. (1996), and Byrne and Schulte (1990) also deserve mention. Baker and de Silva, studying the list of myths proposed by Zilbergeld (1978), concluded that males with sexual dysfunction present significantly higher beliefs on these myths compared with a group of sexually functional individuals. Adams and colleagues developed a questionnaire of sexual beliefs and information (SBIQ; Adams et al.) specifically oriented to aging populations. In the same direction as the latter study, this research postulated that high belief in erroneous sexual information and myths would be related to a greater probability of developing further sexual difficulties. However, the authors did not present empirical support for this hypothesis. Additionally, Byrne and Schulte showed that erotophobia (disposition to evaluate and answer with negative affect to a set of sexual stimuli) predisposed individuals to develop sexual difficulties. Research conducted by Barlow and colleagues (Jones, Carpenter, Bruce, & Barlow, 1987; Sbrocco, Weiner, & Barlow, 1992) corroborated the role of erotophobia, indicating that sexually dysfunctional individuals present significantly higher scores on the erotophobia scale compared to sexually functional males (although causation is not clear).

To our knowledge, no empirical studies have tested the validity of theoretical assumptions regarding female sexual dysfunctions. The role of sexually conservative or repressive beliefs, the role of the beliefs related to age and physical appearance, or the role of beliefs related to performance demands in the development and maintenance of female sexual dysfunctions are still to be tested.

We studied the sexual beliefs usually associated with sexual dysfunctions by using the conceptualization proposed by Beck (1996). According to cognitive theory, there are two levels of beliefs: the unconditional beliefs or cognitive schemas—conceptualized as core ideas that we have about ourselves, others, and the world—and the conditional beliefs—ideas usually expressed in an “if . . . then” format. These conditional beliefs are the result of learning processes and life experiences and play a central role in the activation of the cognitive schemas, stipulating the rules or conditions for their inducement (Beck). In this case, sexual beliefs contain rules that define the way subjects assign meaning to sexual events. We hypothesized that whenever a sexual situation fulfils the conditions stipulated by a conditional belief (e.g., conditional belief: “a man who fails to get an erection is a complete failure”; situation: occasional erectile difficulty), a consistent cognitive schema (unconditional belief) would be activated (e.g., “I’m a failure”). Therefore, we expected to find that sexual beliefs

might work as vulnerability factors for the development of sexual dysfunction.

In order to test these hypotheses, we developed measures of sexual beliefs for males and females (Sexual Dysfunctional Beliefs Questionnaire - SDBQ male and female versions; Nobre & Pinto-Gouveia, 2000b), specifically aimed at assessing beliefs assumed to be associated with sexual dysfunction. We expected that sexually dysfunctional participants would present significantly more inadequate sexual beliefs compared to functional participants. Specifically, we expected differences regarding high sexual performance demands, female power over men, and erroneous beliefs about women’s sexual satisfaction in the male sample, and sexually conservative beliefs, body image beliefs, and beliefs regarding the role of age, affection, and motherhood on sexuality in the female sample. We also tested other hypotheses, such as that men with conservative beliefs and restrictive attitudes toward sex are more likely to have erectile dysfunction, since previous data showed no significant relationship between these beliefs and male erectile problems (Nobre & Pinto-Gouveia, 2000a).

METHOD

Participants and Procedure

A total of 488 subjects (207 females and 281 males) participated in the study: a control sample of 392 subjects (160 females and 232 males) and a clinical sample of 96 subjects (47 females and 49 males). Participants from the control sample were recruited in different regions of Portugal by a group of volunteer students from Universidade de Trás-os-Montes e Alto Douro. This group of students collected the sample in their hometowns throughout the country using non-random methods. Participants were contacted directly by the volunteers, who explained the purpose of the study and gave them the questionnaire with instructions.

These subjects were instructed to answer the questionnaires when alone and in the privacy of their homes and then to return them by mail using pre-stamped envelopes. Subjects were not paid for their participation. The control sample was collected between September 2000 and April 2002, and the response rate was 31%. Demographic characteristics are presented in Table 1.

To control for the presence of sexual dysfunction among the control sample, we used the International Index of Erectile Function (IIEF, Rosen et al., 1997) and the Female Sexual Function Index (FSFI, Rosen et al., 2000) to assess the participants’ levels of sexual functioning. Since low scores on the different sexual dimensions assessed by those measures mean lower sexual functioning levels, participants who presented scores below than the cutoffs on the different dimensions assessed by the IIEF and FSFI were excluded. This allowed us to constitute a sample of men and women without sexual dysfunction. The cutoff scores separated men and women with sexual

Table 1. Demographic Characteristics of the Control and Clinical Samples

	Control Sample			
	Female (<i>n</i> = 160)		Male (<i>n</i> = 232)	
Age				
<i>M</i>	30.4		35.8	
Range	18-75		18-79	
<i>SD</i>	11.4		14.3	
	<i>N</i>	%	<i>n</i>	%
Marital Status				
Single	92	58	95	41
Married	54	34	123	53
Divorced	6	4	8	3
Widowed	1	1	1	0
Living together	5	3	4	2
Separated	2	1	1	0
Educational Level				
Analphabet	1	1	0	0
< 4 years	0	0	1	0
4 years	5	3	9	4
5 – 6 years	5	3	5	2
7 – 9 years	6	4	13	6
10 – 12 years	39	25	42	18
13 – 15 years	19	12	18	8
16 or more years	84	53	143	62
	Clinical Sample			
	Female (<i>n</i> = 47)		Male (<i>n</i> = 49)	
Age				
<i>M</i>	28.7		43.0	
Range	19-50		18-67	
<i>SD</i>	6.7		14.4	
	<i>N</i>	%	<i>n</i>	%
Marital Status				
Single	11	23	13	27
Married	30	64	30	61
Divorced	2	4	1	2
Living together	3	6	5	10
Separated	1	2	0	0
Educational Level				
4 years	5	11	19	39
5 – 6 years	5	11	12	25
7 – 9 years	3	6	6	12
10 – 12 years	15	32	11	22
13 – 15 years	5	10	0	0
16 or more years	14	30	1	2

dysfunction from sexually healthy males and females. The following cutoffs were used in the present study: for the male sample, erectile function = 22, sexual desire = 5.2, orgasmic function = 5.9, intercourse satisfaction = 7.7, and overall satisfaction = 6.9; for the female sample, sexual desire = 3.0, sexual arousal = 4.1, lubrication = 4.6, orgasm = 3.8, pain = 4.4, and sexual satisfaction = 3.9. With the exception of erectile function, where the optimal cutoff scores were calculated and published (Cappelleri, Rosen, Smith, Mishra, & Osterloh, 1999), the remaining cutoff scores were based on average values on the different domains of the IIEF (Rosen et al., 1997) and FSFI (Rosen et al., 2000) from samples of subjects without any

history of sexual dysfunction. We calculated the cutoff scores by subtracting one standard deviation from the average on the different domains of sexual function. Male and female subjects with scores below the cutoffs were excluded.

The clinical sample was recruited from the sexology clinic of Coimbra's University Hospital, an outpatient clinic of a central hospital serving the population of Coimbra and its region. Subjects diagnosed with sexual dysfunction using the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) criteria constitute this clinical group. An unpublished structured interview for sexual dysfunctions developed by the clinical staff was used to assign a DSM-IV diagnosis. Participants answered the questionnaire after completing a clinical assessment for sexual dysfunction conducted by a group of trained sex therapists from the sexology clinic of Coimbra's University Hospital. One of the researchers gave an explanation of the purpose of the study and participants signed a consent form. Participants then answered the questionnaire by themselves in a private space and returned them directly to the member of the team present.

Participants took an average of 40 minutes to answer the questionnaires. Erectile disorder (70%) and premature ejaculation (25%) were the most common principal diagnoses in the male sample, while hypoactive sexual desire (38%), vaginismus (24%), and orgasmic disorders (20%) were the main female complaints. A total of 21 subjects (43%) from the female sample and 9 subjects (18%) from the male sample presented additional clinical diagnoses (secondary diagnosis). We recruited the clinical sample between September 2000 and December 2001, and the response rate was 95%.

Materials

The International Index of Erectile Function (IIEF). The IIEF (Rosen et al., 1997) is a 15-item, 5-point Likert-type, self-administered measure assessing different areas of male sexual functioning. A principal component analysis identified five factors: erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. Psychometric studies supported the validity (significant mean score differences between a clinical and a control group) and reliability (Cronbach's alpha values of .73 and higher and test-retest from $r = .64$ to $r = .84$) of the measure. Studies with clinical samples demonstrated its sensitivity and specificity for detecting treatment-related changes (Rosen et al., 1997). The measure allows the calculation of specific indices for each dimension as well as a total sexual function index (calculated through the sum of the specific dimensional indices), with higher scores indicating greater levels of sexual functioning (sexual desire: 2-10, erectile function: 1-30, orgasmic function: 0-10, intercourse satisfaction: 0-15, overall satisfaction: 2-10, total: 5-75).

The Female Sexual Function Index (FSFI). The FSFI (Rosen et al., 2000) is a 19-item, 5-point Likert-type scale,

easily administered and scored and providing detailed information on the major dimensions of sexual function. A principal component analysis identified six factors: sexual interest/desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and sexual pain. The measure presented acceptable test-retest reliability ($r = .79$ to $r = .86$), internal consistency (Cronbach's alpha values of .82 and higher), and validity (demonstrated by significant mean difference scores between a clinical and a control group; Rosen et al., 2000). The measure allows the calculation of specific indices for each dimension, as well a sexual function index (calculated through the sum of the specific dimensional indices), with higher scores indicating greater levels of sexual functioning (desire: 1.2-6, arousal: 0-6, lubrication: 0-6, orgasm: 0-6, global satisfaction: 0.8-6, pain: 0-6, total: 2-36).

Sexual Dysfunctional Beliefs Questionnaire (SDBQ). The SDBQ (Nobre & Pinto-Gouveia, 2000b) is a 40-item questionnaire assessing specific stereotypes and beliefs presented in the clinical literature as predisposing factors to the development of male and female sexual dysfunctions (Hawton, 1985; Heiman & LoPiccolo, 1988; Zilbergeld, 1992, 1999). The questionnaire presents a male and a female version, each assessing specific gender-related beliefs. The subjects are asked to identify the degree of concordance, from 1 (*completely disagree*) to 5 (*completely agree*), with 40 statements regarding diverse sexual issues.

Psychometric studies have supported the reliability and validity of the questionnaire (Nobre, Pinto-Gouveia, & Gomes, 2003). Test-retest reliability for both male and female versions indicated statistically significant correlations ($p < .05$) for the total scale ($r = .73$ and $r = .80$, respectively) between two consecutive administrations of the questionnaires with a four-week interval. Cronbach's alpha of .93 for males and .81 for females supported the moderate to high internal consistency of the questionnaires. Convergent validity indicated that the SDBQ correlated moderately with measures that assess similar concepts (Sexual Beliefs and Information Questionnaire—SBIQ, Adams et al., 1996; Dysfunctional Attitudes Scale—DAS, Weissman & Beck, 1978).

Both male and female versions of the SDBQ were submitted to factor analysis (Nobre et al., 2003). A principal component analysis with Varimax rotation of the female version identified six factors accounting for 43% of the total variance:

Sexual conservatism: Coitus is the central aspect of human sexuality, and masturbation, oral sex, and anal sex are seen as deviant and sinful activities. Women play a passive, receptive sexual role, with virginity being an important value for non-married women.

Sexual desire and pleasure as a sin: Sex is a male activity, and women must control their sexual urges and pleasure since these are sinful experiences.

Age-related beliefs: Sexual desire, pleasure, and orgasm decrease with age, especially after menopause.

Body image beliefs: Body image is a central aspect of

female sexuality.

Denying affection primacy: Affection, love, and agreement between partners constitute the central aspect of human sexuality. Since most items in this factor presented negative loadings, higher factor scores signify lower affection primacy.

Motherhood primacy: Motherhood activities are the most important female pleasure, and procreation is the main goal of any sexual experience (see Table 2).

The principal component analysis with Varimax rotation of the SDBQ male version identified six factors that accounted for 49% of the total variance (Nobre et al., 2003):

Sexual conservatism - coitus/procreation primacy: Sex before marriage is unacceptable, and sex has to be quick, directed to coitus, without foreplay, with man on top, and serving procreative goals.

Table 2. Female SDBQ Subscales and Items

Sexual conservatism
2. Masturbation is wrong and sinful
4. The best gift woman could bring to marriage is her virginity
7. Masturbation is not a proper activity for respectable women
13. Reaching climax / orgasm is acceptable for men but not for women
14. Sexual activity must be initiated by a man
17. Orgasm is possible only by vaginal intercourse
27. Sexual intercourse during menstruation can cause health problems
28. Oral sex is one of the biggest perversions
32. Anal sex is a perverted activity
Sexual desire and pleasure as a sin
15. Sex is dirty and sinful
34. Sex should happen only if a man initiates
35. There is just one acceptable way of having sex (missionary position)
36. Experiencing pleasure during sexual activity is not acceptable in a virtuous woman
37. A good mother must control her sexual urges
39. A woman who only derives sexual pleasure through clitoral stimulation is sick
Age-related beliefs
5. After menopause women lose their sexual desire
6. Women who have sexual fantasies are perverted
8. After menopause women can't reach orgasm
11. In the bedroom the man is the boss
20. As women age, the pleasure they get from sex decreases
Body image beliefs
10. Women who are not physically attractive can't be sexually satisfied
12. A good mother can't be sexually active
38. An ugly woman is not capable of sexually satisfying her partner
40. Pure girls don't engage in sexual activity
Affection primacy
1. Love and affection from a partner are necessary for good sex
3. The most important component of sex is mutual affection
18. The goal of sex is for men to be satisfied
22. Sex is a beautiful and pure activity
23. Sex without love is like food without flavor
24. As long as both partners consent, anything goes
Motherhood primacy
26. Sex is meant only for procreation
30. Being nice and smiling at men can be dangerous
31. The most wonderful emotions that a woman can experience are maternal
33. In the bedroom the woman is the boss

Female sexual power/need for sexual control: Female sexual power can be dangerous, and if men don't control their sexual urges, they will fall under women's power.

"Macho" belief: Men should always be ready for sex, should satisfy all women, and should maintain an erect penis until the end of any sexual activity.

Beliefs about women's sexual satisfaction: It is important to satisfy female partners, and penile erection and vaginal coitus are necessary conditions to satisfy women sexually.

Restricted attitude toward sexual activity: Sexual fantasies, oral sex, and anal sex are unhealthy or incorrect experiences.

Sex as an abuse of men's power: Sex is an act of violation or abuse of woman's body by a male (see Table 3).

RESULTS

Female Sexual Beliefs and Sexual Dysfunction

In order to study the relationship between sexual beliefs and female sexual functioning, we performed a multivariate analysis of covariance (MANCOVA) using sexual functioning (1 = clinical group, 2 = control group) as the independent variable and the scores on the six dimensions of the female SDBQ as dependent variables. We included the demographic variables—age, marital status, and educational level—in the analysis as covariables to control their effect on the dependent variables (age—Wilks's Lambda = 0.228, $F [228, 1,202] = 1.49, p < .001$; marital status—Wilks's Lambda = 0.788, $F [24, 811] = 2.39, p < .001$; educational level—Wilks's Lambda = 0.467, $F [30, 930] = 6.50, p < .001$). After we controlled for the effect of the demographic variables, the multivariate test indicated a statistically significant effect for sexual functioning (clinical group / control group; Wilks's Lambda = 0.874, $F [6, 154] = 3.69, p < .01$).

As Table 4 shows, the effect of sexual functioning was statistically significant for age-related beliefs ($p < .01$) and body image beliefs ($p < .05$), as well as for the SDBQ total score ($p < .05$). Specifically, sexually dysfunctional females presented significantly higher scores on these SDBQ dimensions in comparison to functional women (despite low to moderate effect sizes—eta squared between .07 and .04). It is also interesting to note that the difference between the two groups regarding the belief of sexual desire and pleasure as a sin approached statistical significance ($p = .08$). No significant differences were found for the remaining beliefs (sexual conservatism, denying affection primacy, and motherhood primacy).

To confirm these results and investigate the individual contribution of each sexual belief dimension in differentiating females with and without sexual dysfunction, we performed a discriminant analysis. The six dimensions of the SDBQ (standardized by age, marital status, and educational level) were used as discriminant variables, and sexual functioning was used as the criterion variable. The discriminant analysis produced a statistically significant

Table 3. Male SDBQ Subscales and Items

Sexual conservatism
2. Orgasm is possible only by vaginal intercourse
5. Women have no other choice but to be sexual subjects
9. A shorter duration of intercourse is a sign of man's power
18. In sex anything but vaginal intercourse is unacceptable
21. Vaginal intercourse is the only legitimate type of sex
24. Foreplay is a waste of time
25. Sex is meant only for procreation
26. In sex, the quicker/faster the better
32. There is only one acceptable way of having sex (missionary position)
33. Sexual intercourse before marriage is a sin
Female sexual power
11. The consequences of a sexual failure are catastrophic
15. In bed the woman is the boss
19. A woman's body is her best weapon
27. People who don't control their sexual urges are more easily controlled by others
29. If a man lets himself go sexually, he is under a woman's control
38. A real man doesn't need much stimulation to reach orgasm
39. A woman at her sexual peak can get whatever she wants from a man
40. The greater the sexual intimacy, the greater the potential for getting hurt
"Macho" belief
1. A real man has sexual intercourse very often
4. Homosexuality is a sickness
6. A real man must wait the necessary amount of time to satisfy a woman sexually
17. In sex, getting to the climax is most important
28. A real man is always ready for sex and must be capable of satisfying any woman
31. A man must be capable of maintaining an erection until the end of any sexual activity
37. Sex can be good even without orgasm
Beliefs about women's sexual satisfaction
3. Penile erection is essential for a woman's sexual satisfaction
7. A woman may have doubts about a man's virility when he fails to have an erection
16. Men who are not capable of penetrating women can't satisfy them
35. A man who doesn't sexually satisfy a woman is a failure
36. Whenever a situation arises, a real man must be capable of penetration
Restrictive attitude toward sex
8. Repeated engagement on oral/anal sex can cause serious health problems
12. Women only pay attention to attractive, younger men
13. It is not appropriate to have sexual fantasies during sexual intercourse
30. Anal sex is a perverted activity
Sex as an abuse of men's power
10. Sex is an abuse of men's power
22. The quality of the erection is what most satisfies women
34. Sex is a violation of a woman's body

function (Wilks' Lambda = 0.818, $\chi^2 [6] = 14.46, p < .05$), confirming the capacity of the sexually dysfunctional beliefs to distinguish sexually dysfunctional females from their functional counterparts. A canonical correlation coefficient of $r = .43$ between the linear combination of the discriminant variables and the criterion variable supported the moderate discriminating power of the discriminant function.

The correlations between each of the predictive variables and the discriminant function showed that age-related beliefs ($r = .81$) constitute the dimension that best dis-

Table 4. Female Dysfunctional Sexual Beliefs as a Function of Sexual Functioning (clinical group/control group): Univariate ANCOVA

SDBQ Dimensions	Group				<i>F</i> (1, 159)	<i>p</i>	<i>eta squared</i>
	Clinical (<i>n</i> = 37)		Control (<i>n</i> = 127)				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
F1 Sexual conservatism	16.11	6.61	13.42	4.22	2.24	.137	.014
F2 Sexual desire as a sin	6.81	3.48	5.41	1.36	3.13	.079	.019
F3 Age-related beliefs	8.76	2.99	6.50	2.34	12.15**	.001	.071
F4 Body image beliefs	6.49	3.38	5.07	1.78	5.78*	.017	.035
F5 Denying affection primacy	9.11	3.63	8.69	2.65	0.12	.731	.001
F6 Motherhood primacy	7.16	2.64	6.91	2.31	0.23	.630	.001
Total	45.32	13.85	37.31	8.13	6.63*	.011	.040

Note. Higher scores indicate stronger beliefs on the different questionnaire dimensions.
p* < .05 *p* < .01 ****p* < .001

tinguished sexually dysfunctional from functional women. Besides this dimension, body image beliefs (*r* = .58), beliefs about sexual desire and pleasure as a sin (*r* = .41), and sexually conservative beliefs (*r* = .37) also presented some discriminating power. On the other hand, motherhood beliefs and denying of affection primacy showed a reduced or even null differentiation power (see Table 5).

The means of the clinical (.48) and control (-.45) groups indicated a positive positioning of the sexually dysfunctional women in the discriminant function characterized by dysfunctional beliefs. The classification analysis revealed that 68% of the cases were correctly classified by the discriminant function (68% in the clinical group and 70% in the control group).

Male Sexual Beliefs and Sexual Dysfunction

For the male sample, data from the multivariate analysis of covariance (MANCOVA), using the scores on the SDBQ six dimensions as dependent variables and the demo-

Table 5. Correlations Between Male and Female SDBQ Dimensions and Discriminant Function Scores (n = 100)

Female Sample	
	Discriminant Function
F3 Age-related beliefs	.813
F4 Body image beliefs	.577
F2 Sexual desire/pleasure as a sin	.408
F1 Sexual conservatism	.363
F6 Motherhood primacy	-.098
F5 Denying affection primacy	.034
Male Sample	
	Discriminant Function
F3 "Macho" belief	.746
F4 Beliefs about women's satisfaction	.709
F2 Female sexual power	.356
F1 Sexual conservatism	.304
F6 Sex as an abuse of men's power	-.079
F5 Restrictive attitude toward sex	.047

Note. Variables are ordered by size of correlation within function.

graphic variables age, marital status, and educational level as covariables, controlling their effect on the dependent variables (age = 0.188, *F* [306, 1,124] = 1.19, *p* < .05; marital status = 0.854, *F* [24, 821] = 1.58, *p* < .05; educational level—Wilks' Lambda = 0.577, *F* [30, 930] = 4.56, *p* < .001), were not significant (Wilks' lambda = 0.984, *F* [6, 225] = 0.60, *p* = .73).

Univariate statistics confirmed the multivariate analysis, indicating no statistically significant difference between the two groups in all dimensions of the SDBQ (see Table 6).

The discriminant analysis, using the six dimensions of the SDBQ (standardized by age and educational level) as discriminant variables and sexual functioning as the criterion variable, produced a non-statistically significant function (Wilks' Lambda = 0.931, Chi-squared [6] = 4.97, *p* = .55). A canonical correlation coefficient of *r* = .26 between the linear combination of the discriminant variables and the criterion variable confirmed the weak discriminating power of the discriminant function. The analysis of the individual contribution of the SDBQ dimensions for the distinction between clinical males (dysfunctional) and control males (dysfunctional) showed that "macho" beliefs (*r* = .75) and beliefs about women's satisfaction (*r* = .71) were the most important discriminators, presenting the highest correlations with the discriminant function (see Table 5).

The means of both groups in the discriminant function indicated that, whereas sexually dysfunctional participants presented a positive mean (0.24), functional subjects presented negative mean scores (-0.30), demonstrating the higher dysfunctionality of the beliefs presented by the clinical group (positive positioning in a function characterized by dysfunctional beliefs). The classification analysis revealed that 69% of the cases were correctly classified by the discriminant function (69% in the clinical group and 70% in the control group). This finding indicates that, despite the lack of statistical significance, the sexually dysfunctional beliefs presented a moderate power to distinguish males with and without sexual dysfunction.

Table 6. Male Dysfunctional Sexual Beliefs as a Function of Sexual Functioning (clinical group/control group): Univariate ANOVA

SDBQ Dimensions	Group				<i>F</i> (1, 230)	<i>p</i>	<i>eta squared</i>
	Clinical (<i>n</i> = 40)		Control (<i>n</i> = 195)				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
F1 Sexual conservatism	16.20	6.54	11.77	4.40	.007	.935	.000
F2 Female sexual power	19.88	4.80	17.15	5.06	.261	.610	.001
F3 "Macho" belief	15.90	4.54	11.35	4.23	.622	.431	.003
F4 Beliefs about women's satisfaction	15.65	4.92	12.07	4.22	.395	.530	.002
F5 Restrictive attitude toward sex	7.60	3.23	6.01	2.73	.200	.655	.001
F6 Sex as an abuse of men's power	3.33	1.62	2.65	1.36	.996	.319	.004
Total	78.55	18.81	61.00	16.51	.000	.984	.000

Note. Higher scores indicate stronger beliefs on the different questionnaire dimensions.

DISCUSSION

Data from this study partially supported the importance of sexual beliefs as vulnerability factors for the development of sexual dysfunctions. Data showed that sexually dysfunctional females, besides presenting higher scores on the sexual beliefs total scale, also presented significantly more age-related and body image beliefs. In general, dysfunctional women endorsed the belief that the aging process, mainly after menopause, implies the decrease of desire and sexual pleasure. Some examples of these beliefs are "After menopause, women lose their sexual desire"; "As women age, the pleasure they get from sex decreases"; and "After menopause, women can't reach orgasm."

The importance of body appearance as a central factor for sexual success and satisfaction was another distinctive characteristic of dysfunctional women. An example of these beliefs is "Women who are not physically attractive can't be sexually satisfied." Besides these statistically significant differences, women with sexual dysfunction also presented more sexually conservative beliefs and beliefs about sex and pleasure as a sin. That differences between the two groups in these dimensions were not statistically significant might be due to the heterogeneity of the clinical sample. It could be that conservative beliefs and beliefs about sex as a sin are specifically associated with some but not all sexual dysfunctions. Recent data seems to support this hypothesis, showing that these dimensions are significantly related to sexual desire disorders, but not to orgasm or pain disorders, while age-related beliefs seem to be associated with both desire and pain disorders (Nobre, 2003; Nobre & Pinto-Gouveia, 2004). In general, these results supported some etiological hypotheses about female sexual dysfunction presented in the clinical literature (Hawton, 1985; Heiman & LoPiccolo, 1988; LoPiccolo & Friedman, 1988; Kaplan, 1979; Masters & Johnson, 1970). On the other hand, beliefs about motherhood and affection primacy, contrary to some etiological hypotheses (Tevlin & Leiblum, 1983), did not differentiate clinical and control females. Data from our study showed similar scores for both groups on these two beliefs.

That the male studies did not present consistent significant differences between the clinical and the control groups might be due to several factors. The heterogeneity of the clinical sample mentioned above is one possible explanation. For example, we hypothesize that "macho" beliefs and beliefs about women's sexual satisfaction are more strongly associated with erectile disorders than with other male disorders. Ongoing research on sexual beliefs according to specific male sexual dysfunction might shed some light on this issue.

A more general explanation is that having erroneous sexual beliefs does not guarantee sexual dysfunction. A man's belief that he must perform whenever and wherever or that a woman will leave him if he is incapable of having an erection does not make him dysfunctional. The development of a sexual dysfunction is not directly dependent on the presence of specific sexual beliefs, but on the fact that when exposed to sexual situations for which the belief system presents negative and catastrophic interpretations, subjects activate strong negative cognitive self-schemas. Further difficulties depend on this interaction between beliefs and sexual events. As previously mentioned, Beck (1996) conceptualized conditional beliefs as rules presented in a "if . . . then" format that stipulate conditions for the activation of specific cognitive schemas. In the example presented above, a man who presents the conditional sexual belief "A man who doesn't get a firm and rigid erection is a failure" will tend to react in a more negative way if, on a certain sexual occasion, his erection does not show the usual firmness or rigidity. In this case, his sexual beliefs might work as interpretative lenses, magnifying the negative aspects of the sexual experience and making him vulnerable to develop further sexual difficulties. Research assessing the interaction among sexual beliefs, activation of cognitive schemas to negative sexual events (Nobre, 2003), and automatic thoughts and emotions during sexual activity (Nobre, 2003; Nobre & Pinto-Gouveia, 2003, in press) seems to support these hypotheses.

It should, however, be recognized that sexual beliefs and other cognitive variables are only a small, although important, aspect of the multiple factors implicated in sexual problems. Future research, especially using longitudi-

nal studies and controlling medical and relationship factors, should test the predictive power of sexual beliefs on sexual dysfunctions.

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