



Mindfulness, Sexual Functioning, and Subjective Sexual Well-Being

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Authors' contributions

This work was collaboratively carried out by the authors. Author VM collected and analyzed data, provided material support and drafted the manuscript. Author HP conceived and designed the study and carried out statistical analyses. Authors GE, RMA, SM and ML drafted and reviewed the manuscript for intellectual content. All authors read and approved the final manuscript.

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ABSTRACT

Although there are several studies that address mindfulness, sexual functioning, and subjective sexual well-being separately, there are very few studies that explore the associations between these three constructs. Therefore, this research was developed with the objective of evaluating levels of mindfulness, sexual functioning, and sexual well-being in a Portuguese-speaking adult sample in order to compare the differences in these measures between genders (male and female) and age groups, and to determine a predictive relationship between mindfulness, sexual functioning, and subjective sexual well-being. The sample consists of 1,416 Portuguese-speaking adults, with a mean age of 38.74 years of age (SD = 13.63). Participants completed the "The Freiburg Mindfulness Inventory - reduced version (IMF)", the Changes in Sexual Functioning Questionnaire-Short Form (CSFQ-14), and the "Subjective sexual well-being" questionnaire. After analyzing the levels of mindfulness, sexual performance, and subjective sexual well-being, we found that the participants had moderately high indicators for all variables. In regards to the

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comparison between genders, it was found that men have higher levels of mindfulness and sexual functioning than women. Regarding subjective sexual well-being, men also show higher values in almost all variables. It was also found that participants between 30 and 49 years of age demonstrated, in general, higher levels of mindfulness, sexual functioning, and subjective sexual well-being. Linear regression shows that having higher levels of mindfulness is a good predictor of enjoying more sexual pleasure and experiencing orgasm, demonstrating that mindfulness seems to condition sexual experiences. This study draws attention to the importance of further examining the selected variables, in order to provide relevant information to researchers who work in this field.

Keywords: Mindfulness; changes in sexual functioning; subjective sexual well-being; gender; age groups; Portugal.

1. INTRODUCTION

Mindfulness is the translation of the term "Sati" in Pali, which means remember, recognize, and be intentionally aware. It also implies that one must possess a vigilant and lucid mind, be alert, and self-conscious [1,2,3]. Historically, mindfulness was defined as the "heart" of Buddhist meditation and lay at the core of the Buddha's teachings [4,5,6,7,8]. Over time, following increased investigation of mindfulness [9,10,11], the meaning of the word has since evolved [3].

The concept mindfulness appears to be simple however, its description and characterization has no consensus among researchers [12,13]. It's hard to build consensus when it comes to clarifying and distinguishing the essential components of mindfulness, as well as the psychological processes involved, and their respective outcomes [12,1,14].

According to the Buddhist perspective, mindfulness embraces a range of cognitive, ethical, and emotional dimensions [15]. In this sense, the most widely accepted definition of mindfulness is a type of awareness and knowledge that results from paying deliberate attention to the present moment, without making any value judgments about the experience itself, and while allowing the mind to focus with increased awareness, self-awareness, and the reduction of automatic thoughts [16,17,18,19].

Therefore, mindfulness-based therapy is founded on the assumption that paying attention to control skills can help individuals change their relationship with the usual pattern of dysfunctional automatic thoughts [20], and, in this sense, place more emphasis on this dynamic and on the process itself [20,21].

Over time, indications have emerged that attention levels can be a predictor of various outcomes, such as health, well-being, adaptive

qualities, cognitive flexibility, emotional intelligence, and life satisfaction [22,23,24,25]. In addition to the aforementioned qualities, the evidence shows significant associations between mindfulness and increased coping, functional abilities in cognition, affections, performance and behavior [20,13], and welfare and health [26]. Significant associations are also seen between mindfulness and the control of negative affections in the warning capacity and sustained attention [27], performance improvement [28,29,30], memory [31], a decrease in emotional reactivity in managing emotions [32], and sexuality [33,26,34,35,36].

Particularly in relation to sexuality, mindfulness seems to positively contribute to a significant improvement in sexual functioning and subjective sexual well-being, since being sexually self-conscious is known to have positive effects on sexual performance. Hence, the self interferes positively with excitement and with the process of pleasure, thus improving sensitivity and awareness and adopting an attitude of openness and acceptance, which, in turn, seems to promote the expression of sexuality [33,37]. In this sense, mindfulness tries to maintain focus on the mind and body, as well as everything that is occurring. Therefore, this practice seems to offer a unique approach to improving issues related to sexuality [38].

One of the basic premises of mindfulness in the area of sexuality is the acceptance of physical and psychological relaxation, based on sexual response [33]. Consequently, the focus of attention is not on the individual's sexual performance, but on sexual desire, framing sexual satisfaction as an interpersonal process [33]. The mindfulness component emphasizes the awareness and acceptance of the level of involvement and response, rather than forcing a sexual response or avoiding the pleasurable processes involved in sexual activity. Strategies and mindfulness techniques invite the individual

to accept and adopt a new set of physical and psychological abilities, assuming full control and responsibility for their sexual well-being [33].

The mindfulness associated with sexuality is used in order to increase desire, pleasure, eroticism, and sexual satisfaction in a couple or in an individual. Given that the main components of healthy sexuality are sexual desire and satisfaction, mindfulness tends to enhance these components [33,39]. The practice of mindfulness leads to an increased ability to understand the perspective of a partner [40,34,41], that is, to be aware of the partner's opinion, which is linked to significantly increased marital satisfaction, thus improving sexual performance and subjective sexual well-being [26,42].

The sexual response cycle can be influenced negatively by various psychological factors, including anxiety, low self-esteem, disturbances in perception of body image, fear of rejection, sexual performance anxiety, traumatic sexual experiences, history of abuse, and even the quality of relationships [43]. In this sense, mindfulness appears as a protective factor and facilitator of a positive sexual experience, in that it promotes cognitive, behavioral, and emotional awareness, in addition to an attitude of acceptance and a focus on immediate sexual sensations [33]. Therefore, the association of mindfulness with sexuality allows for significant advantages for humans, because mindfulness leads to the acquisition of important skills for sexual function, namely, the effective management of time, energy, courage, determination, and discipline [37].

Sexuality is an integral part of human life and it promotes intimacy, connection, and pleasure [44,45,33]. It turns out that sexuality is responsible for a set of personal and social needs, hence sexual health and well-being are linked inseparably to physical and mental health [46]. Sexuality is also connected to the operation of sexual mechanisms, which are based on patterns of sexual response for men and women (desire, arousal, orgasm, and resolution) [39], and which are also important variables in the self-assessment of relationship satisfaction and overall well-being [45]. As a result, it is understood that sexual problems can be a source of suffering and dissatisfaction [43]. Subjective sexual well-being refers to the perception of the quality of one's sexuality and sexual life [10]. Studies on sexual well-being, examined sexual satisfaction in several areas,

including satisfaction with the physical and emotional aspects of relationships, satisfaction with sexual functioning, and the importance of sexuality in life in general [47]. Based upon this research, the concept of subjective sexual well-being is defined as a cognitive and emotional evaluation of the sexuality of a subject [48,49], which results from the subject's perceptions concerning his / her emotional and physical satisfaction in several areas of sexuality and health. Subjective sexual well-being is particularly useful because it is a much more encompassing term than sexual satisfaction [48].

Despite that fact that there are many studies that separately address mindfulness, sexual functioning, and subjective sexual well-being, there are very few that explore which associations can be made between these three constructs. In order to fill this gap in the research we developed this study with the following objectives: to evaluate levels of mindfulness, sexual functioning, and subjective sexual well-being in a sample of Portuguese-speaking adults; to compare the differences in the levels of mindfulness, sexual functioning, and subjective sexual well-being between genders (male and female), as well as among different age groups; and to determine a predictive relationship between mindfulness, sexual functioning, and subjective sexual well-being.

2. METHODS

2.1 Participants

The study's sample consists of 1,416 Portuguese-speaking adults, of whom 604 (42.70%) are male and 812 (57.30%) are female. Regarding marital status, 490 (33.40%) are single, 548 (38.10%) are married, 129 (10%) are in civil union, 16 (1.10%) are widowed, 129 (10%) are in an emotionally committed relationship, and 104 (7.40%) report a different marital status. It should also be noted that most of the participants possess a university education. With regard to sexual orientation, 1,320 (93.40%) participants self-identity as heterosexual, 27 (1.90%) as bisexual, and 69 (4.70%) as homosexual. In regards to having children, 649 (45.80%) participants said that they have children and 767 (54.20%) are childless. Regarding the participants' place of residence, 164 (11.60%) subjects live in rural areas and 1,252 (88.40%) live in urban areas. Concerning employment status 82 (6.2%) participants are unemployed, 202 (15.30%) are students,

1,061 (72.30%) are employed, 56 (4.60%) are retired, and 15 (1.60%) report being in a different employment situation. The entirety of the previously mentioned data is analyzed in Table 1. Regarding age, the mean age is 38.74 (SD = 13.63) years old.

Table 1. Sociodemographic characteristics (N = 1,416)

	N	%
Gender		
Male	604	42.70
Female	812	57.30
Marital status		
Single	490	33.40
Married	548	38.10
Civil union	129	10.00
Widowed	16	1.10
Emotional commitment	129	10.00
Other	104	7.40
Education		
Up to 4 years	1	0.20
Up to 6 years	4	0.50
Up to 9 years	30	2.20
Up to 12 years	185	12.90
University training	3	0.37
Undergraduate	464	32.80
Postgraduate	535	37.40
Ph.D.	191	13.63
Sexual orientation		
Heterosexual	1320	93.40
Bisexual	27	1.90
Homosexual	69	4.70
Children		
No	767	54.20
Yes	649	45.80
Place of residence		
Rural area	164	11.60
Urban area	1252	88.40
Professional status		
Unemployed	82	6.20
Student	202	15.30
Employed	1061	72.30
Retired	56	4.60
Other	15	1.60

2.2 Instruments

In order to compile information about the participants in the survey, we put together a socio-demographic questionnaire, which included items such as age, gender, current place of residence, level of education, marital status, sexual orientation, whether participants have children or not, and employment status.

With the aim of assessing the mindfulness experience of the participants, we used the "The Freiburg Mindfulness Inventory - short version (FMI)" [50]. The FMI – short version reduces the original survey from 30 to 14 items, and the Portuguese version has a Cronbach's alpha of 0.86, indicating good internal consistency levels [51].

The FMI is a consistent and reliable scale and takes into account important aspects of mindfulness [50]. In addition, the validation study demonstrates that the FMI is a useful, valid, and reliable questionnaire, when used to measure levels of full attention [50]. The reduced scale of 14 items also includes all aspects of mindfulness in the context of Buddhist meditation, and correlates almost perfectly with the full scale [50].

To assess changes in sexual functioning, we used the Changes in Sexual Functioning Questionnaire-Short Form (CSFQ-14) [52]. This questionnaire is a clinical and research instrument, which initially consisted of 36 items concerning the five scales of sexual functioning [52]. Later, a smaller version of the instrument with 14 items was created, which evaluates the three dimensions that correspond to the phases of the sexual response cycle (desire, arousal, and orgasm), as well as the five factors of the original questionnaire [52]. Factor analysis confirms the validity of this construct as a global measure of sexual dysfunction [52]. It should also be noted that the individual scales exhibit a strong level of internal reliability with a Cronbach's alpha of 0.90 [52]. The level of significance of this study is 0.85, which indicates high levels of internal consistency [51]. After analyzing the questionnaire, in accordance with the proposal of the author, the questionnaire was organized into five different dimensions: desire and frequency of sexual activity, desire and interest, arousal, pleasure, and orgasm [52]. Finally, a global scale was developed from the 14 items of sexual functioning.

Subjective sexual well-being was assessed according to Laumann et al.'s [47] proposal and consists of four items. The first item evaluates the "level of satisfaction with the physical pleasure felt in relation to your partner in the last 12 months." The second investigates the "level of satisfaction with the emotional pleasure felt in relation to your partner in the last 12 months." The third item asks participants, "If you had to spend the rest of your life with the sexual life that you have today (sexual relationships and sexual

health), how would you feel?" Finally, the fourth item addresses "the importance that sex has on your overall life". The responses are scored in a Likert-type scale where responses for items 1, 2, and 3 vary between "completely unsatisfied", "moderately dissatisfied", "neither dissatisfied, nor satisfied", "moderately satisfied", and "extremely satisfied". The possible responses for item 4 are "not important at all", "not very important", "somewhat important", "very important", and "extremely important." The original alpha was 0.80, consistent with the value obtained in the present study (also 0.80), representing a very good level of internal consistency [51].

2.3 Procedures

Participants were recruited online and were invited to fill out the survey, which was conducted between October 2014 and February 2015. A specific link for the purposes of this investigation was put together, and was disseminated through mailing lists, contacts with organizations, and social networks.

The online page presented the goals of the study and included all of the principles of traditional psychological research ethics, namely the perseverance of confidentiality and anonymity, as well as informed consent, which were met.

Recruitment focused on obtaining a normative sample of the Portuguese population. Direct requests for voluntary participation were sent out, explaining the study's objectives, along with instructions and the contact information of the research team.

The study complies with all ethical principles set by the Portuguese Board of Psychologists for research development as well as the guidelines of the American Psychological Association regarding conducting studies involving human beings.

2.4 Statistical Analysis

Analysis was carried out using SPSS version 21 (IBM, USA). Variables were analyzed using simple means. In order to compare the differences in the levels of mindfulness, sexual functioning, and subjective sexual well-being between genders and among different age groups, we conducted Student's t-tests on the independent samples, in addition to one-way ANOVAs. Logistic regression was carried out, significant at $p < 0.05$. All tests were two-tailed.

3. RESULTS

Regarding mindfulness levels, the predicted median was 34 points, and the observed mean was 40.39, with a standard deviation of 6.95. Thus, we can infer that participants have moderately high indicators of mindfulness levels.

When assessing the levels of sexual functioning among our sample, it is found that the participants have moderately high indicators in the various areas studied. When considering the "pleasure" scale, the expected median was 3.4 and the observed mean was 3.45 (SD = 1.13). In regards to the "desire and sexual frequency" dimension, the expected median was 6 and the observed mean was 6.69 (SD = 1.69). For the "desire and interest" scale, the expected median was 9 and the observed mean was 9.32 (sd = 2.63). The "Arousal" scale had an expected median of 9 and an observed mean of 2.11 (SD = 2.46). The "Orgasm" scale showed an expected median of 9 and an observed mean of 11.77 (sd = 2.62). Finally, in regards to overall sexual functioning, the expected average was 42.00 and the observed mean was 45.63 (sd = 8.19).

When analyzing subjective sexual well-being, we found that the subjects had moderately high indicators for the various domains. For the level of satisfaction with physical pleasure, the expected median was 3 and the observed mean was 4.04 (sd = 1.9). Regarding the level of emotional pleasure, the expected median was 2.5 and the observed mean was 3.41 (sd = 1.78). Concerning how participants would they feel if they had to spend the rest of their life with their current sex life, the expected median was 2.5 and the observed mean was 3.17 (sd = 1.81). Finally, regarding the importance that sex has on participants' overall life, the expected median was 2.5, with an observed mean of 3.09 (sd = 1.57) for this parameter.

Concerning the comparison between males and females, we found the following statistically significant differences. With respect to mindfulness, men score higher than women. When it comes to sexual functioning, male participants indicate higher values in all parameters, which signifies that men report higher levels of pleasure, desire, frequency of desire and interest, arousal, and orgasm. Regarding overall sexual functioning, men also have higher values when compared with women. Finally, with respect to variables related to subjective sexual well-being, men also possess

higher values in most variables. Men had greater satisfaction with emotional pleasure, concerning the idea of having to spend the rest of their lives with their current sex life, and in regards to the importance they attach to sex in their overall life. In turn, women had higher levels of satisfaction in regards to physical pleasure. All of these results are shown in Table 2.

In order to compare differences in the levels of mindfulness, changes in sexual functioning, and subjective sexual well-being among age levels, we divided the sample into three different age groups (18-29, 30-49, and over 50). This division was made in order to accommodate and respect developmental criteria [53]. As can be seen in Table 3, statistically significant differences were found for all sexual dimensions studied, except for "satisfaction with physical pleasure". This indicates that the group of participants between ages 30 and 49 present higher scores than in the

other age groups. Regarding "mindfulness", the group of participants older than 50 years old presented higher scores (see Table 3).

In order to compare differences in sexual functioning and subjective sexual well-being between groups with higher and lower levels of mindfulness, with the goal of inferring the influence of mindfulness on sexual variables, we utilize the observed median as the cut-off point. The first group refers to lower levels of mindfulness (<41) and the second group refers to higher levels of mindfulness (> 41). All variables in this study were analyzed independently using this criterion. The results show a statistically significant difference between high and low levels of mindfulness in regards to pleasure and orgasm. For all other variables of sexual functioning and subjective sexual well-being there were no statistically significant differences, as can be seen in Table 4.

Table 2. Results of gender differences in sexual functioning, subjective sexual well-being, and mindfulness

	Gender	Mean	Standard deviation (SD)	t(df)	p - value
Pleasure	Male	3.62	0.98	t(1401)=5.09	0.000**
	Female	3.31	1.21		
Desire and frequency	Male	7.45	1.41	t(1395)=15.63	0.013*
	Female	6.13	1.67		
Desire and interest	Male	10.65	2.27	t(1380)=18.09	0.272
	Female	8.33	2.43		
Arousal	Male	12.21	2.03	t(1248)=14.31	0.000**
	Female	10.31	2.42		
Orgasm	Male	13.04	1.89	t(1252)=14.49	0.000**
	Female	10.99	2.69		
Overall sexual functioning	Male	50.08	6.49	t(1173)=16.17	0.000**
	Female	42.89	7.92		
Satisfaction with physical pleasure	Male	4.03	1.08	t(1189)= -0.43	0.452
	Female	4.05	1.08		
Satisfaction with emotional pleasure	Male	3.64	1.59	t(1410)=4.26	0.000**
	Female	3.24	1.89		
Spending the rest of their life with their current sex life	Male	3.38	1.68	t(1410)=3.77	0.000**
	Female	3.01	1.89		
Importance of sex in the overall life	Male	3.48	1.45	t(1410)=8.06	0.000**
	Female	2.81	1.59		
Overall mindfulness	Male	41.06	6.84	t(1335)=3.07	0.262
	Female	39.89	6.99		

*<0.05 **<0.001

Table 3. Results of different age groups in mindfulness, sexual functioning, and subjective sexual well-being

	Age groups	Mean	Standard deviation	Z(df)	p - value
Pleasure	18-29	3.48	1.19	z(2; 1370)=3.13	0.044*
	30-49	3.48	1.07		
	>50	3.30	1.13		
Desire and frequency	18-29	6.60	1.68	z(2; 1365)=12.96	0.000**
	30-49	6.93	1.64		
	>50	6.36	1.77		
Desire and interest	18-29	9.26	2.51	z(2; 1350)=27.38	0.000**
	30-49	9.66	2.65		
	>50	8.79	2.60		
Arousal	18-29	10.98	2.38	z(2; 1222)=27.38	0.000**
	30-49	11.49	2.25		
	>50	10.19	2.71		
Orgasm	18-29	11.37	2.77	z(2; 1225)=9.19	0.000**
	30-49	12.10	2.37		
	>50	11.69	2.79		
Overall sexual functioning	18-29	45.42	8.11	z(2; 1148)=13.74	0.000**
	30-49	46.82	7.78		
	>50	43.57	8.76		
Satisfaction with physical pleasure	18-29	4.12	1.04	z(2; 1161)=1.99	0.136
	30-49	4.12	1.07		
	>50	3.94	1.18		
Satisfaction with emotional pleasure	18-29	3.26	1.92	z(2; 1379)=3.03	0.048*
	30-49	3.53	1.64		
	>50	3.37	1.83		
Spending the rest of their life with their current sex life	18-29	2.96	1.89	z(2; 1379)=4.54	0.011*
	30-49	3.30	1.70		
	>50	3.12	1.87		
Importance of sex in the overall life	18-29	2.82	1.66	z(2; 1379)=11.14	0.000**
	30-49	3.28	1.44		
	>50	3.12	1.62		
Overall mindfulness	18-29	39.16	6.95	z(2; 1304)=18.25	0.000**
	30-49	40.19	7.22		
	>50	42.23	6.13		

* <0.05 ** <0.001

In order to determine a predictive relationship between mindfulness and sexual functioning and subjective sexual well-being, we created a linear regression to show that higher scores for sexual functioning (pleasure, desire and frequency, desire and interest, arousal, and orgasm) are predictors of higher levels of mindfulness (R square = 0.610; $p < 0.001$). This was also the case for subjective sexual well-being (satisfaction with physical pleasure, satisfaction with emotional pleasure, spending the rest of their life with their current sex life, and the importance of sex in overall life), which reports results that are predictors of higher levels of mindfulness (R square = 0.610; $p < 0.001$).

4. DISCUSSION

This study aimed to evaluate levels of mindfulness, sexual performance, and subjective sexual well-being, through the use of reliable instruments in order to improve the availability of information concerning the study of the links between mindfulness and areas of sexuality.

In this sample we found that the results for global mindfulness levels were moderately high, as expected, since the sample is normative and possesses no likelihood of presenting psychopathological symptomatology [50] that would affect mindfulness. The sample is also

differentiated, consisting of highly educated and professional participants, as most participants have a university education and are employed. This is congruent with the fact that mindfulness is a multifaceted, heterogeneous, and comprehensive construct (Sternberg, 2000).

Despite the fact that the practice of meditation was not controlled, as Neves [13] and Fernandes [20] state, participants in this sample appear to have high levels of attention and acceptance that may facilitate more adaptive responses to performance situations and reduce emotional stress. This, in turn, leads to more positive states of mind and a better quality of life [54,55].

The fact that we found that men have higher levels of full attention than women might suggest that women are more vulnerable to psychological distress, which, according to Walach, Buchheld, Buttenmuller, Kleinknecht and Schmidt [50], is a predictor of lower levels of mindfulness. At the same time, it appears that women are more likely to be socialized to internalize and express mental distress, seek support, and to use more dependent coping strategies of formal support and catharsis [56]. Simultaneously, women benefit more from mindfulness-based interventions [57]. In contrast, men are more likely to be subjected to stereotyped gender roles that do not directly affect their ability to be alert and sensitive to different contexts [56]. These results confirm the data obtained by Mezo and Baker [58], who also found that men had higher levels of mindfulness due to the possible association between lower levels of mindfulness with depression and anxiety, which women are more likely to experience [58].

Having higher levels of mindfulness between the ages of 30 and 49 can be explained by the fact that participants in this age group are still protected from the susceptibility to cognitive decline associated with aging; yet, they are also more cognitively and emotionally mature than younger participants. As Bednar [59] states, variables such as control beliefs associated with aging appear to be positively associated with higher levels of mindfulness, which requires us to accept that age can be a factor of interference on mindfulness. In fact, the results obtained in this study are similar to those obtained by Letho, Uusitalo-Malmivaara, and Repo [60], which indicate that people between 38 and 68 years of age possess higher levels of mindfulness.

Regarding sexual function and subjective sexual well-being, the sample showed normative scores,

which is consistent with other population-based studies [61]. Nevertheless, when comparing men and women, there were statistically significant differences in all dimensions except for "desire and interest" and "satisfaction with physical pleasure". These differences indicate that men score higher in all areas of sexual function. These differences can possibly be explained by biological, psychological, and social reasons that invite us to reflect on gender differences in specific social contexts. Portuguese society can be considered religious and conservative and tends to generate different social norms by gender. These norms are usually more permissive for men [62], which end up conditioning sexual functionality.

An increasing amount of research emphasizes the basic similarities in the sexual responses in men and women and the vast majority concludes that significant differences exist at every stage when comparing men with women. For example, some studies have shown that men have higher levels of sexual satisfaction than women, regardless of the socio-cultural context [9,8,63, 64]. Thus, as in the present study, the average levels of satisfaction were generally lower in women than in men in all groups and in all aspects of subjective sexual well-being [9]. These differences can be attributed to stereotypical socially constructed beliefs that regulate behavior and sexual attitudes by gender according to cultural norms [43,65]. These differences can also be ascribed to the anatomical structural and neuroanatomical differences between men and women that are still largely unexplored. As Basson [66] and Carpenter, Nathanson, and Kim [67] tell us, women seem to be more affected by emotional variables such as security or emotional closeness, and this may interfere with their thoughts, fantasies, or sexual behaviors.

Regarding the differences in sexual expression between age groups, we found that adult participants (30-49 years of age) have higher rates of sexual function and subjective sexual well-being. We expected these results, since it is accepted that there is a gradual decline in sexual responsiveness throughout the life cycle associated with changes in bodily function, hormonal changes, and frequency of sexual activity, even if these factors do not completely disappear with advancing age [68]. On the other hand, although sexual activity is high among youth, it may not be accompanied by emotional stability and safety, thus affecting the subjective experience of sexual well-being.

Table 4. Results of the differences between levels of mindfulness and sexual functioning and subjective sexual well-being

	Mindfulness levels	Mean	Standard deviation	t(df)	P
Pleasure	Lower levels	3.23	1.14	t(1330)= -8.02	0.009*
	Higher levels	3.71	1.06		
Desire and frequency	Lower levels	6.40	1.65	t(1324)= -6.94	0.808
	Higher levels	7.04	1.67		
Desire and interest	Lower levels	9.05	2.61	t(1309)= -4.54	0.585
	Higher levels	9.71	2.58		
Arousal	Lower levels	10.71	2.46	t(1184)= -5.21	0.606
	Higher levels	11.45	2.39		
Orgasm	Lower levels	11.45	2.63	t(1188)= -4.85	0.013*
	Higher levels	12.18	2.47		
Overall sexual functioning	Lower levels	44.44	8.08	t(1113)= -5.725	0.642
	Higher levels	47.23	8.08		
Satisfaction with physical pleasure	Lower levels	3.93	1.08	t(1129)= -3.88	0.434
	Higher levels	4.18	1.07		
Satisfaction with emotional pleasure	Lower levels	3.29	1.77	t(1338)= -2.70	0.436
	Higher levels	3.56	1.78		
Spending the rest of their life with their current sex life	Lower levels	3.01	1.76	t(1338)= -3.25	0.071
	Higher levels	3.34	1.85		
Importance of sex in the overall life	Lower levels	2.99	1.54	t(1338)= -2.86	0.144
	Higher levels	3.23	1.60		

With regard to associations between mindfulness, sexual functioning, and subjective sexual well-being, it was found that the only dimension where there were differences in comparing groups with higher and lower levels of mindfulness were the variables “pleasure” and “orgasm”. These results may indicate how mindfulness seems to condition the sexual experience, working as a minimizer of anxiety that can specifically facilitate the experience of pleasure and orgasm [69,36,39]. In the field of sexuality, the essence of mindfulness is reflected in cognitive, behavioral, and emotional awareness, a posture of acceptance, and a focus on the here and now of sexual sensations [33]. This is demonstrated by the effectiveness of mindfulness for the treatment of sexual dysfunction [34]. Hence, being sexually self-conscious has positive effects on sexual performance, as the self interferes positively in the arousal and pleasure process. This in turn, makes people more sensitive and aware and leads them to adopt a posture of openness and acceptance, in addition to promoting a more pleasurable sexuality [33].

The linear regression model predicts a positive association between mindfulness, sexual function, and subjective sexual well-being. In fact, as Masters and Johnson [65] state,

attentional focus and minimal anxiety are fundamental for optimal sexual expression, and these ideas are congruent with mindfulness, which allows for the concentration on bodily sensations and the removal of disturbing thoughts [37]. Thus, we can anticipate that the benefits that mindfulness brings will be closely linked to the sexual dimensions of humans. Thus, the contribution of this research is to deepen the study of this field. As Nobre [66] states, there is a close impact between cognitive-emotional functioning, performance, and sexual functioning both in men and in women, thus suggesting an inherent predisposition to healthy sexuality based on the therapeutic prescriptions of mindfulness.

Mindfulness related to sexuality should be seen a personal responsibility, encompassing desire, pleasure, and sexual function. However, each person plays a crucial role in the mindfulness process. Therefore, in the realm of interpersonal relationships, its practice should be intended to promote significant improvements in the sexual experience, as reinforced by the results of this research. In this sense, mindfulness increases the levels of openness to the other, the clarity of perception of the relationship, and the degree of emotional closeness [17].

5. LIMITATIONS

This study has some limitations, including the fact that the sample is highly differentiated and was collected by convenience over the Internet. Therefore, the results are not generalizable. In order to rectify these deficiencies, it would be appropriate to develop future studies with probability samples and also control groups, in order to manipulate the mindfulness experience as an experimental variable. It should be noted that the responses to questionnaires about intimate subjects, such as sexuality, may be influenced by factors such as inhibition, shame, or social desirability, which, not being controlled, may skew the results, although all the measures present good levels of internal consistency.

Regardless, these results allow us to better inform researchers who work either in the area of mindfulness, or in the field of sexuality, about the importance of these two variables in promoting health, well-being, and quality of life in general.

6. CONCLUSION

Mindfulness practice is an ancient tradition in Eastern philosophy that forms the basis for meditation, and it is increasingly making its way into Western approaches to health care. Although it has been applied to the treatment of many different mental health disorders, it has not been discussed in the context of sexual functioning and subjective sexual well-being. Therefore, this study shows that mindfulness was found to be associated with higher levels of sexual functioning and sexual well-being, constituting emerging evidence that mindfulness might offer a unique approach to enhancing people's sexuality.

Mindfulness, sexual functioning and subjective sexual well-being are very important new concepts in the sexuality/sex therapy field. These separate but complementary concepts promote healthy male, female and couple sexuality. This study contributes to the integrated use of mindfulness and sexual approaches, separately for both individuals and together as a couple, to promote sexual health. Nevertheless, future research should aim to empirically support Eastern techniques in human sexuality.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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