

Universidade do Minho Escola de Psicologia

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" Can you turn off the lights?" : Cognitive distraction during sexual activity

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Dissertação de Mestrado Mestrado Integrado em Psicologia

Trabalho efetuado sob a orientação da **Professora Doutora Joana Arantes**

junho de 2022

Despacho RT - 31 /2019 - Anexo 3

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Braga, 6 de junho de 2022

Ândaria Filipa Barito

(Ândria Filipa Brito)

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"The only source of knowledge is the experience." Albert Einstein

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I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration.

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Braga, 6 de junho de 2022

Ámdria Filipa Brito

(Ândria Filipa Brito)

"Podes apagar as luzes?": Distração cognitiva durante a atividade sexual

Resumo

O reconhecimento da importância da saúde sexual tem crescido ao longo das últimas décadas, e têm surgido estudos sobre dificuldades durante a atividade sexual, como a distração cognitiva. Contudo, a maioria destes estudos inclui apenas indivíduos heterossexuais e nenhum estudo foi realizado com indivíduos assexuais. Desta forma, o presente estudo teve como objetivo analisar a distração cognitiva em diferentes orientações sexuais. Investigamos ainda a relação entre a distração cognitiva, a satisfação corporal e a satisfação sexual, e diferenças de género. O estudo incluiu 2912 participantes (1674 homens e 1171 mulheres), com idades compreendidas entre os 18 e 73 anos (M = 26.53; SD = 7.94). Os participantes responderam a um questionário *online*, que incluía questões sociodemográficas, a Escala de Distração Cognitiva da Aparência Corporal, a Escala Situacional de Satisfação Corporal e a Nova Escala de Satisfação Sexual. Os principais resultados sugeriram que os indivíduos heterossexuais e homossexuais. Adicionalmente, verificou-se que os indivíduos heterossexuais tendem a ter níveis mais baixos de distração cognitiva que os indivíduos homossexuais, bissexuais e assexuais. Os resultados têm implicações importantes para a literatura e a prática clínica.

Palavras-chave: assexual, atividade sexual, distração cognitiva, satisfação corporal, satisfação sexual

"Can you turn off the lights?": Cognitive distraction during sexual activity

Abstract

The recognition of the importance of sexual health has increased over the last decades and studies have emerged about difficulties during sexual activity, like cognitive distraction. However, most of these studies include only heterosexual individuals and no studies have been conducted with asexual individuals. Thus, the present study aimed to analyse cognitive distraction in different sexual orientations. We also investigated the relationship between cognitive distraction, body satisfaction and sexual satisfaction, and gender differences. The study included 2912 participants (1674 men and 1171 women), aged between 18 and 73 years (M = 26.53; SD = 7.94). Participants completed an online questionnaire that included sociodemographic questions, the Body Appearance Cognitive Distraction Scale, the Situational Body Satisfaction Scale, and the New Sexual Satisfaction compared to heterosexual and homosexual individuals. Additionally, heterosexual individuals tend to have higher levels of cognitive distraction compared to heterosexual and homosexual individuals. Results have important implications for the literature and clinical practice.

Keywords: asexual, body satisfaction, cognitive distraction, sexual activity, sexual satisfaction

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"Can you turn off the lights?": Cognitive distraction during sexual activity

Having non-erotic thoughts during sexual activity is commonly reported by the general population (Purdon & Holdaway, 2006), and they tend to be associated with sexual functioning problems (Purdon & Watson, 2011; Silva et al., 2016). What thoughts come to people's minds during sexual activity? Masters and Johnson (1970) developed the concept of spectatoring, which designates a psychological process characterized by intense self-focus during sexual activity, self-observation and attention focused on one's performance, adopting the role of actor and spectator during sexual activity. This cognitive process is designated as cognitive distraction, and it is associated with sexual difficulties, such as decreased sexual arousal due to distraction from the experience of erotic sensation (Geer & Fuhr, 1976). Therefore, these individuals focus on stimuli that are not significant to the sexual activity, such as concerns related to sexual performance or other types of thoughts unrelated to erotic cues (Barlow, 1986).

In Purdon and Holdaway's (2006) study, most of the participants (92%) reported at least one non-erotic thought in their sexual experiences. Content related to cognitive distraction involves not only concerns associated with performance (Barlow, 1986), but also thoughts about body appearance, sexually transmitted infections, pregnancy, guilt, and regret (Purdon & Holdaway, 2006; Purdon & Watson, 2011). Since one of the most reported contents of thoughts related to concerns during sexual activity is the body (Nelson & Purdon, 2010; Purdon & Holdaway, 2006; Purdon & Watson, 2011), the present study will focus on cognitive distraction regarding body appearance. Few studies analysed the predictors of cognitive distraction based on body appearance and one of the variables that stood out was body dissatisfaction (Pascoal et al., 2012; Pascoal et al., 2015; Pascoal et al., 2019).

Cognitive distraction and body satisfaction

Body satisfaction is defined as the satisfaction that individuals have with their body, more specifically, their body size and shape (Burrowes, 2013). Lower body satisfaction, or more accurately dissatisfaction, has been associated with problems related to sexual activity (Pascoal et al., 2012; Pascoal et al., 2015). Thus, body dissatisfaction refers to individuals' negative thoughts and feelings about their own body (Grogan, 2017), and studies indicate that body dissatisfaction is a positive strong predictor of cognitive distraction based on body appearance during sexual activity (Pascoal et al., 2012; Pascoal et al., 2015; Pascoal et al., 2019). Also, these results are complemented by studies with mediation models (Carvalheira et al., 2016; Silva et al., 2016). In Silva and colleagues' (2016) study, the relationship between beliefs about body appearance and sexual functioning is mediated by cognitive distraction based on body appearance and sexual functioning is mediated by cognitive distraction based on body appearance and sexual functioning is mediated by cognitive distraction based on body appearance and sexual functioning is mediated by cognitive distraction based on body appearance and sexual functioning is mediated by cognitive distraction based on body appearance and sexual functioning is mediated by cognitive distraction based on body appearance and sexual functioning is mediated by cognitive distraction based on body appearance based body appearance result in higher levels of cognitive based on body appearance.

distraction and, consequently, in a negative impact on sexual functioning (Silva et al., 2016). Moreover, along with body satisfaction, another predictor of cognitive distraction has emerged (Dove & Wiederman, 2000; Meana & Nunnink, 2006; Pascoal et al., 2012; Pascoal et al., 2015). According to the literature, one of the most important negative predictors of cognitive distraction is sexual satisfaction (Dove & Wiederman, 2000; Meana & Nunnink, 2006).

Cognitive distraction and sexual satisfaction

Sexual satisfaction can be defined as an affective response that arises from one's subjective evaluation of the positive and negative dimensions related to one's sexual relationship (Lawrance & Byers, 1995). Prior studies support the relationship between cognitive distraction based on body appearance and sexual satisfaction, showing that higher levels of cognitive distraction are associated with lower levels of sexual satisfaction (Dove & Wiederman, 2000; Meana & Nunnink, 2006; Newcombe & Weaver, 2016). Dove and Wiederman (2000) found that cognitive distraction based on appearance was negatively associated with sexual esteem, consistent orgasm, and sexual satisfaction. In addition, Pujols and colleagues (2010), with a sample of women, found that participants who reported more thoughts related to appearance during sexual activity had lower sexual satisfaction. Furthermore, Purdon and Holdaway (2006) conducted a study that analysed non-erotic thoughts that men and women reported and the relationship of those thoughts with sexual variables (e.g., sexual functioning, sexual satisfaction). They found that anxiety caused by non-erotic thoughts was associated with lower levels of sexual satisfaction in women and worse sexual functioning in both men and women.

Cognitive distraction: the effect of gender and sexual orientation

Studies about cognitive distraction based on body appearance during sexual activity have been increasing (e.g., Poovey et al., 2022; Silva et al., 2016; Vigil et al., 2021), and gender differences have been studied (Goldsmith et al., 2017; Meana & Nunnink, 2006; Pascoal et al., 2012). However, only a few studies have focused on different sexual orientations (Lacefield & Negy, 2012; Lacefield et al., 2013). Regarding gender differences in cognitive distraction based on body appearance, most studies have found that women tend to report more cognitive distraction than men (Goldsmith et al., 2017; Meana & Nunnink, 2006; Pascoal et al., 2017; Meana & Nunnink, 2006; Pascoal et al., 2012). In addition, women have a tendency to have more thoughts about body image during sexual activity than men (Nelson & Purdon, 2010; Purdon & Holdaway, 2006; Purdon & Watson, 2011). For example, Goldsmith and colleagues (2017) conducted a study that analysed gender differences in the contents of cognitive distraction during sexual activity. Results demonstrated that women reported higher levels of cognitive distraction based on body appearance than men. However,

contrary to previous research, Lacefield and Negy (2012) found no significant gender differences in cognitive distractions with body image during sexual activity.

Concerning different sexual orientations, little is known about the impact of cognitive distraction (Lacefield & Negy, 2012; Lacefield et al., 2013). According to the American Psychological Association (APA, 2008), sexual orientation is defined as a stable pattern of emotional, romantic, and/or sexual attractions to women, men, or both sexes. Usually, sexual orientation is categorized into three dimensions: i) heterosexuality, which means sexual, emotional, or romantic attraction to people of different sex; ii) homosexuality, which is the sexual, emotional, or romantic attraction to people of the same sex; and ii) bisexuality, that means sexual, emotional, or romantic attraction to people of both sexes (APA, 2008).

Few studies so far have looked at the relationship between cognitive distraction and different sexual orientations (e.g., Lacefield & Negy, 2012; Lacefield et al., 2013). For example, Lacefield and Negy (2012) conducted a study that specifically analysed non-erotic cognitive distractions related to body image, and the results showed that lesbian and gay individuals report significantly higher levels of cognitive distraction related to body image than heterosexual individuals. In Peplau and colleagues' (2009) study, gay men reported more often that their feelings about the body had negative effects on their sex life quality (42%) than heterosexual men (22%). Also, gay men reported hiding at least one body part from their partner during sexual activity more often than heterosexual men (39% vs. 20%) (Peplau et al., 2009). The authors (Peplau et al., 2009) suggested that these results may reflect the social pressure that gay men feel to be physically attractive and sexually desirable (VanKim et al., 2016; Yelland & Tiggemann, 2003).

Furthermore, regarding bisexual individuals, studies suggest that bisexual experiences and concerns related to the body are similar to homosexual individuals (Davids & Green, 2011; Lacefield et al., 2013), and worse than heterosexual individuals, such as experiences with body dissatisfaction (Davids & Green, 2011). Levitan and colleagues (2018) found no significant differences between bisexual and gay men regarding sexual functioning, suggesting that bisexuals are also vulnerable to pressure related to appearance that occurs in subcultures of gay men (Siever, 1994). This pressure can increase the probability of gay and bisexual men experiencing self-objectification, and self-evaluating their bodies (Fredrickson & Roberts, 1997; Martins et al., 2007). Moreover, Huxley and colleagues (2011) found, using a sample of women, that bisexual individuals reported influences on their feelings, related to appearance and body, similar to lesbian women. In addition, in Lacefield and colleagues' (2013) study, with a sample of women, no differences were found between bisexual and colleagues' (2013) study.

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anxiety related to body concerns. However, also in this study, no differences were found between heterosexual, bisexual, and lesbian women (Lacefield et al., 2013).

It is important to notice that there is a sexual orientation that has not yet been studied and addressed in the literature about cognitive distraction during sexual activity, asexuality. Storms described, in 1980, asexuality as a fourth category of sexual orientation that represents people who have low levels of sexual attraction to both sexes. Asexuality can be defined as a lack of attraction to both sexes but not necessarily a lack of sexual activity (Rothblum et al., 2020; Storms, 1980). More specifically, although asexual people report less sexual activity than non-asexual people (Rothblum et al., 2020), there is evidence that asexual individuals engage in sexual activities (Aicken et al., 2013; Brotto et al., 2010) and have intimate relationships (Dawson et al., 2016; Rothblum et al., 2020). Bogaert (2004) found that asexual individuals, compared to non-asexual individuals, reported having fewer sexual partners, starting sexual activity later, and having less sexual activity. Even though asexual individuals do not have a tendency to want to engage in sexual activities (Dawson et al., 2016), those who are in a relationship tend to consent to have sexual activities, mainly to fulfil their partner's desires (Prause & Graham, 2007; Van Houdenhove et al., 2015). Research has also shown that asexual individuals show less attention to erotic stimuli than other people (Bradshaw et al., 2021), and report having to think about something else during sexual activity, to avoid focusing on the sexual act (Brotto et al., 2010). Furthermore, Swami and colleagues (2019) conducted an exploratory study with a British sample, in which the results showed that asexuality is significantly and negatively associated with positive body image. The authors (Swami et al., 2019) suggest that these results can be explained by the conflict that asexual people feel between having a low desire to be attractive to other people and feeling the negative effects of objectification and incompatibility with heteronormative expectations. Moreover, Swami and colleagues (2019) also suggest that since asexual individuals are associated with greater social avoidance (Brotto et al., 2010), this can negatively impact body image. Therefore, several studies indicate that people with negative body image have a tendency to report more problems with sexual functioning (Quinn-Nilas et al., 2016; Weaver & Byers, 2006) and be spectators of themselves during sexual activity, that is, they tend to experience cognitive distraction (e.g., Meana & Nunnink, 2006).

Current study

Among studies conducted on cognitive distraction based on body appearance during sexual activity (e.g., Dove & Wiederman, 2000; Meana & Nunnink, 2006; Purdon & Holdaway, 2006; Purdon & Watson, 2011), a dimension that has been neglected is the sexual orientation (Lacefield & Negy, 2012).

More specifically, studies in this field have focused mostly on heterosexual individuals (e.g., Pascoal et al., 2012; Pascoal et al., 2015). Most importantly, no prior study has investigated cognitive distraction based on body appearance during sexual activity in asexual individuals. Despite the growing recognition from some studies (e.g., Bogaert, 2004; Decker, 2014; MacNeela & Murphy, 2015; Rothblum et al., 2020), asexuality often referred to as an invisible orientation (Decker, 2014), is still understudied. Thus, to fill this gap in the literature, our main aim is to investigate possible differences between individuals with different sexual orientations in cognitive distraction based on body appearance during sexual activity. We also aim to examine the relationship between cognitive distraction and gender, since gender differences have been shown to play an important role in cognitive distraction (Goldsmith et al., 2017; Meana & Nunnink, 2006; Pascoal et al., 2012). Finally, we are also interested in analysing the relationship between cognitive distraction studying body satisfaction proves to be important since it has implications for the individual's sexual lives, as lower body satisfaction negatively influences sexual activity (Pascoal et al., 2012; Pascoal et al., 2015). Furthermore, sexual satisfaction is an important indicator of health and well-being (Flynn et al., 2016), it is associated with variables such as relationship satisfaction (Lewandowski & Schrage, 2010; McNulty et al., 2016).

Based on previous research, the following research hypotheses were proposed: H1) Asexual individuals will have higher levels of cognitive distraction based on body appearance than heterosexual, homosexual, and bisexual individuals; H2) Heterosexual individuals will have lower levels of cognitive distraction based on body appearance than homosexual, bisexual and asexual individuals; H3) Women will report higher levels of cognitive distraction based on body appearance than men; and H4) Individuals who have higher levels of cognitive distraction based on body appearance will have lower levels of body satisfaction.

Method

Participants

The sample of the present study was composed of 4340 participants. Then, participants that only answered the sociodemographic questionnaire (n = 1231), that had already initiated their sexual life but reported not having had sexual activity in the previous 12 months (n = 165), and women who were pregnant (n = 10) or breastfeeding (n = 22) were excluded. Thus, the final sample comprised 2912 participants aged between 18 and 73 years (M = 26.53; SD = 7.94) (see Table 1). Among the participants, 1647 (56.6%) identified as male, 1171 (40.2%) as female, 84 (2.9%) as non-binary, and 10 (.3%) identified with another gender (e.g., transgender). Regarding sexual orientation, the majority (n = 1788; 61.4%)

were heterosexual, whereas 455 (15.6%) were bisexuals, 338 (11.6%) homosexuals, 239 (8.2%) asexuals, 66 (2.3%) pansexuals and 26 (.9%) identified with another sexual orientation (e.g., queer). In terms of nationality, 61.6% (n = 1795) were Portuguese, 37.4% (n = 1090) were Brazilian and the rest (n = 27; .9%) were from other nationalities (e.g., Spanish). Most of the participants were workers (43.9%; n = 1278), and had a high school education level (43%; n = 1252). The majority had initiated sexual activity (82.4%; n = 2399), and of these participants, the average time since the first sexual activity was 9.42 years (SD = 7.94; range: 0-56), and the average of time since last sexual activity was 1.32 months (SD = 2.62; range: 0-12). Furthermore, most participants were in an intimate relationship (n = 1811; 62.2%). Of those who were in an intimate relationship, the average duration of the relationships was 4.81 years (SD = 5.76; range: 0-52), most were dating (n = 1086; 60.3%), and did not live with their partners (n = 1006; 55.9%).

Table 1.

Sociodemographic Variables		
	п	%
Nationality		
Portuguese	1795	61.6
Brazilian	1090	37.4
Other (e.g., Spanish)	27	.9
Gender		
Male	1647	56.6
Female	1171	40.2
Non-binary	84	2.9
Other (e.g., transgender)	10	.3
Sexual Orientation		
Heterosexuals	1788	61.4
Bisexuals	455	15.6
Homosexuals	338	11.6
Asexuals	239	8.2
Pansexuals	66	2.3
Other (e.g., queer)	26	.9
Professional situation		
Worker	1278	43.9
Student	969	33.3
Working Student	405	13.9
Unemployed	219	7.5
Other (e.g., freelancer)	29	1
Retired	12	.4

Sample sociodemographic characteristics

Sociodemographic Variables	п	%
Educational level		
High school	1252	43
Bachelor's degree	1023	35.1
Master's degree	474	16.3
Less than high school	123	4.2
PhD/Post-doctoral	38	1.3
Other	2	.1
Have initiated sexual activity		
Yes	2399	82.4
No	513	17.6
Intimate relationship		
Yes	1811	62.2
No	1101	37.8
Type of intimate relationship		
Dating	1086	60.3
Married	300	16.7
De facto union	235	13.1
Casual	174	9.7
Other	5	.3
Live with the partner		
No	1006	55.9
Yes	794	44.1
<i>Note.</i> N = 2912		

Measures

Sociodemographic Questionnaire

Participants answered a sociodemographic questionnaire, which included questions about age, nationality, gender, sexual orientation, professional situation, and educational level. Participants were also questioned if they had already initiated their sexual activity, and if they had, when. In addition, women were also asked if they were pregnant and if they were breastfeeding. Finally, participants were questioned if they were involved in an intimate relationship and if they were, they were asked to specify the duration of the intimate relationship, the type of intimate relationship, and if they lived with their partner.

Body Appearance Cognitive Distraction Scale (BACDS; Dove & Wiederman, 2000; Portuguese version adapted by Pascoal et al., 2012)

The Body Appearance Cognitive Distraction Scale (BACDS) is a subscale of the Cognitive Distraction Scale that was developed by Dove and Wiederman (2000) and validated to Portuguese by Pascoal and colleagues (2012). This scale is composed of 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"). Answers are rated on a six-point Likert scale ranging from 1 ("Never") to 6 ("Always"). The total scores range from 1 to 60, with higher values indicating higher levels of cognitive distraction with body appearance during sexual activity. In the original study (Dove & Wiederman, 2000), BACDS indicated good reliability ($\alpha = .95$).

Situational Body Satisfaction Scale (SBSS; Hirata & Pilati, 2010)

The Situational Body Satisfaction Scale (SSBS), developed by Hirata and Pilati (2010), evaluates the state of body satisfaction in participants of both sexes, with items about body parts and the body as a whole. This scale has 23 questions, divided into four factors: i) lower parts, which has four items related to specific parts of the body, such as glutes, hips, and legs; ii) satisfaction and muscle, which includes eight items with questions of positive evaluation and also about muscles; iii) external parts, which has four items related to specific parts of the body such as hair, face, and body hair; and iv) dissatisfaction and fat, which includes seven items and is grouped according to the negative load of the items, as well as content related to body fat. Results are obtained by averaging the responses given by the participants to each factor. Responses are rated on a five-point Likert scale, from 1 ("Strongly disagree") to 5 ("Strongly agree"). Regarding reliability, the following Cronbach alphas were found: "lower parts" ($\alpha = .72$), "satisfaction and muscle" ($\alpha = .82$), "external parts" ($\alpha = .65$), and "dissatisfaction and fat" ($\alpha = .82$) (Hirata & Pilati, 2010).

New Sexual Satisfaction Scale (NSSS; Štulhofer et al. 2010; Portuguese version adapted by Pechorro et al., 2014)

The New Sexual Satisfaction Scale (NSSS), developed by Stulhofer and colleagues (2010) was translated, adapted, and validated for the Portuguese population by Pechorro and colleagues (2014). This scale measures sexual satisfaction and has 20 items, divided into two subscales: i) ego-centered, which evaluates sexual satisfaction caused by personal experiences and sensations (items 1-10) (e.g., "The intensity of my sexual arousal"); and ii) partner- and sexual activity- centered, that focuses on sexual satisfaction derived from one's partner's sexual behaviors and reactions and the diversity or frequency of sexual activities (items 11-20) (e.g., "My partner's initiation of sexual activity"). Participants respond to the items using a five-point Likert scale from 1 ("Not at all satisfied") to 5 ("Extremely satisfied"). The score for each dimension is obtained by adding the scores of the individual items of the respective dimension and the total score of the scale is obtained by adding the scores of all the items. Regarding the reliability measured by Cronbach's alpha, the original version presented good reliability (for both

subscales and different populations, $\alpha > .90$), as well as in the Portuguese version (for both subscales, $\alpha > .94$) and statistically significant correlations were obtained in the validity (Pechorro et al., 2014).

Procedure

The questionnaire was approved by the Ethics Committee of the University of Minho and was elaborated using the Qualtrics Research Suite program. The questionnaire link was shared by personal e-mail and online social networks (Instagram, Facebook, and Reddit). Participants did not receive any kind of reward.

Initially, the informed consent was presented, which contained the objectives of the study and ensured data confidentiality and the voluntary nature of the study. Then, the sociodemographic questionnaire was presented, followed by the scales – BACDS, SBSS, and NSSS –, in a counterbalanced order. Only the individuals that had initiated sexual activity answered BACDS and NSSS. It took approximately 10-15 minutes to complete the questionnaire.

Statistical Analysis

The data collected were exported to an Excel spreadsheet and then analyses were performed with the Statistical Package for the Social Sciences software (SPSS; version 28). The analyses included: i) Descriptive analyses for the entire sample; ii) Pearson's correlations to evaluate the associations between age, time since first sexual activity, relationship duration, sexual satisfaction, body satisfaction, cognitive distraction based on body appearance, and time since last sexual activity; iii) independent samples *t*tests to investigate possible differences between genders, participants who had or had not initiated sexual activity, who were or were not involved in an intimate relationship and participants who lived or did not live with their partners; iv) univariate analyses of variance (ANOVA) to examine possible differences between sexual orientations; and v) multiple regression models predicting cognitive distraction based on body appearance. A criterion of p < .05 was used for all significant tests.

Results

Descriptive analyses

Table 2 shows descriptive statistics for the variables used, namely age, time since first sexual activity, relationship duration, sexual satisfaction, body satisfaction, cognitive distraction based on body appearance, and time since the last sexual activity. Results are shown for males and females separately. Independent sample *t*tests showed that, compared to females, males tended to be older, *t* (2816) = - 2.262, p < .05, had their first sexual activity longer ago, *t* (2191) = -2.158, p < .05, were in longer

relationships, t(1660.78) = -3.73, p < .001, and showed higher levels of body satisfaction, t(2204.31)= -6.34, p < .001. However, compared with men, females reported more cognitive distraction based on body appearance, t(1604.75) = 11.99, p < .001.

Table 2.

Descriptive statistics (M = Mean; SD = Standard Deviation) for gender

	Female		Male		
	М	SD	М	SD	р
Age	26.17	8.01	26.85	7.86	< .05
Time since first sexual activity	8.99	8.03	9.73	7.83	< .05
Relationship duration	4.27	5.38	5.30	5.93	< .001
Sexual satisfaction	3.81	.87	3.81	.78	.456
Body satisfaction	3.09	.83	3.28	.73	< .001
Cognitive distraction based on body appearance	2.54	1.36	1.90	1.00	< .001
Time since last sexual activity	1.24	2.47	1.35	2.68	.183

Differences between individuals who had and who had not initiated sexual activity

A *t* test for independent samples showed a statistically significant difference between individuals who had initiated sexual activity and those who had not initiated sexual activity regarding relationship duration and body satisfaction, t(64.07) = 13.23, p < .001 and t(723.91) = 3.81, p < .001, respectively. More specifically, individuals who had initiated sexual activity reported longer relationship durations (M = 4.89, SD = 5.79) and higher levels of body satisfaction (M = 3.22, SD = .77) than individuals who had not initiated sexual activity (M = 1.18, SD = 1.47; M = 3.06, SD = .84).

Figure 1.

Average scores of relationship duration and body satisfaction for individuals who had and those who had not initiated sexual activity. Errors bars represent standard error. *** p < .001.

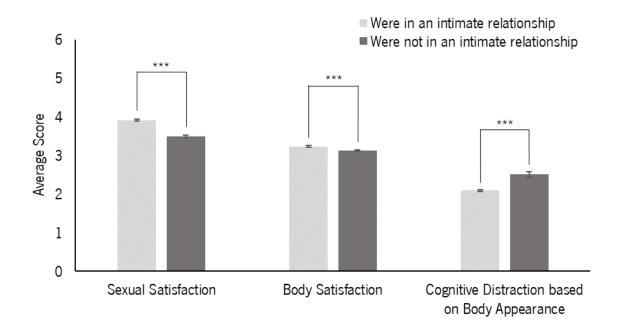


Differences between individuals who were and were not in an intimate relationship

A *t* test for independent samples showed that individuals who were in an intimate relationship reported higher levels of sexual satisfaction (M = 3.91, SD = .77) and body satisfaction (M = 3.23, SD = .77) than individuals who were not in an intimate relationship ($M_{SexualSatisfaction} = 3.49$, $SD_{SexualSatisfaction} = .87$; $M_{BodySatisfaction} = 3.12$, $SD_{BodySatisfaction} = .79$), *t* (817.38) = 10.01, *p* < .001 and *t* (2712) = 3.44, *p* < .001, respectively. In addition, individuals who were not in an intimate relationship reported higher levels of cognitive distraction based on body appearance (M = 2.51, SD = 1.3), than individuals who were in an intimate relationship (M = 2.09, SD = 1.18), *t* (854) = -6.62, *p* < .001.

Figure 2.

Average scores of sexual satisfaction, body satisfaction and cognitive distraction based on body appearance for individuals who were and those who were not in an intimate relationship. Errors bars represent standard error. *** p < .001.

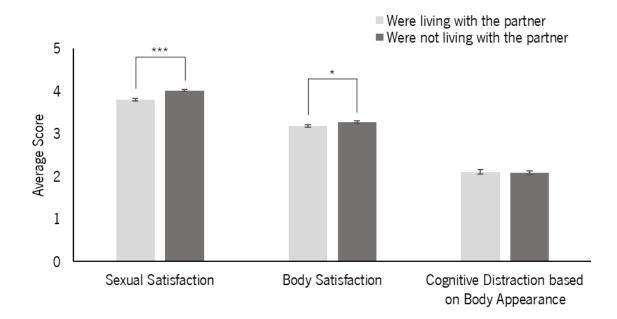


Differences between individuals who were and were not living with their partner

Results showed that individuals who were not living with their partner reported higher levels of sexual satisfaction (M = 4.01, SD = .71) and body satisfaction (M = 3.27, SD = .77) than individuals who were living with their partner ($M_{SexualSatisfaction} = 3.79$, $SD_{SexualSatisfaction} = .83$; $M_{BodySatisfaction} = 3.18$, $SD_{BodySatisfaction} = .78$), t (1398.27) = -5.58, p < .001 and t (1657) = -2.17, p < .05, respectively.

Figure 3.

Average scores of sexual satisfaction, body satisfaction and cognitive distraction based on body appearance for individuals who were and those who were not living with the partner. Errors bars represent standard error. * p < .05; *** p < .001.



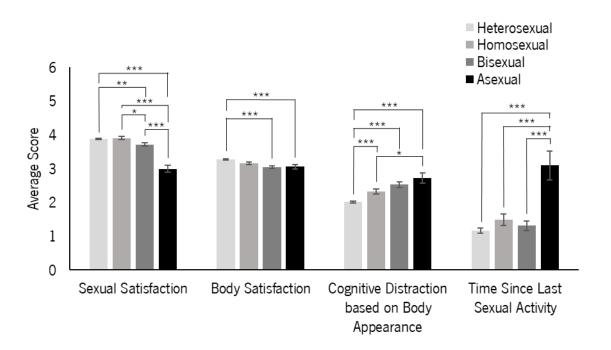
Differences between sexual orientations

Univariate analyses of variance (ANOVAs) were performed to examine possible differences in sexual satisfaction, body satisfaction, cognitive distraction based on body appearance and time since last sexual activity depending on the sexual orientation of the participants. Results showed a significant effect of sexual satisfaction, F(3,2050) = 41.94, p < .001. Post-hoc Bonferroni tests indicated that asexual individuals reported less sexual satisfaction (M = 2.99, SD = 1.02) than heterosexual individuals (M = 3.87, SD = .77), p < .001, than homosexual individuals (M = 3.90, SD = .76), p < .001, and than bisexual individuals (M = 3.71, SD = .85), p < .001. In addition, bisexual individuals reported less sexual satisfaction (M = 3.90, SD = .76), p < .001, and than bisexual individuals (M = 3.71, SD = .85) than heterosexual individuals (M = 3.87, SD = .77), p < .01, and than homosexual individuals (M = 3.90, SD = .76), p < .05. Results also showed a significant effect of body satisfaction, F(3,2624) = 13.58, p < .001. Post-hoc Bonferroni tests indicated that heterosexual individuals reported higher levels of body satisfaction (M = 3.05, SD = .75) than bisexual individuals (M = 3.04, SD = .80), p < .001, and than asexual individuals (M = 3.05, SD = .93), p < .001. In addition, results also showed a significant effect of cognitive distraction based on body appearance, F(3,2055) = 27.11, p < .001. Post-hoc Bonferroni tests indicated higher cognitive

distraction based on body appearance (M = 2.72, SD = 1.55) than heterosexual individuals (M = 2.01, SD = 1.08), $\rho < .001$, and than homosexual individuals (M = 2.32, SD = 1.22), $\rho < .05$. In addition, heterosexual individuals reported lower cognitive distraction based on body appearance (M = 2.01, SD = 1.08) than homosexual individuals (M = 2.32, SD = 1.22), $\rho < .001$, and than bisexual individuals (M = 2.52, SD = 1.41), $\rho < .001$. Regarding cognitive distraction based on body appearance, results did not show a statistically significant difference between bisexual and homosexual individuals (p = .221) and asexual individuals (p = .743). Finally, results also showed a significant effect of time since last sexual activity, F (3,1843) = 14.94, p < .001. Post-hoc Bonferroni tests indicated that asexual individuals (M = 1.16, SD = 2.49), p < .001, than homosexual individuals (M = 1.49, SD = 2.66), p < .001, and than bisexual individuals (M = 1.31, SD = 2.41), p < .001.

Figure 4.

Average scores of sexual satisfaction, body satisfaction, cognitive distraction based on body appearance, and time since last sexual activity for the different sexual orientations. Errors bars represent standard error. * p < .05; ** p < .01; *** p < .001.



Correlational analyses

We examined correlations between age, time since first sexual activity, relationship duration, sexual satisfaction, body satisfaction, cognitive distraction based on body appearance, and time since last sexual activity. Results are shown in Table 3. Results showed that age was positively correlated with time

since the first sexual activity (r = .913, p < .01) and relationship duration (r = .646, p < .001), indicating that older people tended to have their first sexual activity longer ago and longer relationship durations. On the other hand, age was negatively correlated with sexual satisfaction (r = -.092, p < .001), and cognitive distraction with body appearance (r = -.079, p <.001), showing that older individuals tended to be less satisfied with their sexual life, and less cognitively distracted based on body appearance.

Time since first sexual activity was positively correlated with relationship duration (r = .630, p < .001) and negatively correlated with sexual satisfaction (r = .068, p < .01) and cognitive distraction based on body appearance (r = .055, p < .05). This shows that people who had their first sexual activity longer ago tended to have longer relationship durations, to be less satisfied with their sexual life, and to be less cognitively distracted by body appearance. In addition, relationship duration was negatively correlated with sexual satisfaction (r = .143, p < .001), indicating that individuals with longer relationship durations tended to be less satisfied with their sexual life. Sexual satisfaction was positively correlated with body satisfaction (r = .302, p < .001) and negatively correlated with cognitive distraction based on body appearance (r = .332, p < .001) and time since last sexual activity (r = .266, p < .001). This shows that individuals who were more sexually satisfied tended to be more satisfied with their body, less cognitively distracted based on body appearance, and had sexual activity more recently.

Results also showed that body satisfaction was negatively correlated with cognitive distraction based on body appearance (r = .576, p < .001) and time since last sexual activity (r = .063, p < .01), showing that individuals more satisfied with their body tended to be less cognitively distracted based on body appearance, and had sexual activity more recently. Finally, cognitive distraction based on body appearance was positively correlated with time since last sexual activity (r = .118, p < .001), indicating that individuals more cognitively distracted based on body appearance tended to had sexual activity longer ago.

Table 3.

Correlational analyses between age, time since first sexual activity, relationship duration, sexual satisfaction, body satisfaction, cognitive distraction based on body appearance, and time since last sexual activity.

	Variables	1	2	3	4	5	6	7
1.	Age	-	.913**	.646**	092**	.000	079**	022
2.	Time since last sexual activity		-	.630**	068**	028	055*	020
3.	Relationship duration			-	143**	042	019	.046
4.	Sexual satisfaction				-	.302**	332**	266**
5.	Body satisfaction					-	576**	063**
6.	Cognitive distraction with body appearance						-	.118**
7.	Time since last sexual activity							-

* p < .05; ** *p* < .01

Regression

The zero-order correlations presented above demonstrate that age, time since last sexual activity, sexual satisfaction, and body satisfaction were associated with cognitive distraction based on body appearance. In addition, results showed there are significant differences between individuals that identified with different genders, sexual orientations, and those that were involved or not in an intimate relationship, regarding cognitive distraction based on body appearance. However, because some of these variables were low-to-highly intercorrelated, it was of interest to determine the collective and unique explanatory power of these variables, as well as gender and sexual orientation. Therefore, we performed multiple regression analyses where the scale of cognitive distraction based on body appearance was regressed onto these six predictor variables. The analyses are presented in Table 4, and it is possible to see that the model measured the variables collectively explained approximately 40.1% of the total variance in cognitive distraction with body appearance. The standardized regression coefficients (β s) for the specific variables indicated that age, gender, sexual orientation, sexual satisfaction, body satisfaction, and intimate relationship were the unique and strong predictors of cognitive distraction based on body appearance.

Table 4.

Variable	riable Cognitive Distraction based of		ed on body appearance
		β	p
Model	Age	064	< .001
	Gender	123	< .001
	Sexual Orientation	.119	< .001
	Intimate relationship	.089	< .001
	Sexual Satisfaction	160	< .001
	Body satisfaction	498	< .001
	Model r ²	.401	

Multiple regression models predicting Cognitive Distraction based on Body Appearance

Discussion

Studies conducted about sexual functioning highlighted cognitive distraction during sexual activity as one of the psychological processes that are associated with sexual problems (Barlow, 1986; Dove & Wiederman, 2000; Geer & Fuhr, 1976; Meana & Nunnink, 2006). However, few studies have analysed cognitive distraction in different sexual orientations (Lacefield & Negy, 2012; Lacefield et al., 2013) and none have investigated the impact of cognitive distraction in asexual individuals. Therefore, the present study aimed to fulfil this existing gap in the literature, by analysing the impact of cognitive distraction based on body appearance in a sample of heterosexual, homosexual, bisexual, and asexual individuals. In addition, we also analysed gender differences in cognitive distraction and the relationship between cognitive distraction and body and sexual satisfaction.

Results showed that asexual individuals have higher levels of cognitive distraction based on body appearance than heterosexual and homosexual individuals. No differences were obtained between asexual and bisexual individuals regarding cognitive distraction. These findings are partially consistent with our first hypothesis, as we expected that asexual individuals would have higher levels of cognitive distraction with body appearance than heterosexual, homosexual, and bisexual individuals. Research as shown that asexual individuals tend to engage in sexual activities because they feel pressure and obligation (Brotto et al., 2010; Dawson et al., 2016), which leads them to focus on non-erotic thoughts during sexual activity (Brotto et al., 2010). In addition, Swami and colleagues (2019) suggested that asexual individuals can experience negative outcomes of objectification and heteronormative expectations because they do not adopt heteronormative norms and appearance. Thus, being in a society dominated by sexuality brings difficulties to asexual individuals (Chasin, 2015; Vares, 2018), like cognitions related

to negative body image. Moreover, asexual men are exposed to expectations of masculinity that emphasize hypersexuality (Gupta, 2019). Similarly, asexual women are also exposed to preconceptions (e.g., suggesting that they need to find the "right man" to awake their sexuality) (Vares, 2018). These preconceptions can make asexual individuals feel guilty for not being able to correspond with the expectations (Vares, 2018), and consequently, they can increase the demands and concerns about their bodies. Furthermore, since asexual individuals tend to focus less on the erotic stimulus (Bradshaw et al., 2021; Brotto et al., 2010), have negative body images (Swami et al., 2019), and participate in sexual activities mostly for pleasing their partners (Brotto et al., 2010; Dawson et al., 2016; Prause & Graham, 2007; Van Houdenhove et al., 2015), concerns associated with the partner's pleasure can arise, such as body concerns. Regarding all these factors, unique to asexual individuals, it was expected that asexual individuals had greater cognitive distraction than other sexual orientations, which was verified in the current study when compared with heterosexual and homosexual individuals.

However, no significant differences were found between asexual and bisexual individuals regarding cognitive distraction based on body appearance. This result may be due to the small sample size of asexual individuals. Even though there were no significant differences between asexual and bisexual individuals, the results point in the expected direction, that is, asexual individuals seem to have a tendency to have higher levels of cognitive distraction than bisexual individuals. Moreover, another possible explanation for this finding may be due to the unique discrimination that bisexual individuals suffer from lesbian, gay, and heterosexual individuals (Brewster & Moradi, 2010; Roberts et al., 2015). More specifically, there are still specific beliefs associated with bisexuality, such as that bisexuality is not a "real" sexual orientation, bisexual individuals are confused about their sexual orientation, are promiscuous, sexually obsessed, disloyal and that bisexuality is a curiosity (Brewster & Moradi, 2010; Dodge et al., 2016; Yost & Thomas, 2012). Thus, many bisexual individuals are negatively affected in terms of their mental health because of these experiences of discrimination (Arnett et al., 2019; Feinstein & Dyar, 2017; Flanders et al., 2015). Research has shown that bisexual discrimination in women is positively correlated with internalization, body surveillance, body shame, and appearance anxiety during sexual activity (Brewster et al., 2014; Polihronakis et al., 2021). Besides that, bisexual women are hypersexualized, they are seen as a theme of sexual fantasies to men, being often dehumanized (Brewster et al., 2014; Johnson & Grove, 2017), making bisexual women aware of how male partners see their bodies and appearance. Huxley and colleagues (2011) stated that bisexual women have concerns with the male gaze and at the same time they are dealing with the commitment to lesbian communities, which can influence their feeling about their appearance. In addition, in this study (Huxley et al., 2011) bisexual

women with male partners reported concerns about how they might be perceived by their partner regarding their body and appearance. Furthermore, in Austen and colleagues' (2020) study bisexual men reported more experiences with body discrimination than other sexual orientations. All these expectations and discrimination about bisexual individuals can make them think about their body appearance, and how they should look considering the expectations of others, developing body image concerns. Finally, it is curious how bisexuality and asexuality have something in common, as bisexuality is also often regarded as an invisible orientation (Burleson, 2005). It may be interesting for future studies to investigate the link between bisexual and asexual individuals, as they deserve more academic attention. Finally, it is important to mention that no significant differences were found between bisexual and homosexual individuals regarding cognitive distraction based on body appearance, which is consistent with the literature (Davids & Green, 2011; Lacefield et al., 2013; Levitan et al., 2018).

The second hypothesis stated that heterosexual individuals would have lower levels of cognitive distraction based on body appearance than homosexual, bisexual, and asexual individuals. This hypothesis was confirmed. The literature suggests that homosexual and bisexual individuals report more cognitive distraction based on body appearance than heterosexual individuals, which is consistent with our results (e.g., Davids & Green, 2011; Lacefield & Negy, 2012; Peplau et al., 2009). According to Lacefield and Negy (2012), these distractions reflect concerns about how their appearances are being perceived by their partners and reflect the higher levels of inadequacy during sexual activity that they experience compared to heterosexual individuals. Furthermore, although no study so far has compared heterosexual and asexual individuals regarding cognitive distraction, there are some findings in the literature that allowed us to hypothesize that asexual individuals would report more cognitive distraction than heterosexual individuals (e.g., Bradshaw et al., 2021; Brotto et al., 2010; Davids & Green, 2011; Lacefield & Negy, 2012; Swami et al., 2019). More specifically, studies with sexual minorities (e.g., homosexual and bisexual) have shown that heterosexual individuals report lower concerns with the body than sexual minorities (Davids & Green, 2011; Lacefield & Negy, 2012; Peplau et al., 2009). Additionally, asexual individuals tend to have more negative body images (Swami et al., 2019) and focus less on erotic stimuli (Bradshaw et al., 2021), compared to other sexual orientations, which can result in cognitive distraction based on body appearance (Masters & Johnson, 1970; Purdon & Holdaway, 2006). Furthermore, some concerns are shared by sexual minorities that influence their experiences, leading individuals to experience stress and, consequently, causing an impact on mental health (Chan et al., 2020; Lewis et al., 2003; Meyer, 2003), as well as in body appearance. In addition, in the present study heterosexual individuals reported having higher levels of body satisfaction than bisexual and asexual

individuals. With homosexual individuals no significant differences were found, however the results point in this direction, heterosexual individuals tend to have higher levels of body satisfaction than homosexual individuals. Thus, body satisfaction is a strong predictor of cognitive distraction during sexual activity (Pascoal et al., 2012; Pascoal et al., 2015; Pascoal et al., 2019), as we could see in the present study, so these higher levels of body satisfaction reported by heterosexual individuals impact cognitive distraction and may influence the results among the different sexual orientations.

Results showed that women reported higher levels of cognitive distraction based on body appearance than men, which confirms the third hypothesis. Our results are consistent with the literature (Goldsmith et al., 2017; Meana & Nunnink, 2006; Pascoal et al., 2012). Women's sexuality is more subject to the influence of context than men's sexuality (Baumeister, 2000). Furthermore, research has shown that women report more body image concerns than men (Nelson & Purdon, 2010), which can lead women to be more anxious about being nude in front of a partner and thus distracted by how their bodies appear to another person. In addition, women are frequently exposed to body objectification (Fredrickson & Roberts, 1997), which can increase concerns about body appearance and consequently increase cognitive distraction. Objectification refers to the fact that body, body parts, or sexual functions of women are treated as separate from themselves and their bodies are considered for the pleasure of others, leading women to internalize these expectations and, consequently, to adopt a spectator perspective of themselves, self-evaluating their bodies, or more specifically, leading to a state of selfconsciousness characterized by monitoring their body appearance (Fredrickson & Roberts, 1997). Thus, women report more self-objectification than men (Oehlhof et al., 2009; Strelan & Hargreaves, 2005). According to Watson and colleagues (2019), self-objectification can result in psychological consequences for women such as anxiety related to appearance, a decrease in their ability to engage in pleasurable activities, and a decrease in internal awareness of bodily states (Fredrickson & Roberts, 1997).

The fourth hypothesis predicted that individuals who had higher levels of cognitive distraction based on body appearance would have lower levels of body satisfaction and sexual satisfaction. Our results support this hypothesis and are also congruent with the literature (Pascoal et al., 2012; Pascoal et al., 2015; Pascoal et al., 2019). These results are in line with the study of Pascoal and colleagues (2015) that showed that individuals with higher body dissatisfaction tended to have higher levels of cognitive distraction. These results can be explained by the fact that negative body image leads to body concerns during sexual activity since this experience involves showing the body (Dosch et al., 2016). Thus, lower body satisfaction makes individuals focus on body appearance and reduces the focus on

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erotic cues during sexual activity, leading to higher levels of cognitive distraction (Masters & Johnson 1970; Pascoal et al., 2012; Pascoal et al., 2015). Furthermore, the results about sexual satisfaction are also consistent with the literature, which suggest that higher scores of cognitive distractions based on body appearance are associated with lower levels of sexual satisfaction (Dove & Wiederman, 2000; Meana & Nunnink, 2006; Newcombe & Weaver, 2016). The process of cognitive distraction based on body appearance implies monitoring the body, decreasing the attention directed to sexual cues and sensations (Geer & Fuhr, 1976), impairing sexual functioning (Purdon & Holdaway, 2006), and, consequently, decreasing sexual satisfaction (Dove & Wiederman, 2000; Meana & Weaver, 2016).

In addition, our results showed that age, gender, sexual orientation, sexual satisfaction, body satisfaction, and intimate relationship were the strongest predictors of cognitive distraction based on body appearance. These results strengthen that younger individuals, women, asexual individuals, individuals with lower sexual satisfaction, individuals with lower body satisfaction, and individuals who are not in an intimate relationship tend to have higher levels of cognitive distraction during sexual activity.

In this study is important to consider some limitations. First, this study uses a convenience sample, and therefore results cannot be generalized without caution. More specifically, even though our final sample is large (i.e., approximately 3000 participants), individuals were recruited through personal email and social networks (Facebook, Instagram, and Reddit). Thus, individuals who answered the questionnaire had internet access and were not representative of the population in terms of economic, social, and cultural characteristics. In addition, we also reached Portuguese-speaking individuals from other countries, such as Brazil. For future research, we suggest a sample that is as representative as possible of the Portuguese population. Second, the average age was relatively low (M = 26.53), so it would be interesting to conduct a similar study with an older sample to analyse if the same pattern of results would be obtained. Third, we used self-report measures, which can influence the responses of the participants by social desirability, they may have difficulties to understand the questions and some instructions, and the fixed-choice questions may not allow participants to express themselves (Demetriou et al., 2015).

In conclusion, cognitive distraction during sexual activity has a negative impact on individuals' lives, affecting sexual functioning in different ways (Cuntim & Nobre, 2011), and therefore it is important to know how cognitive distraction affects people with different personal characteristics. The present study offers new insights to the literature analysing the impact of cognitive distraction based on body

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appearance in different sexual orientations, more specifically in asexual individuals. Results suggest that asexual individuals present higher levels of cognitive distraction than heterosexuals and homosexual individuals and that heterosexual individuals have lower levels of cognitive distraction than the other sexual orientations (i.e., homosexual, bisexual, and asexual individuals). No differences were found between asexual and bisexual individuals regarding cognitive distraction. In addition, we found that women have more cognitive distraction than men and that individuals with higher levels of cognitive distraction tend to have lower sexual and body satisfaction. Sexual activity is an important factor in people's daily life, and it affects their well-being and quality of life (Barger, 2022). Therefore, it is necessary to develop strategies that prevent, and remedy problems related to sexual activity, such as cognitive distraction. These findings have implications for psychological intervention and clinical practice, considering that it is relevant to understand the cognitions of individuals of different sexual orientations and develop intervention programs that help people to promote techniques that favor healthy sexual activity.

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Anexo

Parecer Comissão de Ética para a Investigação em Ciências Sociais e Humanas



Universidade do Minho

Conselho de Ética

Comissão de Ética para a Investigação em Ciências Sociais e Humanas

Identificação do documento: CEICSH 044/2021 Relatores: Emanuel Pedro Viana Barbas Albuquerque e Marlene Alexandra Veloso Matos

Título do projeto: Consequências do isolamento social nos relacionamentos amorosos devido à Covid-19

Equipa de Investigação: Diana Raquel Henriques Teixeira e Letícia Dias da Costa (IRs), Mestrado Integrado em Psicologia, Escola de Psicologia, Universidade do Minho; Joana Arantes (Orientadora), Escola de Psicologia, Universidade do Minho

PARECER

A Comissão de Ética para a Investigação em Ciências Sociais e Humanas (CEICSH) analisou o processo relativo ao projeto de investigação acima identificado, intitulado *Consequências do isolamento social nos relacionamentos amorosos devido à Covid-19.*

Os documentos apresentados revelam que o projeto obedece aos requisitos exigidos para as boas práticas na investigação com humanos, em conformidade com as normas nacionais e internacionais que regulam a investigação em Ciências Sociais e Humanas.

Face ao exposto, a Comissão de Ética para a Investigação em Ciências Sociais e Humanas (CEICSH) nada tem a opor à realização do projeto nos termos apresentados no Formulário de Identificação e Caracterização do Projeto, que se anexa, emitindo o seu parecer favorável, que foi aprovado por unanimidade pelos seus membros.

Braga, 31 de maio de 2021.

O Presidente da CEICSH

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