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**Body Dissatisfaction and Sexual Distress: Testing a  
Mediation Model with Pregnant and Non-Pregnant  
Partnered Women**

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**Escola da Psicologia e Ciências da Vida**

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Mediation Model with Pregnant and Non-Pregnant  
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## **Abstract**

**Introduction:** Pregnancy is characterized by physical, hormonal, and psychological changes that can affect women's sexuality and for those who are in a dyadic relationship, it also affects couple's sexual relationship.

**Aim:** Compare a sample of pregnant and non-pregnant women and establish if pregnant women have lower, equal or higher levels of body dissatisfaction, body appearance cognitive distraction during sexual activity and sexual distress about their sexual function compared to non-pregnant women and to test a moderated mediation explanatory model of the impact of body dissatisfaction on sexual distress, using pregnancy as the moderator.

**Methods:** The present study had the participation of 44 non-pregnant women and 43 pregnant women from the general Portuguese population ( $n = 87$ ), aged between 25 and 40 years who self-identify as heterosexual and are involved in an exclusive and committed dyadic relationship, completed an online survey.

**Main Outcome Measures:** Women completed validated general measure of body dissatisfaction (Global Body Dissatisfaction Scale), sexual distress (procedure taken from National Survey of Sexual Attitudes and Lifestyles), cognitive distraction based on body appearance during sexual activity (Body Appearance Cognitive Distraction Scale).

**Results:** Cognitive distraction with the appearance of the body intervenes in the association between dissatisfaction with the body and sexual difficulties. In addition, the effect of body dissatisfaction on sexual distress, in the presence of the mediating variable was reduced to non-significance, thus revealing a full mediation effect of cognitive distraction based on the body's appearance in the association between body dissatisfaction and sexual distress.

**Conclusion:** This study advances our understanding of sexuality during pregnancy by evaluating sexual distress. As such, the data provide a more accurate picture on the sexual distress that women experience during pregnancy in relation to body dissatisfaction.

Key words: Body Image; Sexual Distress, Women; Pregnancy; Cognitive distraction;

## Resumo

**Introdução:** A gravidez é caracterizada por mudanças físicas, hormonais e psicológicas que podem afetar a sua sexualidade daquelas que estão em um relacionamento diádico, afetando a relação sexual do casal.

**Objetivo:** Comparar uma amostra de mulheres grávidas e não grávidas e estabelecer se as mulheres grávidas apresentam níveis mais baixos, iguais ou superiores de insatisfação corporal, distração cognitiva durante a atividade sexual e *distress* sexual sobre a função sexual em comparação com mulheres não grávidas e testar um modelo explicativo moderado de mediação do impacto da insatisfação corporal em sofrimento sexual, usando a gravidez como moderador.

**Métodos:** O presente estudo teve a participação de 44 mulheres não grávidas e 43 mulheres grávidas da população geral portuguesa ( $n = 87$ ), com idade compreendidas entre os 25 e 40 anos que se autoidentificam como heterossexuais e estão envolvidas em uma díada exclusiva e comprometida, e que completaram uma pesquisa on-line.

**Principais medidas de estudo:** as mulheres completaram a medida geral validada da insatisfação corporal (Escala Global de Insatisfação Corporal), *distress* sexual (procedimento retirado da Pesquisa Nacional de Atitudes Sexuais e Estilo de Vida), distração cognitiva baseada na aparência do corpo durante a atividade sexual (Escala de Distração de Aparência Corporal).

**Resultados:** Distração cognitiva com a aparência do corpo intervém na associação entre insatisfação com o corpo e dificuldades sexuais. Além disso, o efeito da insatisfação corporal sobre o *distress* sexual, na presença da variável mediadora, foi reduzido a não significância, revelando assim um efeito de mediação completo da distração cognitiva com base na aparência do corpo na associação entre insatisfação corporal e angústia sexual.

**Conclusão:** Este estudo avança nossa compreensão da sexualidade durante a gravidez, avaliando o *distress* sexual. Como tal, os dados fornecem uma imagem mais precisa sobre o *distress* sexual que as mulheres experienciam durante a gravidez em relação à insatisfação corporal.

**Palavras-chave:** Imagem corporal; *Distress* Sexual, Mulheres; Gravidez; Distração cognitiva;

## Resumé

**Introduction:** La grossesse se caractérise par des changements physiques, hormonaux et psychologiques qui peuvent affecter la sexualité des femmes et pour ceux qui sont dans une relation dyadique, elle affecte également la relation sexuelle de couple.

**Objectif:** comparer un échantillon de femmes enceintes et non enceintes et établir si les femmes enceintes ont un degré inférieur, égal ou supérieur d'insatisfaction corporelle, distraction cognitive de l'apparence corporelle pendant l'activité sexuelle et détresse sexuelle au sujet de leur fonction sexuelle par rapport aux femmes non enceintes et pour tester un modèle explicatif de médiation modéré de l'impact de l'insatisfaction corporelle sur la détresse sexuelle, en utilisant la grossesse comme modérateur.

**Méthodes:** la présente étude a réuni 44 femmes non enceintes et 43 femmes enceintes de la population portugaise générale (n = 87), âgées de 25 à 40 ans qui s'identifient comme hétérosexuelles et sont impliquées dans une diadème exclusive et engagée relation, a complété un sondage en ligne.

**Principaux résultats:** les femmes ont terminé une mesure générale validée de l'insatisfaction corporelle (global échelle d'insatisfaction du corps), la détresse sexuelle (procédure adoptée à partir du enquête nationale sur les attitudes sexuelles et les styles de vie), distraction cognitive basée sur l'apparence du corps pendant l'activité sexuelle (Échelle de distorsion cognitive de l'apparence du corps).

**Résultats:** La distraction cognitive avec l'apparence du corps intervient dans l'association entre l'insatisfaction face au corps et les difficultés sexuelles. En outre, l'effet de l'insatisfaction corporelle sur la détresse sexuelle, en présence de la variable médiatrice, a été réduit à la non-signification, révélant ainsi un effet de médiation complet de la distraction cognitive en fonction de l'apparence du corps dans l'association entre l'insatisfaction corporelle et la détresse sexuelle.

**Conclusion:** Cette étude fait progresser notre compréhension de la sexualité pendant la grossesse en évaluant la détresse sexuelle. En tant que tel, les données fournissent une image plus précise de la détresse sexuelle que les femmes éprouvent pendant la grossesse en ce qui concerne l'insatisfaction corporelle.

**Mots clés:** image du corps; Détresse sexuelle, femmes; Grossesse; Distraction cognitive

## **Abbreviations**

BACDS - Body Appearance Cognitive Distraction Scale

CDSA- Cognitive distraction during sexual activity

EP<sub>sk</sub> - Standard error of the asymmetry

EP<sub>ku</sub> - Standard error of Kurtose

GBDS - Body Dissatisfaction Scale

Ku = Kurtose

M = Mean

NATSAL - National Survey of Sexual Attitudes and Lifestyles

n.s. - not significant

p – Level of significance

SD - Standard deviation

SexDis - Sexual distress

Sk - Asymmetry

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## **Introduction**

Body image is a multi-dimensional component of people's life, and its dimensions, namely body dissatisfaction and body appearance beliefs, are strongly related with women's sexual outcomes such as sexual functioning and distress (Carvalheira, Godinho, & Costa, 2016; Silva, Pascoal, & Nobre, 2016). In line with current cognitive models of sexual response, this impact is partially explained by the mediating role of a cognitive process named body appearance cognitive distraction during sexual activity. The extent to which a mediation model that links body image dimensions, namely body dissatisfaction, to sexual outcomes, namely sexual distress about sexual functioning is applicable to specific populations whose image changes -such as pregnant women- is yet to be explored. The current manuscript aims to give a contribution to fulfil this gap in the existing research.

## CHAPTER I – Literature revision

### 1.1. Body Image and sexuality

Body image is a multidimensional construct, involving emotional, cognitive and behavioural components (Kazmierczak & Goodwin, 2011). It's often described as how one perceives one's own body. Despite this simple definition being repeatedly used, research has shown that there is much more complexity underlying the meaning of this term (Woertman & van den Brink, 2012). Early researchers intellectualised body image as being one-dimensional. Now it is considered to be, and is mostly measured as, a multidimensional construct (Woertman & van den Brink, 2012). Cash and Pruzinsky (2002) provided a multidimensional model in which body image is referred as the assimilation of experience of perceptions and attitudes about the body, particularly the physical appearance, i.e., the concept of body image aggregates a cognitive and emotional component of the body. The authors specified three dimensions: evaluation, investment, and affect. Among these, body image evaluation denotes feelings of satisfaction or dissatisfaction with different aspects of appearance. Body dissatisfaction is extremely important because it is an important dimension of body image that is associated with poorer mental health (Allen & Celestino, 2017). In the current study, we will focus on this element- body dissatisfaction- and on its impact on sexual health, more specifically on its impact on sexual distress about sexual functioning.

Sexual health is an important dimension of global health and is strongly associated with mental health. Being satisfied with one's body image is associated with a more pleasurable and satisfying sex life (Satinsky, Reece, Dennis, Sanders, & Bardzell, 2012). Therefore satisfaction with your own body can result in increased confidence when a woman interacts sexually (Andersen & Cyranowski, 1995; Woertman & van den Brink, 2012). Greater body comfort and low body image self-consciousness is associated with a higher level of sexual experience (Schooler, Ward, Merriwether, & Caruthers, 2005). Consistently, Reissing, Laliberté, & Davis (2005) found that having a negative body attitude was related to higher levels of sexual aversion. In a systematic review by Woertman and van den Brink (2012) of the various studies on body image and sexual functioning of women, the findings indicate that body image may affect several domains of female sexual functioning (e.g., arousal). Women report high levels of concern about body appearance, these concerns being positively correlated with sexual problems in terms of orgasm, arousal and sexual pleasure, establishing that concerns about body image have a negative impact on sexual response.

Yamamiya et al. (2006) found that, for women, body image concerns during sex were associated with poorer sexual functioning and lower sexual self-efficacy, which implied that “contextual body image” (i.e., focus on appearance) was a better predictor of these sexual difficulties than general body image. Another study showed that high esteem for one’s body and low frequency of appearance-related thoughts during sexual activity highly predicted sexual satisfaction among women, defined in this study as “satisfaction with personal and interpersonal sexual relations and low distress over sexual activity” (Pujols, Meston, & Seal, 2010). The authors concluded that clinicians should assess body image in clients with sexual problems, as distress and distraction based on appearance may substantially influence sexual function and satisfaction.

Our review of the literature shows that research has neglected an important component to the understanding of sexual functioning and dysfunction: sexual distress. Sexual distress is a core aspect of sexual health and more precisely a necessary condition for the diagnosis of a sexual dysfunction. Therefore, a complete clinical understanding of the role of body dissatisfaction as a predictor of sexual distress necessarily needs to consider the amount of sexual distress experienced and associated with the different complains related with sexual functioning (American Psychiatric Association, 2013) .

## **1.2. Body Image during pregnancy**

Most of the research developed in health contexts to test the association of body dissatisfaction and sexual dysfunction was conducted by studying the relationship between body dissatisfaction and sexual function in women experiencing negative health conditions such as mastectomies, eating disorders or presenting neuro-muscular-skeletal disorders (Wiederman, 2002; Woertman & van den Brink, 2012). However not all health-related conditions are illness related. Pregnancy is one of them.

Pregnancy is characterized by physical, hormonal, and psychological changes that can affect women’s sexuality and for those who are in a dyadic relationship, it also affects couple’s sexual relationship. For the majority, pregnancy, in the context of a relationship, can be a stimulus for partners to search for new ways to enhance mutual emotional connection, intimacy, and close physical affinity, in order to share physical sexual pleasure and satisfy each other’s sexual needs. A healthy sexuality during pregnancy is necessary for the parental transition that occurs in that period (Polomeno, 2000).

In fact, during pregnancy, women experience significant fluctuations in their appearance. These include: increased body volume, increased size of breasts and hips and changes in skin condition, hair and nails (Heinberg & Guarda, 2002). While these body changes are to be expected during pregnancy, the extent to which women adapt to them positively, or alternatively become dissatisfied and concerned about these body changes, is not yet clear in the literature (Duncombe, Wertheim, Skouteris, Paxton, & Kelly, 2008). Given that many young women have body image concerns, it is possible that pregnancy might trigger additional body image concerns (Duncombe et al., 2008). Skouteris et al. (2005) reported that the end of pregnancy was associated with greater dissatisfaction with body image. However, many pregnant women embrace the physical changes that occur as part of the process of becoming mothers, taking the opportunity to break free of the beauty standards, recognizing that changes in the size and body weight positively reflect the child's development (Clark, Skouteris, Wertheim, Paxton, & Milgrom, 2009). Duncombe et al. (2008) reported that satisfaction with body image was generally stable during the course of pregnancy and while participants in late pregnancy would rather have a smaller stomach, they did not feel as fat as in early pregnancy. These results suggest that women may experience a mixture of anxiety as well as positive emotions about your body image during the perinatal period.

According to Williams Obstetrics, "[it] is accepted that healthy pregnant women maintain sexual intercourse until before the last four weeks of pregnancy or longer" (Cunningham, 2014). However, some women report feeling less physically attractive and sexually desirable during the different stages of progression of the pregnancy (Bitzer & Alder, 2000). There is a decrease of desire in early pregnancy which is related to women's fears about pregnancy and possible abortion (Jones, Chan, & Farine, 2011). In the third trimester, the low desire is related to women's fears about the health of the child at birth, and both parents fear that the foetus could be harmed by intercourse or orgasm (von Sydow, 1999). Recent studies point out that there are changes in sexual function, but not sexual satisfaction, throughout pregnancy, raising the possibility that the changes in sexual function may not translate into clinical significance (Pauleta, Pereira, & Graça, 2010). This possibility is contradictory with other research that has highlighted that sexual distress is common during pregnancy and it associated with lower sexual and relationship satisfaction (Vannier & Rosen, 2017). This disparity in results may be explained by the lack of longitudinal studies that compare paired samples of pregnant and non-pregnant women in the variables of interest as

well as by the difference in the measures used. A recent review of the research in the field has called for more complex studies that allow to better determine the factors that influence the link between pregnancy and sexual health (Johnson, 2011).

We believe the current study will help to achieve this goal by exploring a mediation model, based on existing cognitive theory of sexual dysfunction, that explains sexual distress by focusing on body dissatisfaction in pregnant and non-pregnant women.

### **1.3. Cognitive distraction during sexual activity**

One of the first areas of investigation of cognitive variables in the field of sexology were the studies on the role of cognitive distraction in sexual functioning (Nobre, 2006).

The concept of cognitive distraction during sexual activity goes back to the studies performed by Masters and Johnson's construct of *spectatoring*. By observing and monitoring one's behavior during sexual activity, one distracts oneself from the sexual sensations and cues (Masters & Johnson, 1966, 1970).

Since 1976, several experimental projects have been developed to investigate the sexual functioning of sexually healthy individuals during exposure to different types of erotic stimuli, along with tasks of cognitive distraction (eg, arithmetic tasks). The results evidenced negative associations between the tasks of cognitive distraction and the erection levels of the participants (Beck, Barlow, Sakheim, & Abrahamson, 1987; Farkas, Sine, & Evans, 1979; Geer & Fuhr, 1976).

Faith and Schare, (1993) attempted to investigate the relationship between excessive self-focus on physical appearance, which may cause anxiety, and distressed sexual experience. The results of the study suggested that women who had a negative body appearance showed higher levels of sexual avoidance and distress. However, one must be cautioned while reading this study. The authors only used general measures of body image and sexual experience, so the results did not necessarily indicate that the relationships between these variables are caused by excessive autofocus or *spectatoring* during sexual activity.

Dove and Wiederman (2000) developed a questionnaire designed to assess the focus of attention of individuals in the course of sexual activity, as well as its effect on sexual functioning. They explored the process of focus of attention on body appearance or sexual performance. After the questionnaire was applied on a female sample, the results showed that higher levels of general cognitive distraction during sexual activity were associated with

lower sexual satisfaction, less consistent orgasms, higher incidence of simulated orgasms and lower sexual esteem, confirming the negative association between cognitive distraction during sexual activity and functioning and female sexual satisfaction. Meana and Nunnink (2006) developed a study aimed to analyse gender differences in the content of cognitive distraction during sexual activity, as well as exploring the association of each type of distraction with specific aspects of sexuality (sexual attitudes, sexual knowledge, body image, sexual experience, relational situation, sexual fantasies, sexual satisfaction, affection and psychological suffering). The authors have found that women reported higher levels of general cognitive distraction as well as higher levels of distraction based on physical appearance, reported lower levels of performance-based cognitive distraction and there were no significant differences between the two types of distraction in the female group. As for predictors of the content of cognitive distraction, in the female group, distraction based on appearance was predicted by negative body image, psychological suffering and not maintaining a loving relationship.

Two recent studies indicate that overall body dissatisfaction as well as dissatisfaction with specific body parts (e.g., belly) are strong predictors of cognitive distraction with body appearance during sexual activity both in community as well as clinical samples of men and women diagnosed with a sexual dysfunction (Pascoal, Narciso, & Pereira, 2012; Pascoal, Raposo, & Oliveira, 2015). These results have been complemented by research using mediation models that have clearly established that the link between body image dimensions and sexual functioning as well as distress are explained by body appearance cognitive distraction during sexual activity (Carvalheira et al., 2016; Silva et al., 2016). These results support theoretical models that highlight the influence of cognitive phenomena on the sexual outcomes of the female population such as the cognitive-emotional model of Nobre and Pinto-Gouveia (2006). This model integrates cognitive-emotional dimensions such as beliefs, automatic thoughts (a form of cognitive distraction of erotic stimuli during sexual activity) and mood to explain sexual dysfunction.

Considering the review of the literature and the strong focus that is placed on women's body during pregnancy, it is expected that women are more prone to focus on their image than non-pregnant women, being therefore more vulnerable to develop psychological negative outcomes usually related with body dissatisfaction, such as sexual distress. The mediation model proposed will be grounded on existing knowledge derived from cognitive

models of sexual dysfunction. The results will help to guide clinicians to assess and intervene in body dissatisfaction and sexual distress in pregnant women

#### **1.4. Aim of the Current study**

Considering the existing gaps and flaws in previous research concerning knowledge of body dissatisfaction, body appearance cognitive distraction and sexual distress in pregnant women we aimed to compare a sample of pregnant and non-pregnant women and establish if pregnant women have lower, equal or higher levels of body dissatisfaction, body appearance cognitive distraction during sexual activity and sexual distress about their sexual function compared to non-pregnant women.

Furthermore, in the present study, we intend to investigate to what extent the existing mediation models that explain the link between body dissatisfaction and sexual distress apply to pregnant and non-pregnant women, and to which extent the pregnancy could moderate the indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on body appearance.

In line with our review of the literature the following hypothesis of study is proposed: in the sample of pregnant women, the association between body dissatisfaction and sexual distress is mediated by body appearance cognitive distraction during sexual activity.

## CHAPTER II – Empirical Study

### 2.1. Method

### 2.2. Participants

The present study had the participation of 44 non-pregnant women and 43 pregnant women from the general Portuguese population ( $n = 87$ ), aged between 25 and 40 years ( $M = 31.93$ ,  $SD = 3.457$ ) who self-identify as heterosexual and are involved in an exclusive and committed dyadic relationship.

The main sociodemographic characteristics of the sample are shown in Table 1.

The main sociodemographic characteristics of the sample of pregnant women according to the trimester of pregnancy are shown in Table 2.

**Table 1**  
*Socio-demographic characteristics of the sample (n=87)*

	Non-Pregnant (n=44)		Pregnant (n=43)		Total sample (n=87)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Age</b>						
<i>M</i>	31.95		31.91		31.93	
<i>Range</i>	25-40		25-40		25-40	
<i>SD</i>	3.450		3.504		3.457	
<b>Relationship Status</b>						
Married	22	50	26	60.5	48	55.2
Living together	22	50	17	39.5	39	44.8
<b>Education</b>						
10-12 years	1	2.3	2	4.7	3	3.4
Degree / Master's Degree	42	95.5	37	86	79	90.8
Doctors Degree	1	2.3	4	9.3	5	5.7

**Table 2.**

*Sociodemographic characteristics of the sample of pregnant women according to the trimester (n = 43)*

	1 <sup>st</sup> Trimester (n=9)		2 <sup>nd</sup> Trimester (n=20)		3 <sup>rd</sup> Trimester (n=10)		Missing (n=4)		Total Pregnant Women (n=43)	
	N	%	n	%	n	%	n	%	n	%
<b>Age</b>										
<i>M</i>		32.78		30.80		32.00		35.25		31.91
<i>Range</i>		27-38		25-36		28-35		30-40		25-40
<i>SD</i>		3.420		3.412		2.625		4.573		3.504
<b>Relationship Status</b>										
Married	6	66.7	12	60	6	60	2	50	26	60.5
Living together	3	33.3	8	40	4	40	2	50	17	39.5
<b>Education</b>										
10-12 years			1	5	1	10	2	50	2	4.7
Degree / Master's Degree	9	100	18	90	8	80	2	50	37	86
Doctors Degree			1	5	1	10			4	9.3

*Note: M = Mean; SD = Standard deviation*

## 2.3. Measures

### 2.3.1 Body Dissatisfaction Scale (GBDS)

The GBDS is a subscale of the Body Attitudes Test, presenting four-item. The GBD is a general measure of body dissatisfaction, that bases the frequency of negative perceptions, behaviours, and feelings about one's body. The four items are: (1) "When I compare myself with my peers' bodies, I'm dissatisfied with my own", (2) "I'm inclined to hide my body", (3) "When I look at myself in the mirror, I'm dissatisfied with my own body," and (4) "I envy others for their physical appearance." The answers were rated on a 6-point Likert scale (ranging from 1 = "never" to 6 = "always"). Total scores may range from 4 to 24 points, meaning the higher scores indicate higher levels of body dissatisfaction. In a Portuguese

sample, this measure showed high reliability and validity, with a  $\alpha = .82$  (Pascoal et al., 2012). In the current study, showed reasonable reliability ( $\alpha = .82$  in non-pregnant sample, and  $\alpha = .73$  in the pregnant sample).

### **2.3.2. Body Appearance Cognitive Distraction Scale (BACDS)**

The BACDS is a subscale of the Cognitive Distraction Scale developed by Dove & Wiederman (2000). It has 10 items that evaluate cognitive distraction based on body appearance during sexual activity (e.g., “During sexual activity, I am worried about how my body looks to my partner.”). Participants rate their responses on a 6-point Likert scale (varies from 1 = never to 6 = always) about how often a statement would be true during sexual involvement (e.g., “While engaged in sexual activity, I worry that my partner is not enjoying the way I am touching his body.”). The total scores range from 10 to 60; higher scores indicate higher levels of cognitive distraction centred on body appearance during sexual involvement. The original study of BACDS presented good reliability ( $\alpha = .95$ ). (and it has proven good reliability in different Portuguese studies (Cronbach  $\alpha > .80$ ) (Pascoal et al., 2015). In this study, the scale had a high internal consistency (Cronbach  $\alpha = .92$  for both pregnant and non-pregnant).

### **2.3.3. Sexual distress (SexDis)**

Sexual distress with difficulties were measured by the 8-item National Survey of Sexual Attitudes and Lifestyles (NATSAL) measure of sexual function (Mercer et al., 2003). Participants were asked to indicate which of the following sexual difficulties they had experienced for “at least three months in the preceding 12 months”: (1) lack of interest in sex, (2) unable to feel aroused, (3) unable to keep aroused, (4) premature orgasm, (5) decreased orgasm, (6) anorgasmia, (7) lack of satisfaction with one’s sexual life and (8) medication that interferes with sex. Distress was measured by asking participants how stressful the experience of each sexual difficulty was for them. Answers were anchored on a 6-point Likert scale (0 = “Not having any sexual difficulty”; 1 = “Not distressful”; 2 = “Mildly distressful”; 3 = “Somewhat distressful”; 4 = “Quite distressful”; 5 = “Extremely distressful”). The total score can range from 8 to 48 with higher scores indicating higher sexual distress.

**Table 3.**

*Means, SD, median and range of Body Appearance Cognitive Distraction Scale and Global Body Dissatisfaction Scale (N=87)*

	<b>Non-Pregnant (n=44)</b>	<b>Pregnant (n=43)</b>	<b>Total Sample (n=87)</b>
<b>BACDS</b>			
<i>M</i>	14.23	15.44	14.83
<i>Range</i>	10-27	10-41	10-41
<i>SD</i>	4.851	6.577	5.767
<b>GBDS</b>			
<i>M</i>	6.23	6.07	29.80
<i>Range</i>	0-14	2-12	9-35
<i>SD</i>	3.064	2.840	5.736

*Note: M = Mean; SD = Standard deviation*

## **2.4. Procedure**

The present work was developed within the scope of a broader PhD project developed at the Faculty of Psychology of the University of Lisbon and financed by FCT (SFRH / BD / 39934/2007). It received deontological positive appraisal by the institution's IRB.

After approval by the IRB, the study was launched online and a convenience sample of self-reported pregnant and non-pregnant women participated. Participants read the informed consent (with information concerning anonymity, research team members and funding) prior to completing the questionnaire.

## **2.5. Data analysis procedure**

Analysis of results was performed using IBM SPSS Statistics 23 for Mac (SPSS, Inc, Chicago, IL, USA). Taking into consideration the sample of pregnant women, a sample of non-pregnant women was matched in variables such as age, education, area of residence and relational situation so that the groups would be similar. Student's t-test was used to compare the mean total scores of variables the two distinct groups (pregnant and non-pregnant women) and Pearson's correlation index was used to study the association between the variables of interest in the pregnant women

*a) Mediation analyses*

First, to evaluate the direct and indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on body appearance in the two samples together, a mediation model was tested using the PROCESS macro for SPSS version 23 for Mac (IBM Corporation, New York, USA) developed by Hayes (2013), which uses a bootstrap approach (Preacher, Rucker, & Hayes, 2007). The bootstrap method is considered as an accurate method to obtain confidence intervals in comparison to other standard methods, and is assumption-free concerning the sample distribution. The analysis used 5000 bootstrap samples, and the significance of the indirect effect was determined using confidence intervals (95% bias-corrected), which, when they exclude zero, indicate a significant effect. As recommended by Hayes (2013), the unstandardized estimates were reported.

*b) Moderated mediation analysis*

Subsequently, in order to examine the moderating role of pregnancy state (i.e., pregnant vs. non-pregnant) on the mediational pathway from body dissatisfaction on sexual distress through cognitive distraction based on body appearance, a moderated mediation model was tested. Similarly to the mediation analysis, following recommendations by Hayes (2015) and Preacher, Rucker, and Hayes (2007), the moderated mediation analysis was conducted using a non-parametric method (bootstrap), through PROCESS macro for SPSS version 23 for Mac (IBM Corporation, New York, USA) developed by Hayes (2013). Since the proposed moderator is a dichotomous variable, estimation of this moderated mediation model is similar to a multiple-group analysis approach, given that it allows all three paths to differ between the two groups, but the paths are estimated using the entire whole sample rather than two separate analyses, each based on one of the two subsamples (Hayes, 2013). With this analysis, the goal was to statistically test the direct and indirect effects of body dissatisfaction on sexual distress via cognitive distraction based on body appearance, conditional of the participants' pregnancy state. Thus, a moderated-mediation analysis estimating all parameters simultaneously was conducted, providing (a) estimates of the indirect effects and associated confidence intervals (CIs) conditional on the two levels of the moderator (i.e., pregnant, non-pregnant) and (b) an index of moderated mediation, which estimates the quantification of the relationship between the proposed moderator and the size of the indirect effects (Hayes, 2015).

To analyse pregnancy state as a moderator of all three paths in the model, we specified Model 59 in PROCESS. This analysis provided tests of significance and confidence intervals for the conditional direct and indirect effects, the latter based on a bootstrap confidence interval. The analysis utilized 5000 bootstrap re-samples, and significance was determined based on 95% bias-corrected confidence intervals (i.e., when the CI did not contain zero, the parameter was interpreted as significant) (Byrne 2010; Hayes & Preacher 2010; Kline 2005). As recommended by Hayes (2013), the unstandardized estimates were reported.

## 2.6. Results

### 2.6.1. Descriptive statistics

The results of the Kolmogorov-Smirnov test with Lilliefors correction show that there is no assumption of the normality of the variables under analysis [KS (87) Body dissatisfaction = .11,  $p = .008$ ; KS (87) Cognitive distraction = .21,  $p < .001$ ; KS (87) Sexual distress = .25,  $p < .001$ ]. However, although the analysis of the Asymmetry / Standard Error of Asymmetry ratio revealed that for the variables Cognitive Distraction with Body Appearance and Sexual Distress these values deviated slightly from the  $| 2 |$  range, the absolute values of Asymmetry and Kurtosis were lower to 3 (Table 4), which can be considered non-problematic in terms of distribution and deviation to normality.

**Table 4**  
*Descriptive statistics of the variables of the model of mediation*

Item	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Sk/EP<sub>sk</sub></i>	<i>Ku</i>	<i>Ku/EP<sub>ku</sub></i>
Body Dissatisfaction	1.54	.73	.36	1.39	-.21	.42
Cognitive Distraction with Body Appearance	1.48	.58	1.97	7.61	4.77	9.33
Sexual Distress	.67	.97	1.80	6.95	2.68	5.25

*Note:* *M* = Mean; *SD* = Standard deviation; *Sk* = Asymmetry; *EP<sub>sk</sub>* = Standard error of the asymmetry = .26; *Ku* = Kurtosis; *EP<sub>ku</sub>* = Standard error of Kurtosis = .51

### 2.6.2. Differences across groups

The t-test results for the two independent samples didn't reveal statistically significant differences between pregnant and non-pregnant participants in levels of body

dissatisfaction, cognitive distraction with body appearance during sexual activity, and sexual distress (Table 5).

**Table 5**

*Comparative analysis of levels of body dissatisfaction and cognitive distraction with the body's appearance during sexual activity between pregnant and non-pregnant women*

Variable	Pregnant (N = 43) M (SD)	Non-Pregnant (N = 44) M(SD)	<i>t</i>
Body Dissatisfaction	1.52	1.56	.25 ( <i>n.s.</i> )
Cognitive Distraction	1.54	1.42	-.98 ( <i>n.s.</i> )
Sexual Distress	.74 (1.02)	.61 (.94)	-.62 ( <i>n.s.</i> )

*Note: M = Mean; SD = Standard deviation; n.s. = not significant*

### 2.6.3. Correlations between variables

Bivariate correlations between model variables for both samples (i.e., pregnant and non-pregnant) were tested using Pearson's correlation analysis.

#### 2.6.3.1. Correlations between variables in the sample of pregnant women

In the sample of pregnant women, the results of this analysis revealed significant positive correlations among all variables in the model, with correlations between body dissatisfaction and sexual distress and between cognitive distraction and body appearance and sexual distress stronger than the correlation between body dissatisfaction and sexual distress (Table 6)

**Table 6**

*Correlations between variables*

Variables	Body Dissatisfaction	Cognitive Distraction
1. Body Dissatisfaction	-	
2. Cognitive Distraction	.45***	
3. Sexual Distress	.25*	.43***

\*  $p < .05$ ; \*\*\*  $p < .001$

### 2.6.3.2. Correlations between variables in the sample of non-pregnant women

Regarding the sample of non-pregnant women, the results revealed a significant positive correlation only between body dissatisfaction and cognitive distraction with body appearance. (Table 7)

**Table 7**

*Correlations between variables*

Variables	Body Dissatisfaction	Cognitive Distraction
1. Body Dissatisfaction		
2. Cognitive Distraction	.41***	
3. Sexual Distress	.14 (n.s.)	.20 (n.s.)

\*  $p < .05$ ; \*\*\*  $p < .001$ ; *n.s.* = not significant

### 2.6.4. The mediating role of cognitive distraction in the relationship between body dissatisfaction and sexual difficulties in pregnant and non-pregnant women

As shown in Figure 1, the test of the mediation model revealed:

- 1) a significant positive effect of body dissatisfaction on sexual distress ( $B = .32$ ,  $p = .02$ );
- 2) a significant positive effect of body dissatisfaction on cognitive distraction based on body appearance ( $B = .35$ ,  $p < .001$ );
- 3) a significant positive effect of cognitive distraction based on the body's appearance on sexual distress ( $B = .68$ ,  $p < .001$ );
- 4) a significant indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on the body's appearance ( $B = .24$ ,  $SE_{Boot} = .10$ ; 95% CI = .05, .46).

The results support our hypothesis that cognitive distraction with the appearance of the body intervenes in the association between dissatisfaction with the body and sexual difficulties, considering both samples taken together (i.e., pregnant women and non-pregnant women). In addition, the effect of body dissatisfaction on sexual distress, in the presence of the mediating variable (i.e., cognitive distraction based on body appearance) was reduced to non-significance ( $B = .09$ ,  $p = .56$ ), thus revealing a full mediation effect of cognitive

distraction based on the body's appearance in the association between body dissatisfaction and sexual distress.

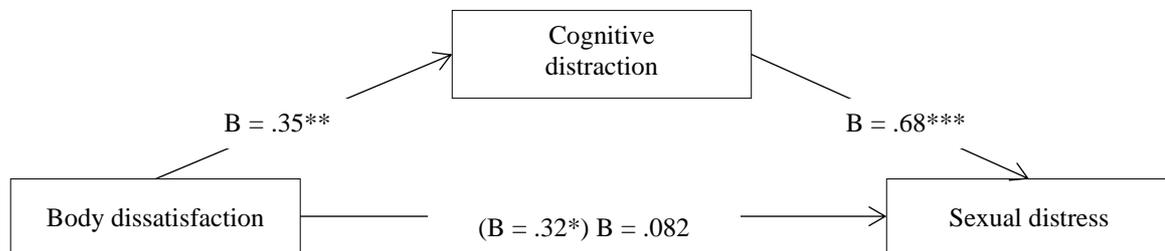


Figure 1. The mediating role of cognitive distraction based on the body's appearance in the association between body dissatisfaction and sexual distress, in pregnant and non-pregnant women. The unstandardized parameter estimate in brackets refers to the total effect of body dissatisfaction on sexual distress (i.e., direct effect + indirect effect).

\* < .05, \*\* < .01, \*\*\* < .001

### 2.6.5. The moderating role of pregnancy state

As shown in Table 8, results of the moderated mediation analyses showed that the indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on body appearance was positive and significant only among pregnant women.

**Table 8.**

*Unstandardized indirect effects of body dissatisfaction on sexual distress through cognitive distraction based on body appearance, conditional on women's pregnancy state*

Pregnancy state	Indirect effect		Index of moderated mediation	
	Coeff. (SE)	95% CI	Coeff. (SE)	95% CI
Pregnant	2.37 (.99)	(.39, 4.38)	1.85 (1.22)	(-.46, 4.29)
Non-pregnant	.52 (.71)	(-.82, 2.13)		

However, as can also be seen in Table 8, the bootstrap confidence intervals for the index of moderated mediation includes zero, and is therefore non-significant. Thus, pregnancy state does not significantly moderate the indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on body appearance. In other words, this study's results indicate that cognitive distraction with the appearance of the body intervenes in the association between dissatisfaction with the body and sexual difficulties regardless of women's pregnancy state.

## 2.7. Discussion

In order to overcome the existing gaps of the research and the disparity of existing results, in the current study we aimed to clarify if the variables under study presented lower, equal or higher levels in two groups: pregnant and non-pregnant women. Furthermore, the current study set out to test out an existing mediation model that explains the effect of body dissatisfaction on sexual distress through body appearance cognitive distraction in a sample of pregnant women.

The comparison of the two groups of women revealed that there were no differences regarding body dissatisfaction and body appearance cognitive distraction during sexual activity. This result is consistent with previous research by Duncombe et al. (2008) that reported that satisfaction with body image was generally stable during the course of pregnancy as well as with research that has argued that many pregnant women embrace the physical changes that occur as part of the process of becoming mothers, seizing the opportunity to break free of the patterns of beauty, recognizing that changes in size and body weight positively reflect the child's development (Clark et al., 2009) Furthermore, our results also demonstrate that the group of pregnant and non-pregnant women do not differ in terms of sexual distress. This result seems to indicate that pregnancy does not soften or neutralize sexual problems and these are equally expressive in pregnant and non-pregnant women. Our result seems to be in line with those by Vannier and Rosen (2017) that showed that sexual distress was common situation as 42% of pregnant women in their sample met the score for sexual distress. Of women who were sexually, approximately one fourth experienced distress concurrently with sexual problems, and an additional 14% of women reported distress in the absence of sexual problems.

The exploration of the associations among variables among the group of pregnant women clearly demonstrates that the variables are positively associated. However, the magnitude of this association is stronger between the mediator, i.e., body appearance cognitive distraction, and the outcome variable, i.e., sexual distress. This result is consistent and supportive of cognitive models of sexual dysfunction such as Nobre's cognitive-emotional model (Cuntim & Nobre, 2011; Nobre, 2003; Nobre, 2009; Nobre & Pinto-Gouveia, 2008; Nobre & Pinto-Gouveia, 2009), namely by demonstrating the association between cognitive distraction and distress. It is also stronger between body dissatisfaction and cognitive distraction a result consistent with results found in community (Pascoal et al., 2012) as well as clinical samples (Pascoal et al., 2015). The weakest magnitude found in the

association of body dissatisfaction with sexual distress may be explained by the fact that sexual distress is multidetermined by different factors such as psychological factors (e.g., psychopathology) as well as relational variables (relationship well-being) (Beveridge, Vannier, & Rosen, 2017).

The main goal of the current study was to what extent the existing mediation models that explain the link between body dissatisfaction and sexual distress apply to pregnant women. When comparing both path analysis models we confirmed our hypothesis that appearance-based cognitive distraction mediated the effects of body dissatisfaction on distressing sexual difficulties in women. Carvalheira et al. (2016) and Pujols et al. (2010) have previously stated that CDBA may substantially influence sexual function and distress among women. Our findings confirmed our hypothesis that cognitive distraction would mediate the effects of body dissatisfaction on distressing sexual difficulties in pregnant and non-pregnant women.

Finally, our study establishes that the existing mediation model (Carvalheira et al., 2016; Silva et al., 2016) that explains the link between body image variables and sexual dysfunction is also valuable for explaining pregnant women's sexual distress. These results expand on the existing knowledge on cognitive models showing its suitability for clinical work with pregnant women.

We stated that cognitive distraction with the appearance of the body intervenes in the association between dissatisfaction with the body and sexual difficulties, considering both samples taken together. Pregnancy state does not significantly moderate the indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on body appearance, indicating that cognitive distraction with the appearance of the body intervenes in the association between dissatisfaction with the body and sexual difficulties regardless of women's pregnancy state. This is in line with the results by Clark et al. (2009), Duncombe et al. (2008) and Vannier & Rosen (2017).

The current study presents several limitations that need to be considered and at whose light the results have to be interpreted. Firstly, even though there was no violation of the assumptions for the analysis developed, this is a very small non-representative sample of women which seriously compromises the generalization of results. Secondly, we did not assess women throughout pregnancy and therefore the direction of the associations found is established theoretically but not methodologically. Furthermore, we did not control for important covariates, such as relationship satisfaction and months of pregnancy. Lastly the

measures used to assess body related dimensions were designed for non-pregnant women and we do not know if more specific measures that grasp specificities of pregnant women body dissatisfaction would yield different results. Future studies should overcome these limitations in order to better establish the role that body dissatisfaction has on explaining pregnant women's sexual distress across pregnancy.

This current study is innovative as it is the first to test a theory based mediation model that partially explained pregnant women's sexual distress. The current results support that even though bodily appearance changes throughout pregnancy do not translate into higher levels of body dissatisfaction, pregnancy does not protect women from the experience of body appearance cognitive distraction nor from the experience of sexual distress. Furthermore, the study calls the attention for the need of health professionals that interact with pregnant women not dismissing the ongoing impact of body dissatisfaction on women's sexuality.

## **Conclusion**

This study advances our understanding of sexuality during pregnancy by evaluating sexual distress. As such, the data provide a more accurate picture on the distress that women experience during pregnancy. Sexual distress was experienced during pregnancy.

Our results demonstrate that the group of pregnant and non-pregnant women do not differ in terms of sexual distress, being in line with other recent studies.

The current results suggest health care providers should ask pregnant women about feelings of sexual distress in the context of broader discussions of sexuality during pregnancy. Identifying women who experience sexual distress during pregnancy and referring them to appropriate resources may help to minimize sexual and relationship problems during pregnancy and the postpartum period. Further, considering the role that body dissatisfaction has on sexual activity, namely on cognitive distraction during sexual activity, sex therapy that incorporates cognitive-behavioral techniques aimed at diminishing distraction and increasing the focus on erotic clues can reduce sexual distress among women with sexual dysfunction and may also be valuable for women experiencing sexual distress or problems during pregnancy (McNulty, Wenner, & Fisher, 2016)

## References

- Allen, M. S., & Celestino, S. (2017). Body image mediates an association between personality and mental health. *Australian Journal of Psychology*, 69(3). <https://doi.org/10.1111/ajpy.12178>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC.
- Andersen, B. L., & Cyranowski, J. M. (1995). Women's Sexuality: Behaviors, Responses, and Individual Differences. *Journal of Consulting and Clinical Psychology*, 63(6), 891–906. <http://dx.doi.org/10.1037/0022-006X.63.6.891>
- Beck, J. G., Barlow, D. H., Sakheim, D. K., & Abrahamson, D. J. (1987). Shock threat and sexual arousal: the role of selective attention, thought content, and affective states. *Psychophysiology*, 24(2), 165–172. <http://doi.org/10.1111/j.1469-8986.1987.tb00273.x>
- Beveridge, J. K., Vannier, S. A., & Rosen, N. O. (2017). Fear-based reasons for not engaging in sexual activity during pregnancy: associations with sexual and relationship well-being. *Journal of Psychosomatic Obstetrics and Gynaecology*, 1–11. <https://doi.org/10.1080/0167482X.2017.1312334>
- Bitzer, J., & Alder, J. (2000). Sexuality During Pregnancy and the postpartum period. *Journal of Sex Education and Therapy*, 25(1), 49–58.
- Carvalho, A. A., Godinho, L. F., & Costa, P. A. (2016). The Impact of Body Dissatisfaction on Distressing Sexual Difficulties Among Men and Women: The Mediator Role of Cognitive Distraction. *Journal of Sex Research*, 54(3), 331–340. <https://doi.org/10.1080/00224499.2016.1168771>
- Cash, T., & Pruzinsky, T. (2002). *Body image: a handbook of theory, research and clinical practice*. New York; London: Guilford Press.
- Clark, A., Skouteris, H., Wertheim, E. H., Paxton, S. J., & Milgrom, J. (2009). The relationship between depression and body dissatisfaction across pregnancy and the postpartum: a prospective study. *Journal of Health Psychology*, 14(1), 27–35. <https://doi.org/10.1177/1359105308097940>
- Cunningham, F. G. (2014). *Williams obstetrics*. (J. S. S. F. Gary Cunningham, Kenneth J. Leveno, Steven L. Bloom, Catherine Y. Spong, Jodi S. Dashe, Barbara L. Hoffman, Brian M. Casey, Ed.) (24th ed.). New York: McGraw-Hill Education/Medical.

- Cuntim, M., & Nobre, P. (2011). The role of cognitive distraction on female orgasm. *Sexologies*, 20(4), 212–214. <http://doi.org/10.1016/j.sexol.2011.08.001>
- Dove, N. L., & Wiederman, M. W. (2000). Cognitive distraction and women's sexual functioning. *Journal of Sex & Marital Therapy*, 26(1), 67–78. <http://doi.org/10.1080/009262300278650>
- Duncombe, D., Wertheim, E. H., Skouteris, H., Paxton, S. J., & Kelly, L. (2008). How well do women adapt to changes in their body size and shape across the course of pregnancy? *Journal of Health Psychology*, 13(4), 503–515. <https://doi.org/10.1177/1359105308088521>
- Faith, M. S., & Schare, M. L. (1993). The role of body image in sexually avoidant behavior. *Archives of Sexual Behavior*, 22(4), 345–356. <http://doi.org/10.1007/BF01542123>
- Farkas, G. M., Sine, L. F., & Evans, I. M. (1979). The effects of distraction, performance demand, stimulus explicitness and personality on objective and subjective measures of male sexual arousal. *Behaviour Research and Therapy*, 17(1), 25–32. [https://doi.org/10.1016/0005-7967\(79\)90047-0](https://doi.org/10.1016/0005-7967(79)90047-0)
- Geer, J. H., & Fuhr, R. (1976). Cognitive factors in sexual arousal: the role of distraction. *Journal of Consulting and Clinical Psychology*, 44(2), 238–243. <http://doi.org/10.1037/0022-006X.44.2.238>
- Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York: The Guilford Press Authors.
- Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research*, 50(1), 1–22. doi: 10.1080/00273171.2014.962683
- Heinberg, L. J., & Guarda, A. S. (2002). Body image in obstetrics and gynecology. In *Body image* (pp. 351–360). New York: Guilford Press.
- Johnson, C. E. (2011). Sexual health during pregnancy and the postpartum. *The Journal of Sexual Medicine*, 8(5), 1267-1284; quiz 1285-1286. <https://doi.org/10.1111/j.1743-6109.2011.02223.x>
- Jones, C., Chan, C., & Farine, D. (2011). Sex in pregnancy. *CMAJ: Canadian Medical Association Journal*, 183(7), 815–818. <https://doi.org/10.1503/cmaj.091580>
- Kazmierczak, M., & Goodwin, R. (2011). Pregnancy and body image in Poland: Gender roles and self-esteem during the third trimester. *Journal of Reproductive and Infant Psychology*, 29(4), 334–342. <https://doi.org/10.1080/02646838.2011.631179>
- Masters, W. H., & Johnson, V. E. (1966). *Human sexual response*. Oxford, United

Kingdom: Little, Brown.

Masters, W. H., & Johnson, V. E. (1970). *Human sexual inadequacy*. New York: Bantam Books.

McNulty, J. K., Wenner, C. A., & Fisher, T. D. (2016). Longitudinal Associations Among Relationship Satisfaction, Sexual Satisfaction, and Frequency of Sex in Early Marriage. *Archives of Sexual Behavior*, 45(1), 85–97. <https://doi.org/10.1007/s10508-014-0444-6>

Meana, M., & Nunnink, S. E. (2006). Gender differences in the content of cognitive distraction during sex. *Journal of Sex Research*, 43(1), 59–67. <https://doi.org/10.1080/00224490609552299>

Mercer, C. H., Fenton, K. A., Johnson, A. M., Wellings, K., Macdowall, W., McManus, S., Nanchahal K. & Erens, B. (2003). Sexual function problems and help seeking behaviour in Britain: national probability sample survey. *BMJ (Clinical Research Ed.)*, 327(7412), 426–427. <https://doi.org/10.1136/bmj.327.7412.426>

Nobre, P. (2003). *Disfunções sexuais: contributos para a construção de um modelo compreensivo baseado na teoria cognitiva*. Retrieved from <https://estudogeral.sib.uc.pt/handle/10316/981>

Nobre, P. (2006). *Disfunções sexuais*. Climepsi Editores.

Nobre, P. J. (2009). Determinants of sexual desire problems in women: Testing a cognitive-emotional model. *Journal of Sex & Marital Therapy*, 35(5), 360–377. <http://doi.org/10.1080/00926230903065716>

Nobre, P. J., & Pinto-Gouveia, J. (2006). Dysfunctional sexual beliefs as vulnerability factors to sexual dysfunction. *Journal of Sex Research*, 43(1), 68–75. <https://doi.org/10.1080/00224490609552300>

Nobre, P. J., & Pinto-Gouveia, J. (2008). Cognitive and emotional predictors of female sexual dysfunctions: Preliminary findings. *Journal of Sex & Marital Therapy*, 34(4), 325–342. <http://doi.org/10.1080/00926230802096358>

Nobre, P. J., & Pinto-Gouveia, J. (2009). Cognitive schemas associated with negative sexual events: A comparison of men and women with and without sexual dysfunction. *Archives of Sexual Behavior*, 38(5), 842–851. <http://doi.org/10.1007/s10508-008-9450-x>

Pascoal, P. M., Raposo, C. F., & Oliveira, L. B. (2015). Predictors of body appearance cognitive distraction during sexual activity in a sample of men with ED. *International Journal of Impotence Research*, 27(3), 103–107.

<https://doi.org/10.1038/ijir.2014.40>

Pascoal, P., Narciso, I., & Pereira, N. M. (2012). Predictors of body appearance cognitive distraction during sexual activity in men and women. *The Journal of Sexual Medicine*, 9(11), 2849–2860. <https://doi.org/10.1111/j.1743-6109.2012.02893.x>

Pauleta, J. R., Pereira, N. M., & Graça, L. M. (2010). Sexuality During Pregnancy. *The Journal of Sexual Medicine*, 7(1pt1), 136–142. <https://doi.org/10.1111/j.1743-6109.2009.01538.x>

Polomeno, V. (2000). Sex and Pregnancy: A Perinatal Educator's Guide. *The Journal of Perinatal Education*, 9(4), 15–27. <https://doi.org/10.1624/105812400X87879>

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate behavioral research*, 42(1), 185–227. doi: 10.1080/00273170701341316

Pujols, Y., Meston, C. M., & Seal, B. N. (2010). The Association Between Sexual Satisfaction and Body Image in Women. *The Journal of Sexual Medicine*, 7(2 Pt 2), 905–916. <https://doi.org/10.1111/j.1743-6109.2009.01604.x>

Reissing, E. D., Laliberté, G. M., & Davis, H. J. (2005). Young Woman's Sexual Adjustment: The Role of Sexual Self-Schema, Sexual Self-Efficacy, Sexual Aversion and Body Attitudes. *Canadian Journal of Human Sexuality*, 14(3/4), 77–85.

Satinsky, S., Reece, M., Dennis, B., Sanders, S., & Bardzell, S. (2012). An assessment of body appreciation and its relationship to sexual function in women. *Body Image*, 9(1), 137–144. <https://doi.org/10.1016/j.bodyim.2011.09.007>

Schooler, D., Ward, L. M., Merriwether, A., & Caruthers, A. S. (2005). Cycles of shame: menstrual shame, body shame, and sexual decision-making. *Journal of Sex Research*, 42(4), 324–334. <https://doi.org/10.1080/00224490509552288>

Silva, E., Pascoal, P. M., & Nobre, P. (2016). Beliefs About Appearance, Cognitive Distraction and Sexual Functioning in Men and Women: A Mediation Model Based on Cognitive Theory. *The Journal of Sexual Medicine*, 13(9), 1387–1394. <https://doi.org/10.1016/j.jsxm.2016.06.005>

Skouteris, H., Carr, R., Wertheim, E. H., Paxton, S. J., & Duncombe, D. (2005). A prospective study of factors that lead to body dissatisfaction during pregnancy. *Body Image*, 2(4), 347–361. <https://doi.org/10.1016/j.bodyim.2005.09.002>

Vannier, S. A., & Rosen, N. O. (2017). Sexual Distress and Sexual Problems During Pregnancy: Associations with Sexual and Relationship Satisfaction. *The Journal of Sexual*

*Medicine*, 14(3), 387–395. <https://doi.org/10.1016/j.jsxm.2016.12.239>

von Sydow, K. (1999). Sexuality during pregnancy and after childbirth: A metacontent analysis of 59 studies. *Journal of Psychosomatic Research*, 47(1), 27–49. <https://doi.org/0022-3999/99>

Wiederman, M. W. (2002). Body image and sexual functioning. In T. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research, and clinical practice* (pp. 287–294). New York; London: Guilford Press.

Woertman, L., & van den Brink, F. (2012). Body image and female sexual functioning and behavior: a review. *Journal of Sex Research*, 49(2–3), 184–211. <https://doi.org/10.1080/00224499.2012.658586>

Yamamiya, Y., Cash, T. F., & Thompson, J. K. (2006). Sexual Experiences among College Women: The Differential Effects of General versus Contextual Body Images on Sexuality. *Sex Roles*, 55(5–6), 421–427. <https://doi.org/10.1007/s11199-006-9096-x>