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EXPRESSION OF FEELINGS AND SEXUAL FUNCTION: THE MEDIATING ROLE OF SEXUAL SELF-DISCLOSURE IN A HETEROSEXUAL SAMPLE

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Acknowledgment

Undertaking this Master's degree has been a truly challenging experience for me. I started this journey as a young lady who arrived from Russia not being able to say a single word in Portuguese and who had always been dreaming to study at a European university. Now I am finishing this journey as a young professional, mother and, still, a dreamer who believes that every finish line is a new beginning.

This would not have been possible without the support and guidance that I received from many people. From the bottom of my heart, I would like to thank everyone who contributed in some way to the work described in this thesis.

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Abstract

While much of the current literature focused on associations that exist between individual factors of sexual health, namely sexual function, little is known about the role that relational predictors play in sexual function of an individual. In the current study, we aimed to gain more insight into how expression of feelings and sexual self-disclosure might potentially affect sexual function of individuals testing a mediation model.

A total of 564 cis-gendered, heterosexual male and female participants was recruited. Any participant who did not fill an item from one of the scales of interest and all atypical values were excluded from the research. Thus, the final sample consisted of 492 cases, of which 170 were men (34,55%) and 322 were women (65,44%) aged 18-74 years involved in a dyadic exclusive, committed relationship.

To compare the variables of interest, T-tests for independent samples and one-way MANOVA were applied. To test the association between variables, Pearson's bivariate correlation tests were used. The data revealed a significant overall effect of expression of feelings on sexual function. The results proved that sexual self-disclosure mediates the relationship between expression of feelings and sexual function as these variables are positively and significantly correlated.

Upon the examination of gender-related findings, the results showed significant differences in the level of expression of feelings between men and women, with women having higher mean values, however, the data did not reveal any statistically significant difference in mean values of sexual self-disclosure between men and women. We also found that gender does not moderate either the trajectory in the relation between expression of feelings and sexual self-disclosure nor the trajectory between sexual self-disclosure and sexual function.

Key-words: emotional intimacy, expression of feelings, sexual function, sexual self-disclosure, gender.

Acronyms and Abbreviations

α - Cronbach's alpha

β - Regression coefficient

Λ - Chi-square value

% - Percentage

CI - Confidence interval

e.g. - For the sake of example (Latin: *"exemplary gratia"*)

et al. - And other contributors (Latin: *"et alia"*)

etc. - And others of the same type (Latin: *"et cetera"*)

EASAVIC - Evaluation Scale of Marital Life Areas Satisfaction (Portuguese: *Escala de Avaliação da Satisfação em Áreas da Vida Conjugal*)

FCT - Foundation for Science and Technology (Portuguese: *"Fundação para a Ciência e a Tecnologia"*)

FSFI - Female Sexual Function Index

i.e. - In other words (Latin: *"id est"*)

IIEF - International Index of Erectile Function

M - Mean (or average)

Max - Maximum value of value range

Min. - Minimum value of value range

N - Total number of cases

n - Number of subsamples

WHO - World Health Organization

p - Probability associated with the test value (p-value)

SD - Standard deviation

SPSS - Statistical Package for the Social Sciences

SSDQ - Sexual Self-Disclosure Questionnaire

V - Cramer's V (sometimes referred to as Cramér's phi)

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Introduction

Referring to the views of the World Health Organization, sexual health "is a state of physical, emotional, mental and social well-being associated with sexuality and is not merely the absence of disease, dysfunction or infirmity" (WHO, 2010, p.1). Nevertheless, discussing sexual health includes understanding factors associated with sexual functioning.

Much of the current literature focuses on the psychological aspects, such as anxiety (Bradford & Meston, 2006; Dèttore, Pucciarelli & Santarnecchi, 2013), depression (Cyranowski et al., 2004; Phillips & Slaughter, 2000; Fabre & Smith, 2011), post-traumatic stress disorder (Schnurr et al., 2009), obsessive-compulsive disorder (Real, Montejo, Alonso & Menchón, 2013; Fontenelle et al., 2007), and physiological dimensions, such as aging (Hayes & Dennerstein, 2005), pregnancy (Aslan et al., 2004), infertility (Monga et al., 2006), ischemic heart disease (Kazemi‐Saleh et al., 2008), cancer (Kirby, Watson & Newling, 2008; Ananth, Jones, King & Tookman, 2003; Boswell & Dizon, 2015) that are related to sexual function.

Concerning individual factors, we highlight both psychological and biological factors, with some studies that proved that a clinically significant level of emotional distress is a factor that affects sexual function among middle to late adolescents (e.g., O'Sullivan et al., 2014) and some researchers found a strong correlation between severity of menopause symptoms and sexual function of menopausal women (e.g., Nazarpour, Simbarb & Tehranic, 2016). However, fewer studies address relationship-related factors such as intimacy or its components as predictors of sexual function.

In the present work, we aim to help to overcome this gap in the research, focusing on expression of feelings, an important component of intimacy, as a predictor of sexual function by testing a theory-based mediation model that uses sexual self-disclosure as a mediator variable. We will also study whether gender has a moderating effect on the associations found.

Sexual Function

Sexual function usually involves several domains (or stages) that vary from one theory to another.

For example, the theory of human sex response cycles, suggested by Masters and Johnson (1966) defines sexual function as what occurs during the response cycle and produces orgasm: 1. Excitement (or the initial physiological sexual arousal response); 2. Plateau (in females, plateau phase manifests in a change of the size of a clitoral hood and of an entrance to a vaginal cavity; in males, a number of features occur, particularly, a pre-ejaculation); 3. Orgasm; 4. Resolution.

The model of Masters and Johnson, usually presented as a naturalistic view of sexuality, received some criticism from more recent researchers and theorists, mostly for being completely linear, with one component occurring prior to the next, for having an overly strong genital focus, and for a lack of a phase of being aware of a desire for sexual activity (Rowland & Gutierrez, 2017).

Based on the study of Masters and Johnson, Helen Kaplan (1979) proposed a triphasic model, which consists of 1. Desire; 2. Excitement; and 3. Orgasm. As stated by Kaplan, sexual desire is a state of seeking and responding to sexual stimulation. Thus, the concept of desire summed up a wide range of psychological, emotional, and cognitive aspects of sexual response and expanded perceptions of sexuality.

Later on, Basson (2001) suggested that the traditional human sex response cycle is not explaining enough when we consider female sexuality because the female sexual response may be quite different from male's. The author proposed an alternative, relationship‐based model of women's sexual response. Its phases are the following:1. State of sexual neutrality (a woman often begins a sexual experience sexually neutral. Then, for the intimacy‐based reasons, she finds or receives sexual stimuli that likely could carry her from a neutral state to a state of sexual arousal); 2. Sexual arousal; 3. Sexual desire; 4. Satisfaction: psychical and emotional, which creates a greater level of emotional intimacy between partners. Thus, according to Basson, the true cyclicity of the sexual response cycle includes physical, emotional and cognitive feedback. This was not appreciated in the traditional linear model of

Masters, Johnson, and Kaplan and this view has had an impact on both clinical practice and research.

The existing models challenge researchers in terms of choosing operational definitions of sexual function. Rosen and colleagues (Rosen et al., 2000) have developed the most widely known measures to assess sexual function based on these models too.

The authors emphasize six domains to assess female sexual function: 1. Sexual desire, i.e, willingness of an individual to do sexual activity; 2. Sexual arousal, i.e., arousal of physiological responses in the genitalia; 3. Lubrication, i.e., following sexual arousal, vagina secretions make it lubricated;4. Orgasm, or the climax of sexual pleasure: rhythmic contractions of uterus muscles;5. Satisfaction, or the level of closeness to the partner, satisfaction with sexual relationships, and satisfaction with the entire sexual life; 6. Pain: the frequency and level of vaginal pain during intercourse and after it. The domains of sexual function in males, according to Rosen and colleagues, include: 1. Erectile function; 2. Sexual desire; 3. Orgasmic function; 4. Intercourse satisfaction; 5. Overall satisfaction (Rosen et al., 2000). The existing measures that are based on this approach are the Female Sexual Function Index (Rosen et al., 2000) and the International Index of Erectile Function (Rosen et al., 1997) and were used in the current research.

Rosen's operational approach (Rosen et al., 1997; Rosen et al., 2000) translates a gendered view of sexual function that highlights there may be some different domains that contribute to either female or male's sexual function and have an impact on interpersonal relationships and reduces the quality of life (Edwards & Coleman, 2004).

Reviewing the literature about gender-specific characteristics of sexual function, we noticed that most researchers tend to follow one of these research-lines: 1. studies, focused on domains of sexual function in men or women participants exclusively, without comparing male and female respondents (Isidori et al., 2005; Satinsky et al., 2012); 2. studies, focused on the clinical samples (Kelly & Conley, 2003; Schulte‐Herbrüggen et al., 2009); 3. studies focused on sexual dysfunctions (Derogatis & Meyer, 1979; Gomes & Nobre, 2012; Crisp et al., 2013; Corona et al., 2013). In this regard, it would be interesting to explore the extent to which gender moderates sexual function and answer the question do men and women in a non-clinical sample present the same level of sexual function, or not.

However, in both genders, sexual function is an important correlate of positive outcomes of sexuality such as sexual satisfaction, and therefore an important component of sexual health both in heterosexual and LGB partnered people (Pascoal et al., 2014; Pascoal, Shaughnessy & Almeida, 2019) which makes its study necessary in both men and women samples.

Intimacy and Emotional Intimacy

Definitions of intimacy range in detail, but a number of researchers have argued that, in addition to conceptualizing intimacy as a general characteristic of relationships, it can also be acknowledged as a dynamic process between individuals (Reis & Shaver, 1988; Cordova & Scott, 2001; Hook et al., 2003).

Schaefer & Olson (1981) see intimacy as a process and experience that takes place between members of a couple over time and which results from the disclosure of intimate topics and the sharing of experiences. According to the authors, intimacy is a multidimensional construct that summarises the intellectual, interpersonal, affective, and physical aspects of a couple's relationship. Having a purpose of creating a measure of intimacy through the Personal Assessment of Intimacy in Relationships, they provided systematic information on five subtypes of intimacy: emotional, social, sexual, intellectual and recreational, thus demonstrating the multidimensionality of intimacy, emphasising that communication and expression are important determinants of each dimension.

Later, Sternberg (1986) states that it is a feeling of closeness, connectedness, and boundedness in loving relationships while Perlman & Fehr (1987) describe emotional intimacy as the “closeness and interdependence of partners, the extent of self-disclosure, and the warmth or affection experienced within the relationship”. Sinclair and Dowdy (2005) define emotional intimacy as a perception of proximity to the significant other that leads to the sharing of personal feelings.

The interpersonal process model of intimacy, initially introduced by Reis & Shaver (1988) and later formalised by Reis & Patrick (1996), is the most established conceptual model of intimacy to date (Mitchell, 2008). Reis & Shaver (1996) define intimacy as a composition of a number of elements, such as feelings, verbal and non-verbal

communication, behavior, disposition of individuals in space, and their personality traits, emphasising intimacy as an interpersonal process in which communication plays a central role.

Considering the existence of multiple definitions and conceptual models, we will focus on an aspect of intimate communication, expression of feelings, that has proven to be related to sexual outcomes such as sexual satisfaction in previous studies (Pascoal, Rosa. & Lopes, 2019) and is explicitly or implicitly present across theoretical models of intimacy (Clark & Reis, 1988; Lippert & Prager, 2001).

Considering gender-specific characteristics of intimacy, we cannot ignore some strong-rooted social stereotypes and gender dichotomy in emotional expressiveness which state that men tend to be less expressive and more restricted when it comes to sharing their feelings and emotions. In some way, the results from the study performed by Heller & Wood (1998) confirm this conventional belief of greater emotional expressiveness for women. Heller & Wood found that women demonstrated significantly higher levels of intimacy, suggesting that women may be more attuned to intimacy than men. In our research we are going to address this finding, exploring how expression of feelings might be potentially related to gender.

Expression of Feelings

Deeply self-revealing intimate behavior usually includes expression of emotions and feelings. This is supported by Laurenceau, Pietromonaco, & Barrett (1998) who have noted that emotional self-disclosure (which creates conditions for the appearance and expression of feelings) in a relationship is more important for the experience of intimacy than descriptive disclosure. It opens up the deepest aspects of the (inner) self to the partner and allows being known, understood and validated by a partner. The expression of feelings allows a listener to support and validate a revealer, which leads to a deepening of the intimacy process and the recognition of the significance of the model of interpersonal intimacy relationship proposed by Reis & Shaver (2007).

As relationships become more intimate (i.e., when each partner feels a sense of mutual responsibility for the other's needs), expression of emotions, or feelings, serves to communicate needs to significant others as a step in the process of having these needs met.

Thus, emotional self-disclosure and expression of feelings in a close relationship is not only a communicative process, but also plays a motivational function (Clark, Fitness, & Brissette, 2004).

Self-Disclosure and Sexual Self-Disclosure

Self-disclosure, or the process of revealing intimate information about oneself to another person, is an important aspect of communication in most close relationships, including dating and marital relationships (Green, Derlega & Mathews, 2006). According to the relational view on self-disclosure, self-disclosure and intimacy of relationships are overlapping concepts, and moreover, self-disclosure can function as an indicator of intimacy in interpersonal relationships (Ogunleye & Balogun, 2013).

Pearce & Sharp (1973) posited that when interpersonal interactions turn into an intimate relationship, a level of self-disclosure expands, and its depth grows. Thus, self–disclosure may be associated with the quality and stability of the relationship because it can serve as an act of relationship maintenance. For example, self–disclosure is positively related to love (Hendrick, 1987), relationship satisfaction (Meeks, Hendrick & Hendrick, 1998), and relationship stability (Sprecher, 1987). Since sexuality is a very intimate and private area for self-disclosure, sexual self-disclosure seems to be one of its most intimate forms. However, it is necessary to consider that sexual self-disclosure and sexual communication are not synonyms. Sexual self-disclosure is just one type of sexual communication which is a dyadic interactive process, where sexual self-disclosure emphasizes one-sided revealing of the sexual aspects of one's self (Tang, Bensman & Hatfield, 2013).

Some researchers describe sexual self-disclosure as people’s willingness to communicate with others about various sexual topics (Papini, Farmers, Clark & Snell, 1988), or as the degree to which “individuals communicate with partners about their likes and dislikes concerning specific sexual activities they engage in” (Byers & Demmons, 1999, p. 180). It also can be defined as the extent to which one talks about one’s sexual preferences with a partner (Rehman, Rellini & Fallis, 2011), or a degree to which a member of a romantic dyad communicates his or her sexual thoughts, feelings, and behaviors to his or her partner

(Tang, Bensman & Hetfield, 1981). Such communication allows partners to inform each other about their sexual needs, preferences, and desires (Gordon & Snyder, 1986), and to create dyadic sexual scripts in a couple (Cupach & Metts, 1991). According to Byers (2011), greater sexual self-disclosure makes sexual interactions more positive as one learns the preferences of a partner and clarifies and expresses his or her needs.

Cupach and Metts (1991) suggested that revealing one's sexual likes and dislikes can serve as a mechanism for informing one's partner of one's preferences and thereby enable one to receive more of what one wants (and less of what one does not want) from one's partner, thus increasing sexual satisfaction. The authors state that sexual self-disclosure could benefit a relationship in two ways: by developing relationship closeness and intimacy (expressive pathway) and by allowing to understand each other's sexual preferences and desires, thus strengthening sexual rewards and decreasing sexual costs (instrumental pathway)(Cupach & Metts (1991).

The results of the study conducted by Montesi et al. (2010) add to the body of literature suggesting that revealed communication about the sexual aspects of the relationship is an essential determinant of the healthy sexual life of a couple. This data was collected from 101 heterosexual couples with the mean age of participants and their partners 22.4 years. A plurality of them (40,1%) had been together for more than two years. 93% of respondents and their partners self-identified as heterosexual; the remainder endorsed being heterosexual with previous homosexual experience (6%) or bisexual (1%). The results support the idea that improving the openness of partners' communication about sexual topics such as fantasies, preferences, or concerns may provide valuable benefits regarding the sexual well-being of a couple.

In the study conducted by Rehman, Rellini & Fallis (2011), the authors evaluated the effects of self-disclosure on sexual function. They assessed sexual self-disclosure by asking participants to rank the level of openness in discussing their sexual preferences with their partners. In this study, 182 respondents involved in a dyadic heterosexual relationship reported a relatively high level of sexual function and relatively elevated levels of sexual self-disclosure, with women reporting higher levels of sexual self-disclosure than men. Participants who reported engaging in higher levels of sexual self-disclosure reported significantly lower levels of sexual dysfunction as compared to individuals who reported

engaging in lower levels of sexual self-disclosure. Furthermore, elevated levels of own sexual self-disclosure more strongly predicted low levels of sexual dysfunction in the female participants. The findings for sexual dysfunction reported the significant two-way interaction between gender and sexual self-disclosure, suggesting that the association between the level of sexual self-disclosure and sexual function is stronger for women than for men.

Overall, the findings from the study of Rehman and colleagues (2011) show that sexual self-disclosure is an important construct to examine in models of sexual function; sexual self-disclosure has relevance to both male and female sexual health; and own sexual self-disclosure may be more relevant to the females' sexual functioning, as compared with the males' sexual function.

Based on the analysis of the literature, we assume that expression of feelings and sexual self-disclosure might be associated with the sexual function of an individual.

Taking into account the results of the studies reviewed, we suppose that sexual self-disclosure may be a component that mediates the association between the expression of feelings and sexual function (Figure 1).

If so, the role that gender may have as a moderator is worth to be explored (Figure 2).

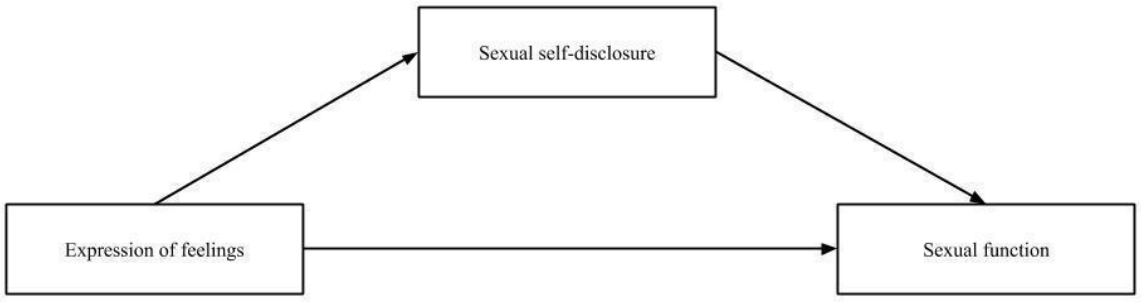


Figure 1. Proposed Conceptual Model of the Simple Mediation

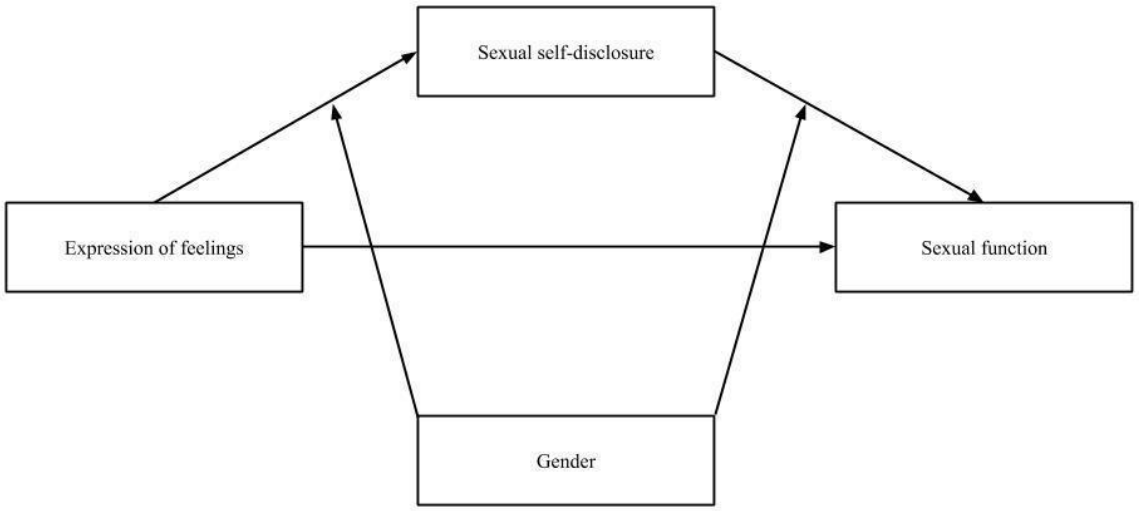


Figure 2. Proposed Conceptual Model of the Moderated Mediation

Hypothesis

In the present work, conducted with a sample of cis-gendered and heterosexual people in a dyadic monogamous relationship, we intend to test a mediating model of the effect of expression of feelings on sexual function. Thus, based on the literature review we present the following hypothesis:

H1: Women present a higher level of expression of feelings than men.

H2: Women present a higher level of sexual self-disclosure than men.

H3: Men and women present the same level of sexual function.

Method

Participants

Any participant who did not fill an item (a missing value) from one of the scales of interest was excluded from the statistical analyses procedure. Overall, we identified and excluded 42 such cases. Also, all atypical values (cases with + or - 2 SD values relative to the mean) were excluded (n = 30). Thus, the final sample consists of 492 cases, of which 170 were men (34,55%) and 322 women (65,44%) aged 18-74 years, involved in a monogamous relationship who completed an anonymous online survey.

Sample characteristics are fully described in the Table 1.

Table 1

Sociodemographic Characteristics of the Participants (N = 492)

	Men (n = 170)		**Women (n = 322)**		**Total sample (N = 492)**	
Age						
M	35.26		30.99		32.47	
Min-Máx	19-74		18-59		18-74	
SD	9.78		8.42		9.13	
	n	*%*	*n*	*%*	*n*	*%*
Relationship Status						
Married	50	29.4	87	27.0	137	28.7
Non-cohabiting	46	27.1	67	20.8	113	23.0
Cohabiting	12	7.1	26	8.1	38	7.7
Exclusive dating relationship	57	33.5	133	41.3	190	38.6
Other	5	2.9	9	2.8	14	2.8
Residence						
Urban	157	92.4	280	87.0	437	88.8
Rural	13	7.6	42	13.0	55	11.2

Education						
Incompleted high school	3	1.8	-	-	3	0.6
High school	7	4.1	2	0.6	9	1.8
College, trade, or technical school	45	26.5	43	13.4	88	17.9
University (undergraduate degree)	56	32.9	144	44.7	200	40.7
University (graduate or professional degree)	59	34.7	133	41.3	192	39.0

To compare age in male and female respondents, T-tests for independent samples (Table 2) were performed.

Table 2

T-test for independent samples

	Men (n = 170)		**Women (n = 322)**			
	M	***SD***	***M***	***SD***	***t* (490)**	***p***
Age	35.26	9.77	30.99	8.42	5.06	.001*

*Note: * $p < 0.05$*

Instruments

General Introduction Questionnaire. Socio-demographic data, such as age, gender, civil status, educational level, profession/occupation, and the area of residence were collected through the general introduction questionnaire which was constructed by the authors.

Feelings and Expression of Feelings subscale of the Evaluation Scale of Marital Life Areas Satisfaction (EASAVIC; Narciso & Costa, 1996). The Evaluation Scale of Marital Life Areas Satisfaction (EASAVIC) evaluates a level of marital satisfaction and several areas of functioning of a couple in married people or people living in a committed relationship, considering different areas of their lives, and allowing to assess overall relationship satisfaction. In the current study we used the subscale "Feelings and Expression of Feelings" that consists of 4 items and can be rated using a 6-point Likert-type scale with the following response format: 1 - "Not at all satisfied", 2 - "Unsatisfied", 3 - "Reasonably satisfied", 4 - "Satisfied", 5 - "Very satisfied" and 6 - "Completely satisfied" in 4 questions (total Min = 4; Max = 24). The scale has proven to be valid and reliable in different portuguese studies (e.g., Oliveira, 2005; Carvalho, 2013; Ferreira et al., 2015). In the present study, Cronbach's α was > .87 for both genders.

Sexual Self-Disclosure Questionnaire (SSDQ; Byers & Demmons, 1999). The Sexual Self-Disclosure Questionnaire is a 12-item one-dimensional self-report measure that addresses likes and dislikes in particular sexual activities. It is a 7-point Likert-type scale with the response format from 1 (disclosure nothing) to 7 (disclosure everything). The total scale may range from 12 to 84, with higher values indicating higher levels of sexual self-disclosure.

The questionnaire is composed of 12 items. Six of the items of the SSDQ assessed how participants communicate to their partners what they enjoy in a range of sexual activities that they practice as a couple (kissing, sexual touching, intercourse, oral sex (receiving and giving), and sexual variety). The other six items assess how much the participants disclose with a partner their dislikes in the sexual activities mentioned above.

The scale has been proven to be reliable in international and national studies (Ladany & Lehrman-Waterman, 1999). In the current study, the internal consistency of the scale for both genders proved to be excellent with Cronbach's α = .94 for both genders.

International Index of Erectile Function (IIEF; Rosen et al., 1997). The IIEF is a multidimensional 15-item self-report questionnaire that addresses five of the most relevant

aspects of male sexual function, such as erectile strength, orgasm, desire, satisfaction with intercourse, and overall satisfaction. It can also be used as a unidimensional scale that assesses male global sexual function.

Responses are recorded on a Likert-type scale with response choices over a 5 or 6-point scale for items 1-10 and 11-15, respectively. The lower anchor for the 6-point Likert-type scale is 0, while the highest rating is 5. The 5-point Likert-type scale ranges from 1 to 5, with 1 representing the lower anchor. The total scores range from 5 to 75.

The IIEF is said to have met conventional goals for internal consistency, validity, and reliability. It has been proven to be valid and reliable in different international and national studies (Pereira, Oliveira & Nobre, 2015).

In the current study, we used the total index of sexual function, resulting from the sum of the indexes (minimum = 5; maximum = 75). The total index of sexual function presented a good level of internal consistency (Cronbach's α = .85).

Female Sexual Function Index (FSFI; Rosen et al., 2000). The FSFI is a 19-item self-report measure of female sexual functioning that provides scores on domains of six sexual functions (desire, arousal, lubrication, orgasm, satisfaction, and pain/discomfort during the intercourse) as well as a total score.

Items are scored on a 5-point Likert-type scale. Responses can range from 2 to 36 points with low scores indicating lower levels of sexual functioning. Fifteen items of the scale also include a zero score as a sixth response option indicating no sexual activity in the past four weeks.

The FSFI has been proven to be valid and reliable in different international and national studies. Research support the reliability and psychometric (as well as clinical) validity of it in the assessment of key dimensions of female sexual function in clinical and nonclinical samples (Rosen et al., 2000).

In the current study, we used the total index of sexual function which demonstrated good internal consistency for the overall scale (Cronbach's α =.90).

Data Collection Procedure

The present study was developed with data collected online during 2011, concerning a Ph.D. research, financed by the FCT (SFRH/ BD/ 39934/ 2007) and it was approved by the Ethics Committee of the Faculty of Psychology of the University of Lisbon (FPUL) where the study received a favorable deontological opinion.

A computer program designed specifically for this project was developed and hosted on a secure server. To be included in the study, it was necessary to be of legal age (over 18 years old), be a heterosexual in a monogamous relationship.

The link to the study was advertised through social networks. The battery of questionnaires was preceded by an online presentation page, where the purpose of the study and its procedures were explained. Some essential information for completing the questionnaire was also provided (e.g., the principle of voluntary participation and absence of monetary compensation, the possibility to terminate the survey at any time, confidentiality, and anonymity). Prospective participants were also fully informed about the estimated response time; they were provided with the email address to clarify possible doubts and share suggestions. Before getting access to the questionnaires, participants had to read and agree with the informed consent.

The link to the online study was advertised through direct requests for collaboration to Portuguese scientific and clinical societies and associations, social networks (e.g., Facebook), and public blogs dedicated to sexuality. People who were contacted by the research team were asked to advertise the study themselves in a procedure similar to Snowball Sampling. This recruitment procedure gave us access not only to the academic community of Portuguese universities but also to the general population. The responses were automatically sent to the database, and no identifiers of the participants (e.g., name or address) were requested, and the IP's were deleted.

Data Preparation and Statistical Analysis

Data analysis was performed using IBM SPSS Statistics for Windows, version 21. We selected various tests for statistical analysis, depending on the intended analysis and the

characteristics of the variables. Since all study variables were normally distributed, parametric methods were used.

Normalisation of the Scales of Interest

Because the scales of sexual function of men and women show a different amplitude of values, they were both normalised linearly in the interval [0,1] based on the following formula f (x) = (x-Min) / (Max-Min).

Initially, the variables of interest of the study were characterised by measures of central tendency (mean) and dispersion (SD and Amplitude). Later, t-tests were performed to determine the effect of gender (man vs. woman) on the variables of interest (expression of feelings, sexual self-disclosure and sexual function). Cohen's d was used to interpret the size of the effect. The bivariate correlation of Pearson (r) was used to evaluate to what extent the variables of interest were associated. The recommendations of Cohen (1988) were followed in the interpretation of dispersion and bivariate correlation of Pearson.

Scale scores were transformed into z-values in order to present the standard beta coefficients (β) before the analysis of simple mediation and moderated mediation. The simple mediation and moderated mediation models were tested using macro process 3.2 (Hayes, 2013) for IBM - SPSS, model 4 (simple mediation) and model 59 (moderated mediation).

The indirect effect was tested with the bootstrap resampling method with 10000 samples for a 95% confidence interval (Boot ICs 95%) (Effron & Tibshirani, 1993). All 95% Boot ICs that did not include the zero value were considered significant (Hayes, 2013). The size of the indirect effect was evaluated by means of the percent mediated (PM) and the completely standardised indirect effect, which was interpreted according to the criteria of Preacher and Kelley (2011): small (0.01), medium (0.09) and large 0.25). Moderated mediation was established if either or both of two patterns existed (Hayes, 2013): (a) the path between expression of feelings and sexual self-disclose was moderated by gender, and/or (b) the path between sexual self-disclosure and sexual function was moderated by gender. For moderated mediation analysis, the Index Moderated Mediation (IMM; Hayes, 2015) was interpreted.

Results

In the sense of perceiving whether men and women present equivalent levels of expression of feelings, as well as sexual self-disclosure and sexual function, or not, an analysis of the descriptive measures of the scales of interest was performed (Table 3).

Table 3

Characteristics of the scales of interest

	Men (*n* = 170)				**Women (*n* = 322)**			
	M	***SD***	***Min.***	***Max.***	***M***	***SD***	***Min.***	***Máx.***
Expression of feelings	18.87	4.33	6.00	24.00	20.21	3.70	7.00	24.00
Sexual self-disclosure	62.37	18.36	12.00	84.00	64.13	16.04	18.00	84.00
Sexual function	.88	.08	.51	1.00	.84	.100	.52	1.00

After all the necessary tests were performed, we verified whether there is an effect of gender on the variables of interest. MANOVA one way proved that there is an effect of the gender variable on the variables of interest, confirming that there were differences in the scores of the variables (Table 4).

Table 4

Multi-variance Analysis (MANOVA one-way)

	Men (*n* = 170)		**Women (*n* = 322)**			
	M	***SD***	***M***	***SD***	***F***	***p***

Expression of feelings	18.87	4.33	20.21	3.70	7.99	.005*
Sexual self-disclosure	62.37	18.36	64.13	16.04	5.61	.018
Sexual function	.88	.08	.84	.10	7.22	.007

*Note: * p < .05*

To explore the association among variables, a calculation of Pearson's bivariate correlation matrix was performed (Table 5).

Table 5

Associations among variables

	1	2	3
1. Expression of feelings	---		
2. Sexual self-disclosure	.25**	---	
3. Sexual function	.23**	.24**	---

*Note: ** = p < .01*

Mediation model

Concerning the simple mediation model, results indicated that the expression of feelings is a significant predictor of the sexual self-disclosure (a = .25, t (490) = 5.71, p <.001) and that sexual self-disclosure significantly predicts sexual function (b = .12, t (490) = 4.37, p <.001).

Results also revealed a positive significant total effect of expression of feelings on sexual function (c = .14, t (490) = 5.24, p <.001) and a significant direct effect of expression of feelings on sexual function was found (c' =.11, t (490) = 4.07, p <.001), which

demonstrates a partial mediation of the effect of expression of feelings on sexual function by sexual self-disclosure (ab = .03; 95% bootstrap CI [.02, .05]), indicating a small effect size (abcs = .05; 95% bootstrap CI [.02, .08]).

Thus, 21% of the total effect of expression of feelings on sexual functioning is mediated by sexual self-disclosure (PM = .21).

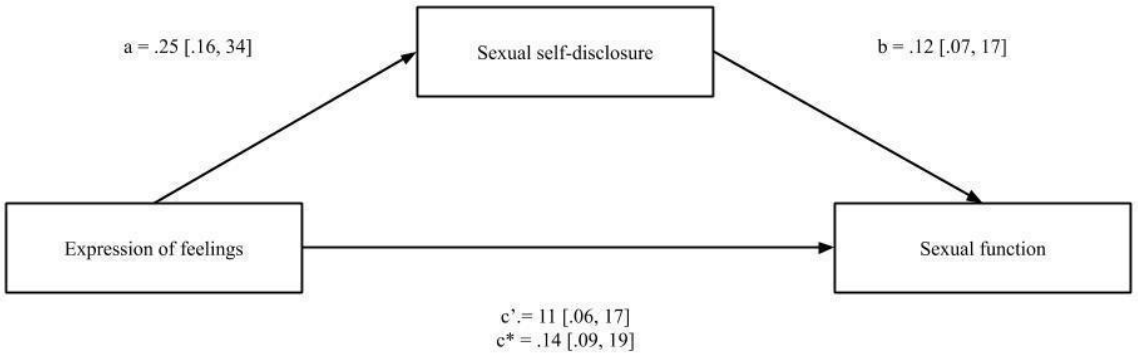


Figure 3. Standardized regression coefficients and 95% bootstrap CI for regression coefficients for the relation between expression of feelings and sexual function as mediated by sexual self-disclosure.

Note: "c" refers to the total effect of expression of feelings on sexual function.

Moderated mediation model

In regards to the potential moderating role of gender, results revealed that gender neither moderates path a (β = -. 09, t = -1.01, p = .315), nor path b (β = .013, t = 0.23, p = .814), as shown on the Figure 4.

The conditional indirect effect of sexual self-disclosure was significant both for men (ab= .04, 95% bootstrap CI [.01, .08]) and for women [ab = .03, 95% bootstrap CI [.01, .05]) However, the significant difference between conditional indirect effects was found [IMM = -.01; 95% bootstrap CI [- .05, .03]), indicating that gender was not a moderating factor for any relations depicted in the model.

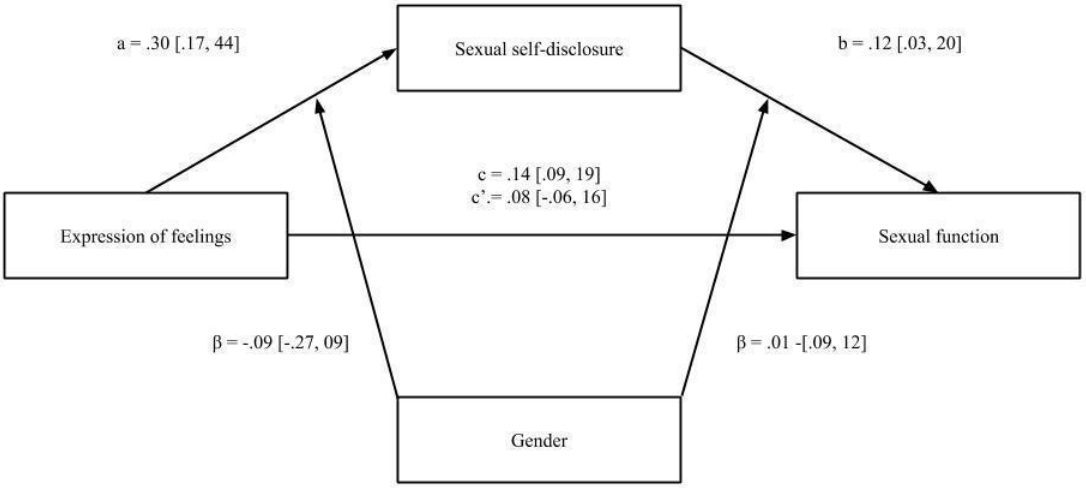


Figure 4. Moderated mediation model. All paths are standardized regression coefficients.

Discussion

In the present study, after the preliminary data analyzes (comparison between groups, analysis of associations between variables, etc.), we intended to verify if sexual self-disclosure would be a significant mediator variable in the association between expression of feelings and sexual function. Several steps had been taken towards this goal. Their description and our reasoning regarding the results obtained can be found below.

Initially, it is important to mention that even though we found statistical differences in men and women's age, we consider them not important as both men and women are in the same period of the life cycle (i.e., in their 30's), and this factor could not be explanatory of the gender differences observed.

Along with that, some strong conventional opinions of gender differences in the emotional sphere declare that there are significant differences in the expression of emotions and feelings in men and women (Deng et al., 2016). Our results (MANOVA one-way analysis) are in line with these assumptions, confirming our first hypothesis that women present a greater level of satisfaction with expression of feelings than men. This knowledge could complement several research studies and theoretical models which have shown gender differences in expressing emotions in adult men and women, with women having higher emotion expression overall (Brody & Hall, 1993; Kring & Gordon, 1998). The result seems to be in line with a bio-psycho-social developmental model of gender and expression of

emotions (Brody, 1999). This model proposes that gender differences in expressing emotions and feelings emerge through a combination of innate biological differences, socialization, and through the influence of in-the-moment social context and societal expectations within a culture. In the current study, we used a measure that assesses satisfaction with the level of both own as well as partners feelings and expression of feelings which creates a new possible approach to this topic as we study an indicator of mutuality of expression of feelings and not merely of own's expression of feelings.

In our study, there were no statistically significant differences in mean values of sexual self-disclosure between men and women. Thus, our second hypothesis, which states that women present a higher level of sexual self-disclosure than men, was not confirmed. This result is not consistent with the literature. For example, the meta-analysis of 205 studies of sex differences in self-disclosure performed by Dindia and Allen (1992) found that women disclose more than men regardless of whether self-disclosure is measured by self-report or observation. However, our findings emphasize the importance of examining contextual influences that determine whether an individual will engage in or avoid sexual self-disclosure and the consequences of this engagement or avoidance on the sexual function of the individual. Taking this conclusion into account, we should also approach the socio-cultural changes that have affected our society since the study by Dindia and Allen. We can make an assumption that nowadays men are socialized towards less rigid social roles. It is quite possible that in contemporary western culture men are less likely to feel the pressure of social norms when it comes to expressing their intimate feelings and sexual likes and dislikes than their predecessors may have felt a couple of decades earlier (Štulhofer, Ferreira & Landripet, 2013; Pascoal, Narciso & Pereira, 2013).

Additionally, we hypothesized that women have the same level of sexual function as men. Our hypothesis was rejected since the data revealed that men have significantly higher averages of sexual function. Even though our research addresses function and not dysfunction, our results partially overlap with the research of Laumann, Paik & Rosen (1999), which reported greater sexual dysfunction among women (43%) compared to men (31%). Moreover, the "Global Study of Sexual Attitudes and Behaviors" (Laumann et al., 2005) examined adults (40–80 years) from 29 countries and revealed that women's

prevalence rates of sexual dysfunction are typically higher than are men's. Our results seem to support that on average women have lower levels of sexual function than men.

Our results indicate that those with higher levels of expression of feelings would likely engage in communication on sexual matters, which would, in turn, predict higher levels of sexual self-disclosure. These results go in the theoretically expected direction since expression of feelings and sexual self-disclosure are expected to take place in a relationship where partners feel consequently at ease to give precise indications to each other about what they like and dislike sexually. Cupach and Metts supposed that describing individual preferences and negotiating compromises, couples develop dyadic sexual scripts which leads to a higher level of sexual satisfaction in a couple (Cupach & Metts, 1991). Based on the data revealed in our research, we can conclude that not only a level of sexual satisfaction but also sexual function of an individual benefit from that.

A moderated mediation model was tested as the final step of the research. The results allowed to verify that gender moderates neither the trajectory in the relation between expression of feelings and sexual self-disclosure, nor the trajectory between sexual self-disclosure and sexual function. These results are in line with previous research (Pascoal et al., 2018) and support the gender similarities hypothesis, proposed by Hyde (2005). The gender similarities hypothesis stands in stark contradiction to the differences model, which holds that men and women are greatly different psychologically. According to Hyde, men and women are much more alike than different regarding most psychological topics and psychological variables. It is possible that gender differences grow larger or smaller at different times in a life span and how males and females differ may vary based on individual factors such as age, education level, cultural background, and social support, rather than based on gender.

The costs of a simplified view on gender differences might be very high. Arguably, this causes harm in numerous areas, including work, parenting, and relationships. Taking this into account, we suppose that therapists and researchers, who base their practice on the differences model, should reconsider their approach. To find the best scientific evidence of psychological phenomena, they should focus on gender similarities and individual differences.

Limitations of the Study

We would also like to mention some limitations of the present study that need to be kept in mind when interpreting our results.

The first one is the presence of a sample that is not representative of the population, and therefore we cannot generalize the results. The variability of similarity–dissimilarity in our sample might have been restricted based on the relative homogeneity of the participants in terms of gender, ethnicity, age, cultural upbringing, and other demographic factors. Since all participants were recruited through the online survey, we can assume all of them were in a similar social class - people with access to modern technology and the Internet.

Additionally, the conclusions from this study might be limited as there might be questions regarding the extent of generalisability to clinical participants since only non-clinical participants were included in the sample. Meanwhile, it can be argued that the presence of health issues (both general and mental health), may lead to results that differ from what we obtained.

Secondly, as we used measures developed within a heteronormative context, a diversified sample concerning sexual orientation, identity, or even relational level was not used, and transgender individuals or polyamory issues were not addressed, so it was not possible to access the specific characteristics of these groups.

Moreover, previous research has shown that volunteers who are willing to participate in surveys of sexuality differ from those who are not because they tend to be less conservative in their attitudes toward sex and more engaged in more frequent and a broader range of sexual activity (Wiederman, 1999).

Thus, it is likely that our study has some limitations in the way we understand the link between sexual self-disclosure and sexual function, given that our sample may represent a demographics that could endorse higher levels of sexual self-disclosure than would be reported by a more representative sample.

Implications for Research and Practice in Clinical and Health Psychology

The association found between expression of feelings, sexual self-disclosure, and sexual function provides us a point for investigating intrapersonal aspects of sexuality as well as their role in sexual functioning and sexual well-being of an individual.

We suggest that expression of feelings and emotional intimacy in a couple will be jointly considered within a multifactorial approach to general health when treating sexual function problems. Thus, the knowledge gained during the study may be reflected in the practical actions of clinical psychologists and therapists aimed at the promotion of communication strategies that favor the development of emotional intimacy processes with a focus on emotional expression and sexual self-disclosure as an important component of sexuality.

Future Research Directions

As one of the first directions of future research, we would like to suggest performing a study with a clinical sample that might help to improve our understanding of what is the role of intimacy, expression of feelings, and sexual self-disclosure in sexual dysfunction. It seems interesting to dive into this more profoundly in order to understand in what way people with a diagnosis can benefit from the expression of feelings or sexual self-disclosure and increase their level of sexual satisfaction and sexual function.

Secondly, we would propose to continue exploring other indicators of emotional intimacy and their impact on the sexual function of an individual. In particular, one of the indicators that deserves more attention is closeness, for the measurement of which there are very few valid instruments. The development of such a tool and a study of the role that closeness plays in the sexual function of an individual could undoubtedly bring new insights into the theory and psychological practice.

As the third direction, we could offer a more in-depth study of the role that gender plays in the trajectories between expression of feelings and sexual self-disclosure and between sexual self-disclosure and sexual function as our study reveals some gender differences in the level of expression of feelings and sexual function. In particular, it would be interesting to gain some insights on how specific gender features (such as social roles, cultural characteristics, and expectations regarding the role of men and women in the process

of sexual interaction) should be consecrated in the process of family therapy and therapy of sexual disorders. This knowledge can expand the pool of tools and techniques that can be used by professionals who work in the area of promoting sexual health and sexual well-being, as well as well-being in general.

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