

ORIGINAL ARTICLE

Predictors of body appearance cognitive distraction during sexual activity in a sample of men with ED

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Our aim is to scrutinize the extent to which aspects of body dissatisfaction and relationship variables predict body appearance cognitive distraction during sexual activity (BACDSA) in a sample of men diagnosed with ED. A total of 65 heterosexual Portuguese participants with ED completed a survey that included questions on socio-demographic data as well as body-related and relationship measures. We used the Global Body Dissatisfaction (GBD) Subscale of the Body Attitudes Test; a version of the Contour Drawing Rating Scale; a single item on partner's opinion perceived about one's body appearance; the Global Measure of Relationship Satisfaction; and the Inclusion of Other in Self Scale. Open questions assessed focus on specific body parts during sexual activity and relationship length. Hierarchical multiple regression indicated that only GBD was a significant predictor of BACDSA, contrary to the relationship measures that showed no significant predictive effect ($R^2 = 0.47$). Our results support the important role of individual factors on explanatory models of sexual dysfunctions, suggesting that interventions addressing individual factors that affect BACDSA may be of preference.

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INTRODUCTION

In the past decades, research in the field of ED has established that mostly organic and psychogenic are not dichotomous categories. A multidisciplinary assessment is necessary for successful medical or psychological treatment planning. Within the psychological approach, cognitive structures are well-established factors responsible for the etiology as well as maintenance of erectile problems. The current study focuses on predictors of body appearance cognitive distraction (BACD), a specific type of cognitive distraction, whose study is still in its infancy.

The concept of cognitive distraction during sexual activity (CDSA) evolved from Masters and Johnson's¹ idea of spectating, that is, the process of intense self-focus during sexual interactions that causes sexual problems due to distraction from the experience of erotic sensation. In the 1980s, Barlow² proposed a working model for the diagnosis of sexual dysfunction according to Diagnostic and Statistical Manual of Mental Disorders (DSM) or International Classification of Diseases criteria, which discern the role of anxiety on men's erectile problems: His working model was based on a review of the state of the art on both theoretical developments and empirical evidence. Barlow states that anxiety is necessary for sexual response, but this effect is moderated by the content of cognitive interference. These models have integrated empirical findings, sustaining that erectile dysfunction and CDSA can lead to sexual problems because it distracts men from erotic sensations. Unrealistic beliefs as well as negative expectations result in specific emotional states characterized by high levels of anxiety associated with the self-monitoring of sexual behavior and response during sexual activity, especially arousal.³ Existing studies examining various attentional states support that cognitive distraction is more salient in diminishing arousal, that is, self-generated distracting thoughts reduce physiological

arousal.^{4,5} Barlow's model has been empirically validated,^{6,7} and it is currently well established that, according to cognitive models, CDSA is a central explanatory process of sexual dysfunctions, especially ED^{2,8,9} in both heterosexual and homosexual men.¹⁰ Cognitive distraction during sexual activity can focus on a variety of concerns and reflects two main thematic areas of concern: performance and body appearance.^{11,12} Recent research has found that men report performance-related thoughts more frequently than women, whereas women report body appearance-related thoughts more frequently than men.¹³ Body appearance concerns have a negative impact on sexuality due to processes of BACD. BACD is the attention to body appearance-related negative thoughts during sexual activity (BACDSA). Researchers have found that BACD negatively affects sexual esteem, sexual assertiveness, sexual pleasure and arousal, orgasm and sexual satisfaction.^{14–16} However, there is limited research on the factors that contribute to BACDSA. BACDSA is a specific type of cognitive distraction that has rarely been studied in male samples.^{12,17,18} In their influential study with a college sample of both genders, Meana and Nunnink¹⁷ ascertained that, among other factors, negative perceptions of one's body appearance jointly with a nonexistent intimate relationship were significant predictors of self-reported BACDSA in men. BACDSA remains understudied in men.^{12,17,18} A closer look at which specific body dissatisfaction and relationship variables are predictors of BACDSA remains understudied. These variables were recently studied in a community sample of cohabiting men and women.¹⁹ The study by Pascoal *et al.*¹⁹ established that the role of frequency of body dissatisfaction and focus on body parts (FBP) during sexual activity are important body-related predictors of BACDSA. However, results about the role of relationship factors as predictors of BACDSA were inconclusive. In order to contribute to a better understanding of the effect of body dissatisfaction and

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relationship variables on BACDSA in a sample of men diagnosed with ED, we developed an exploratory study using the same set of variables that Pascoal *et al.*¹⁹ used in their previous study on a community sample: (a) body-related variables—level of body dissatisfaction, frequency of body dissatisfaction, discrepancy between ideal and perceived body image, FBP; and (b) relationship variables—relationship satisfaction, relationship length, closeness and satisfaction with the perception of partners' opinion about one's body image.

Aims

In line with previous exploratory research by Pascoal *et al.*¹⁹ and in order to better understand the effect of body dissatisfaction and relationship variables on BACDSA, we developed an exploratory descriptive study using self-reported measures with a sample of heterosexual men diagnosed with ED.

Based on previous research,¹⁹ we established the following hypothesis regarding body factors: (1) the body dissatisfaction measures will not show a strong relation, considering that they measure different aspects of the same construct; (2) frequency of body dissatisfaction will be a significant predictor of BACDSA; and (3) FBP will be a significant predictor of BACDSA. We expect to view the null hypothesis confirmed and that discrepancy between ideal body image and perceived body image will not significantly predict BACDSA, as this was the result in the original study.¹⁹ Because of inconclusive results in previous original research,¹⁹ we will also explore if and which relationship variables under study predict BACDSA.

METHODS

Participants

A total of 65 male participants with ED took part in this study. The participants were mainly from the Greater Lisbon Area ($N=44$; 67.7%). The participants' mean age was 39.97 years ($s.d.=12.60$, age range: 52). All the participants were cohabiting, of which 34 (52%) were married and 31 (48%) lived in common law relationships. The mean duration of marriage was 16.76 years ($N=34$; $s.d.=12.91$; range: 2–46), while the mean duration of common law relationships was 3.75 years ($N=31$; $s.d.=3.28$; range: 1–8). The sample was highly educated with 41 participants (63.1%) having at least an undergraduate degree and 24 (36.9%) being undergraduate college students.

Measures

General questionnaire. The survey included a socio-demographic questionnaire and questions related to sexual issues (for example, sexual orientation; perceived or actual sexual problems; menopause, pregnancy and breastfeeding status).

Predictors

Body dissatisfaction predictors: Body dissatisfaction. The Global Body Dissatisfaction Scale (GBD),²⁰ a four-item subscale of the Body Attitudes Test, was used. It is a general measure of body dissatisfaction based on the frequency of negative perceptions, behaviors and feelings about one's own body. Participants rate their answers on a six-point Likert scale (ranging from 1 'never' to 6 'always'), achieving total scores varying between 4 and 24 points (higher levels of body dissatisfaction). The GBD has presented good reliability and validity.^{12,20} The global scale showed good factorial, convergent and divergent validity in previous studies with Portuguese samples^{21,22} and this subscale presented a good Cronbach's alpha ($CA=0.81$) and average inter-item correlation ($AICC=0.53$) in previous studies with three distinct samples.²³ The current study present a $CA=0.82$ and $AICC=0.54$.

Discrepancy between the ideal and perceived body image. The discrepancy was assessed with the Body Image Perception Scale, a version of the Contour Drawing Rating Scale,²⁴ in which participants are presented silhouettes of the human body and are required to match their ideal and actual body image. Body dissatisfaction exists when there is a difference between the idealized body image and the perception of actual body image. In order to overcome limitations on the silhouette scales (for a

review on the limits and advantages, see Gardner and Brown²⁵), we used a version that introduce the following modifications to the original measure: (a) 10 silhouettes instead of 9 in order to increase the range of the original scale and to avoid the tendency to choose the central figure; (b) dark-haired figures instead of blond figures to overcome ethnicity bias and to make the figures more characteristic of the majority of the Portuguese population; and (c) a progression in body volume in the direction of the apple figure for men to represent more precisely the general trend of fat. This measure showed good test-retest reliability in a Portuguese sample of men.²⁶

Focus on body parts. FBP during sexual activity was measured with two questions: one closed and one open. Participants were asked if they were worried about the negative appearance of specific body part(s) during sexual activity. In the case of a positive answer, the participants were requested to name this part(s) in an open-ended question. The current study results support previous research, showing that one-third of men focus on specific body parts during sexual activity and among these the abdomen is the main focus of concern.¹⁹

Relationship predictors: Length of relationship. We assessed the duration of the relationship through the question: 'How many years have you been involved in this relationship?'

Perception of partner's opinion. The participants' satisfaction with the opinion that they perceive that their partners have about their body (Perception of Partner's Opinion) was measured with an item belonging to the Evaluation Scale of Marital Life Areas Satisfaction, a 44-item scale regarding various areas of marital satisfaction.²⁷ The item ('The opinion of my partner about my physical appearance') is rated on a Likert scale from 1 ('not satisfied') to 6 ('completely satisfied').

Global Relationship Satisfaction. Relationship satisfaction was assessed with the Global Measure of Relationship Satisfaction.²⁸ Current relationship was rated on five bipolar items using a seven-point Likert scale. Total scores vary between 7 and 35. Higher scores indicate higher satisfaction. The scale has presented good reliability and validity²⁹ also across three large Portuguese samples.³⁰ In the current study, the values were $CA=0.97$ and $AICC=0.86$.

Closeness. The Inclusion of Other in Self Scale (IOS)³¹ was used to assess the closeness within close relationships. The IOS is a single-item scale consisting of seven Venn diagrams portraying different levels of closeness. Each diagram is scored on a seven-point Likert scale from a value of 1 (less proximity) to 7 (most proximity). The IOS has been shown to have good convergent validity with other measures of closeness and intimacy³¹ and has been used as a valid measure of closeness in couples' studies with Portuguese samples (for example, Crespo *et al.*³²).

Outcome variables

Body appearance cognitive distraction. This outcome variable was evaluated with the Body Appearance Cognitive Distraction Scale (BACDS), a subscale of the Cognitive Distraction Scale.¹² The BACDS is a 10-item scale that evaluates body-appearance-related cognitive distraction during sexual activity. Participants rate their answers on a six-point Likert scale (ranging from 0 'never' to 5 'always') achieving total scores ranging from 0 to 50, with higher scores indicating higher cognitive distraction. It revealed good reliability in the original study with a female sample ($\alpha=0.95$) and in subsequent studies with samples of men and women.^{12,17,33} The Cognitive Distraction Scale showed good psychometric properties in a large Portuguese sample ($N=293$) with $CA=0.91$ and $AICC=0.50$, and the factorial validity of the original one-dimensional structure of the scale was confirmed through factorial analysis, for example (see refs 21,34–36). In the current study, the scale presented $CA=0.93$ and $AICC=0.58$.

Procedure

Succeeding institutional approval from the ethical board of the institutions involved, the survey was pilot tested for face validity, comprehension and length with a sample of 30 college students. Afterwards, the clinical sample was recruited at the Sexology Clinic at the Psychology of Health Unit of the Faculty of Psychology at the University of Lisbon, at the Sexology Unit of a Public Psychiatric Hospital in Lisbon and at the private practice of certified sexual therapists. A total of two urologists and two psychologists working in multidisciplinary teams both at the private and public clinical settings. Participants were aged >18 years and were in a heterosexual, cohabitating and committed relationship. All participants were initially evaluated by one urologist. The urologists confirmed a DSM-IV-TR³⁷ diagnosis of ED after completing medical assessment. Patients with a medical condition

Table 1. Pearson correlations (zero order) between predictor and outcome variables ($N=65$)

Variables	1	2	3	4	5	6	7	8
1	—	0.67**	0.07	-0.10	-0.15	-0.14	-0.08	-0.16
2		—	0.05	-0.34**	-0.17	-0.23	-0.22	-0.31*
3			—	-0.01	0.18	-0.30*	-0.14	-0.04
4				—	-0.34**	0.21	0.17	0.21
5					—	-0.18	0.07	-0.03
6						—	0.74**	0.58**
7							—	0.67**
8								—

* $P < 0.05$, ** $P < 0.01$. Variables: 1, Body Appearance Cognitive Distraction Scale (BACDS); 2, Global Body Dissatisfaction (GBD); 3, Focus on Body Parts; 4, Discrepancy (BIPS); 5, Relationship Length; 6, Relationship Satisfaction (GMREL); 7, Inclusion of the Other in Self (IOS); 8, Satisfaction with Perception of Partner's Opinion (PPO).

associated with ED (for example, hypertension, diabetes mellitus, problems in renal function and hormone levels not within the expected parameters) were not eligible for the study. Eligible patients who were diagnosed with ED were referred to sex therapy. In their first sex therapy appointment, eligible patients were approached by the clinician about volunteer participation in the study and given an option to decline. Those who accepted were directed to a distinct room where a member of the research team explained the purpose of the study. A consent form was signed, and no personal identification data were collected. Volunteers were asked to take the survey home and deliver it in the following appointment inside a closed enveloped addressed to the main researcher. A guarantee of anonymity and confidentiality was included, as well as information about the average duration of the survey, a description of the inclusion and exclusion criteria, a statement confirming the lack of financial or any other type of compensation for the participants, the contact information for the principal investigator, information about the approval of the study by the Board of Ethics and information about the sources of funding. The total length of time required to complete the survey was, on average, 33 min. The drop-out rate was 10%.

Data analysis

The final sample had 65 participants. In order to examine the predictors of BACDSA, we used hierarchical regression analysis. The assumptions required for the use of linear regression were evaluated. As FBP is a dichotomous variable, it was coded as 0.5 for the category of non-existence of a FBP, and it was coded as 0.5 for the existence of a FBP. This coding procedure allows the variable to be considered as any other non-categorical variable.³⁸ The entry order of each set of factors was guided by theory.³⁹ The first set of variables entered comprised the body-related individual variables associated with the outcome variable, the second set of variables included relationship variables that have been neglected by previous research in the field. Entry method was used at each step. In Step 1, one set of body dissatisfaction indicators was evaluated (frequency of global dissatisfaction, discrepancy between the ideal image and the perceived present image and the FBP during sexual activity), and in Step 2, another set of four relationship measures was evaluated (relationship length, overall relationship satisfaction, closeness and satisfaction with perceived opinion of the participant's partner regarding the body appearance of the participant). We did not use Bonferroni correction for the alpha levels, because our study was exploratory and it is a conservative correction that might increase the probability of a type II error. The sample was inspected for outliers, and these were deleted whenever they were found. Missing values were deleted pairwise. The CA, AICC, Pearson's correlations and hierarchical multiple regression analyses were executed using SPSS version 19 (SPSS, Chicago, IL, USA).

RESULTS

Intercorrelations among measures

The Pearson product-moment correlation coefficients were computed among all the variables under study before the regression analysis. Closeness had a strong positive correlation with relationship

Table 2. Predicting BACDS from body and relationship variables ($N=65$)

	Model 1 B (β)	Model 2 B (β)	95% CI
1	8.49	8.43	(0.31, 16.56)
2	1.41 (6.78)*	1.42 (5.95)*	(0.94, 1.90)
3	0.62 (0.32)	0.46 (0.22)	(-3.81, 4.73)
4	0.84 (1.42)	0.82 (1.20)	(-0.56, 2.20)
5		-0.00 (0.04)	(-0.17, 0.16)
6		-0.07 (0.48)	(-0.38, 0.24)
7		0.41 (0.61)	(-0.94, 1.75)
8		0.06 (0.07)	(-1.62, 1.74)
R^2	0.46	0.47	
F	15.800*	6.423*	
ΔR^2		0.01	
ΔF		4.51	

Abbreviations: BACDS, Body Appearance Cognitive Distraction Scale; CI, confidence interval. * $P < 0.01$. Variables: 1, Constant; 2, Global Body Dissatisfaction (GBD); 3, Focus on Body Parts; 4, Discrepancy (BIPS); 5, Relationship Length; 6, Relationship Satisfaction (GMREL); 7, Inclusion of the Other in Self (IOS); 8, Satisfaction with Perception of Partner's Opinion (PPO).

satisfaction ($r=0.74$, $P < 0.001$). All other significant correlations were strong to weak (Table 1).

Predictors of bodily appearance cognitive distraction

GBD was the only significant predictor in Step 1, explaining 46% of variance. The addition of the relationship variables at Step 2 accounted for an additional 1% of variance in the BACDS scores, but this small change was not statistically significant. Therefore, there was no significant predictive relationship variable that accounted for an increase in BACDSA and in the final model ($R^2=0.47$) GBD remained the only significant predictor of BACDSA (Table 2). For men, BACD is positively associated with GBD.

DISCUSSION

The aim of this study was to analyze the role that body dissatisfaction and relationship variables have on BACDSA in a small sample of men diagnosed with psychogenic or mixed ED. The main findings of our study show that the frequency of GBD was the only significant predictor of BACDSA in the current sample.

Regarding our first hypothesis, the measures of body dissatisfaction were not strongly related, and our Hypothesis 1 is supported by this. Hence these measures assess related yet

different aspects of body dissatisfaction and would therefore not be strongly related. These results support the need to use different indicators of body dissatisfaction in research in order to differentiate the aspects of negative body image that are predictors of BACDSA.

Predictors of BACDSA

Our second hypothesis was also supported by our findings; frequency of body dissatisfaction was the only significant predictor of BACDSA. On the other hand, our third hypothesis that predicted that a FBP would be a significant predictor of BACDSA was not supported. Similarly, as expected, the level of body dissatisfaction- assessed through the discrepancy between the ideal and perceived body image- did not appear to be a significant predictor of BACDSA, which is consistent with the original study.¹⁹ These results suggest that, in our sample of men diagnosed with ED, the higher the frequency of overall dissatisfaction with their body the more distracted they are from erotic cues due to their concerns with body appearance during sexual activity. Concerning this variable, our findings are partially consistent with previous research in the field.¹⁹ In a clinical sample of men with ED, our findings also highlight the role that the frequency of body dissatisfaction has in BACDSA as opposed to the level of body dissatisfaction or the focus on specific body parts. This seems to support the idea that clinicians and researchers should focus more on assessing the frequency of body dissatisfaction than on the levels of body dissatisfaction.

Regarding our exploratory goal, that is, the effect of relationship predictors, our results are not consistent with previous research with community samples. The latest of these studies indicate that relationship variables significantly increase the variance of BACDSA explained by individual factors. Our results showed no effect at all on any of the relationship variables studied. Therefore our findings do not support the claim that relationship variables have a direct effect on BACDSA. Rather, they do support cognitive models of sexual dysfunction ascertaining that individual variables have a major role in explaining ED.

Limits

The use of a self-reported measure to assess a cognitive process in a retrospective way (BACDSA) is a limited approach to our outcome variable.¹⁷ However, we found no other measure that has been developed which could assess the construct of BACDSA. The extent to which BACDSA impacts ED is still in its infancy because of the difficulties inherent to the characteristic of this cognitive structure and the field of Human Sexuality. Both of these limitations should be addressed in future research. Our study also had other limitations. Causality, for instance, could not be determined, because the study was correlational. We also used a very small convenience clinical sample neither representative of the Portuguese population nor representative of men who present themselves with ED in clinical settings. Therefore our results cannot be generalized. Furthermore, the generalizability of the findings to all patients with ED cannot be determined, because the mechanism, severity and impact of ED are unknown. Data collection in clinical settings only reaches people with motivation and access to clinical services, excluding those with clinical problems who do not seek professional help. This limits the heterogeneity of the sample along motivational, economic, social and cultural characteristics. The self-reported measures that we used have limitations that should be overcome in future studies, such as the use of single items (Body Image Perception Scale) and the use of dichotomous variables (FBP). We did not include self-reporting or any other measure of Body Mass Index, and therefore we could not control for the effect of this important variable. There is also the possibility that there is an indirect effect of relational factors on BACDSA. Future studies should address and

clarify possible theoretical paths of the indirect effects of relationship factors on individual explanatory factors of sexual disorders to better understand whether or not these variables should be a focus of cognitive interventions to address sexual disorders.

The relative role BACD has compared with the traditional form of cognitive distraction among men with ED still remains unclear. We strongly recommend that future studies compare the effect of performance and BACD on erectile function and use a measure of cognitive distraction related to erectile quality.

Finally, we could not expect an effect of relationship variables on the outcome variable from inspecting the correlation table. However, the original study was conducted with a larger community sample and revealed some unclear effects of relationship-related variables on BACDSA. Our results may be due to the smaller sample size in which relationship characteristics did not have enough variation as all the men in the study's population are in heterosexual, committed, cohabiting relationships. Future studies with men in different relationship structures (for example, non-cohabiting) may add to these findings.

CONCLUSIONS

Cognitive models highlight the role of cognitive distraction as a core variable explaining sexual dysfunction. Our study aimed to provide a better understanding of BACDSA predictors among men diagnosed with ED. We intended to give a better account of the role of specific body-related variables and explore the role of different relationship variables. Our results contribute to the existing research, because they demonstrate that the frequency of body dissatisfaction, and neither the level of body dissatisfaction nor the FBP, has a role in BACDSA. Hence they do not support the assertion that relationship variables significantly contribute to the variance of BACDSA. Our findings have important implications for clinical intervention in both medical and psychological settings. They suggest that, when BACDSA is identified as an important factor accounting for sexual dysfunction, the clinician should specifically address a patient's frequent dissatisfaction with their body and focus on the clinical significance of this variable. Furthermore, when designing intervention protocols, it should be also taken into account that certain techniques (for example, sensate focus) can be inappropriate until concerns about body appearance in and out of the bedroom are addressed.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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REFERENCES

- 1 Masters WH, Johnson VE. *Human Sexual Inadequacy*. Bantam Books: Toronto, Canada; New York, USA, 1970.
- 2 Barlow DH. Causes of sexual dysfunction: the role of anxiety and cognitive interference. *J Consult Clin Psychol* 1986; **54**: 140–148.
- 3 Wiegel M, Scepkowski LA, Barlow DH, Janssen E. Cognitive-affective processes in sexual arousal and sexual dysfunction. In: *The Psychophysiology of Sex*. Indiana University Press: Bloomington, IN, USA, 2007, pp 143–165.
- 4 Beck JG, Barlow DH. The effects of anxiety and attentional focus on sexual responding: I. Physiological patterns in erectile dysfunction. *Behav Res Ther* 1986; **24**: 9–17.
- 5 Beck JG. Self-generated distraction in erectile dysfunction: the role of attentional processes. *Adv Behav Res Ther* 1986; **8**: 205–221.
- 6 Seto MC. A review of anxiety and sexual arousal in human sexual dysfunction. *Sex Abuse* 1992; **5**: 33–43.

- 7 Nobre P, Wiegel M, Bach AK, Weisberg RB, Brown TA, Wincze JP et al. Determinants of sexual arousal and the accuracy of its self-estimation in sexually functional males. *J Sex Res* 2004; **41**: 363–371.
- 8 Wiederman MW. Don't look now: the role of self-focus in sexual dysfunction. *Fam J* 2001; **9**: 210–214.
- 9 Nobre P, Pinto-Gouveia J. Differences in automatic thoughts presented during sexual activity between sexually functional and dysfunctional men and women. *Cognitive Ther Res* 2008b; **32**: 37–49.
- 10 Shires A, Miller D. A preliminary study comparing psychological factors associated with erectile dysfunction in heterosexual and homosexual men. *Sex Marital Ther* 1998; **13**: 37–49.
- 11 Purdon C, Holdaway L. Non-erotic thoughts: content and relation to sexual functioning and sexual satisfaction. *J Sex Res* 2006; **43**: 154–162.
- 12 Dove NL, Wiederman MW. Cognitive distraction and women's sexual functioning. *J Sex Marital Ther* 2000; **26**: 67–78.
- 13 Purdon C, Watson C. Non-erotic thoughts and sexual functioning. *Arch Sex Behav* 2011; **40**: 891–902.
- 14 Sanchez DT, Kiefer AK. Body concerns in and out of the bedroom: implications for sexual pleasure and problems. *Arch Sex Behav* 2007; **36**: 808–820.
- 15 Schick VR, Calabrese SK, Rima BN, Zucker AN. Genital appearance dissatisfaction: implications for women's genital image self-consciousness, sexual esteem, sexual satisfaction, and sexual risk. *Psychol Women Q* 2010; **34**: 394–404.
- 16 Seal B, Bradford A, Meston C. The association between body esteem and sexual desire among college women. *Arch Sex Behav* 2009; **38**: 866–872.
- 17 Meana M, Nunnink SE. Gender differences in the content of cognitive distraction during sex. *J Sex Res* 2006; **43**: 59–67.
- 18 Trapnell PD, Meston CM, Gorzalka BB. Spectatoring and the relationship between body image and sexual experience: self-focus or self-valence? *J Sex Res* 1997; **34**: 267–278.
- 19 Pascoal PM, Narciso I, Pereira NM. Predictors of body appearance cognitive distraction during sexual activity in men and women. *J Sex Med* 2012; **9**: 2849–2860.
- 20 Probst M, Vandereycken W, Van Coppenolle H, Vanderlinden J. The Body Attitude Test for patients with an eating disorder: psychometric characteristics of a new questionnaire. *Eat Disord* 1995; **3**: 133–144.
- 21 Pascoal PM. Sexual satisfaction and body satisfaction in a sample of female college students: comparative study. Annual meeting of the International Society for the Study of Women's Sexual Health Lisbon, 2006.
- 22 Pascoal PM, Pereira NM. Young men's body image satisfaction and sexuality: comparative study. *XVII World Congress of Sexology*. World Association of Sexology: Montreal, Canada, 2005.
- 23 Pascoal PM, Pereira NM, Narciso I. Normative and psychometric data on a measure of body dissatisfaction, the body image perception scale, 11th European Congress of Psychology, Oslo, 2009.
- 24 Thompson MA, Gray JJ. Development and validation of a new body-image assessment scale. *J Pers Assess* 1995; **64**: 258–269.
- 25 Gardner RM, Brown DL. Body image assessment: a review of figural drawing scales. *Pers Individ Diff* 2010; **48**: 107–111.
- 26 Pascoal PM, Narciso I, Pereira NM. *Contributo de variáveis individuais e relacionais para a satisfação sexual de pessoas em relação de conjugalidade com e sem problemas sexuais [Contribution of individual and relationship variables for the sexual satisfaction of people in a conjugal relationship with and without sexual problems]*. Faculty of Psychology of University of Lisbon: Lisbon, Portugal, 2012.
- 27 Narciso I, Costa ME. Amores satisfeitos mas não perfeitos. *Cadernos de Consulta Psicológica* 1996; **12**: 115–130.
- 28 Lawrence K-A, Byers ES. Sexual satisfaction in long-term heterosexual relationships: the interpersonal exchange model of sexual satisfaction. *Pers Relationship* 1995; **2**: 267–285.
- 29 Byers ES, Macneil S. Further validation of the interpersonal exchange model of sexual satisfaction. *J Sex Marital Ther* 2006; **32**: 53–69.
- 30 Pascoal PM, Oliveira L, Raposo C. Processo De Validação, Da Global Measure Of Relationship Satisfaction Em Três Amostras Da População Portuguesa [Validation Process Of The Global Measure Of Relationship Satisfaction In Three Portuguese Samples]. (submitted) *Psicologia: Reflexão e Crítica*; 28 (In Press).
- 31 Aron A, Aron EN, Smollan D. Inclusion of other in the self scale and the structure of interpersonal closeness. *J Pers Soc Psychol* 1992; **63**: 596–612.
- 32 Crespo C, Davide IN, Costa ME, Fletcher GJO. Family rituals in married couples: links with attachment, relationship quality, and closeness. *Pers Relationship* 2008; **15**: 191–203.
- 33 Pujols Y, Meston CM, Seal BN. The association between sexual satisfaction and body image in women. *J Sex Med* 2010; **7**: 905–916.
- 34 Pascoal PM, Pereira NM. Young men's body image and sexuality: a comparative study. *J Sex Res* 2006; **43**: 7.
- 35 Cuntim M, Nobre P. The role of cognitive distraction on female orgasm. *Sexologies* 2010; **20**: 212–214.
- 36 Estudo Psicometrico Do Questionario Distracção Cognitiva (QDC) Durante A Actividade Sexual Numa Amostra Lesbica, Gay E Bissexual (Lgb) Da População. [Psychometric Study of the Cognitive Distraction Scale on a sample of Lesbian, Gay and Bisexual Portuguese People. *I Congresso Internacional Sexualidade e Educação Sexual Políticas Educativas, Investigação e Práticas* Aveiro, 2010.
- 37 APA. *Diagnostic and Statistical Manual of Mental Disorders: DSM-IV*. American Psychological Association: Washington, DC, USA, 1994.
- 38 West SG, Aiken LS, Krull JL. Experimental personality designs: analyzing categorical by continuous variable interactions. *J Pers* 1996; **64**: 1–48.
- 39 Tabachnick BG, Fidell LS. *Using Multivariate Statistics* 3rd edn. Harper Collins College Publishers: New York, NY, USA, 1996.