Revista Psicologia, Saúde & Doenças
Vol. 23, Nº. 1, 89-96, 2022
Sociedade Portuguesa de Psicologia da Saúde

ISSN 2182-8407
www.sp-ps.pt
https://doi.org/10.15309/22psd230109

MOOD AND INTIMATE RELATIONSHIP QUALITY: ARE THEY INDEPENDENTLY ASSOCIATED WITH SEXUAL FUNCTION?

HUMOR E QUALIDADE DAS RELAÇÕES AMOROSAS: ESTARÃO ASSOCIADOS INDEPENDENTEMENTE COM A FUNÇÃO SEXUAL?

Inês Rodrigues[1], & Rui Miguel Costa[2†]

[1]ISPA – Instituto Universitário, Lisbon, Portugal, inesrcrodrigues@gmail.com
[2]William James Center for Research, ISPA – Instituto Universitário, Rua do Jardim do Tabaco 34, 1149-041 Lisbon, Portugal
rcosta@ispa.pt

ABSTRACT: The present study aimed at examining whether better mood and better intimate relationship quality are independently associated with better sexual function. The sample consisted of 401 subjects aged between 18 and 65 years (265 females and 136 males). Participants completed the Perceived Relationship Quality Components (PRQC) Inventory and the Depression Anxiety Stress Scale (DASS). Additionally, women completed the Female Sexual Function Index (FSFI) and the Female Sexual Distress Scale – Revised (FSDS-R), while men completed the International Index of Erectile Function (IIEF). For both sexes, intercorrelations between more negative mood, poorer intimate relationship quality, and poorer sexual function were confirmed. In multiple regressions, more negative mood, poorer relationship quality, and use of medicines for anxiety or depression were independently associated with more sexual difficulties.
Keywords: Sexual function; Mood; Relationship quality

RESUMO: O presente estudo teve como objetivo compreender se melhor humor e melhor qualidade da relação amorosa estão associados independentemente a uma melhor função sexual. A amostra é constituída por 401 sujeitos com idades compreendidas entre os 18 e os 65 anos, 265 do sexo feminino e 136 do sexo masculino. Os participantes responderam ao Inventário de Componentes de Qualidade de Relacionamento Percebido e à Escala de Depressão, Ansiedade e Stress (EADS). Para avaliar a função sexual, as mulheres responderam ao Índice de Função Sexual Feminina e à Escala de *Distress* Sexual Feminino – Revista, enquanto que os homens responderam ao Índice Internacional de Função Erétil. Em ambos os sexos, confirmaram-se intercorrelações entre pior humor, menor qualidade da relação amorosa e pior função sexual. Em regressões múltiplas, verificou-se que estados de humor negativos, menor qualidade da relação amorosa e uso de medicamentos para a ansiedade ou depressão se associaram independentemente a mais dificuldades sexuais.
Palavras-Chave: Função sexual; Humor; Relações amorosas

It is known that poor sexual functioning is related to more negative mood, as reflected in anxiety, depression, and stress (Frohlich & Meston, 2002; Jerne et al., 2012; Sangi-Haghpeykar et al., 2009;

† Morada de Correspondência: Rua do Jardim do Tabaco 34, 1149-041 Lisbon, Portugal
Submetido: 08 de fevereiro de 2021
Aceite: 20 de janeiro de 2022

Trudel & Goldfarb, 2010; Weiss & Brody, 2011). In addition, poorer sexual function relates to poorer intimate relationship quality (Byers, 2005; McNulty et al., 2016; Trudel & Goldfarb, 2010; Weiss & Brody, 2011; Yazdanpanahi, Beygi, Bagheri, & Akbarzadeh, 2019). However, there is lack of research exploring if better mood and better relationship quality are independently associated with better sexual function. This is particularly pertinent, because poorer relationship quality has been related to more negative mood (Trudel & Goldfarb, 2010; Yazdanpanahi et al., 2019). Thus, the present study aims at examining in a sample of both sexes if better mood and better relationship quality are independently associated with better sexual function.

METHODS

Participants and procedure

Initially, the sample consisted of 467 participants who responded to an online survey, but only 401 fulfilled the inclusion criteria (136 men and 265 women). We excluded participants who were less than 18 years old, participants who had not had sex in the last four weeks, and who were not in a romantic relationship. Descriptive statistics are presented in Table 1. The survey in Portuguese language was advertised in social networking sites (Instagram; Facebook; WhatsApp) from 22 October 2020 to 25 November 2020. After clicking on the survey link, potential participants were presented with the informed consent disclosure that explained that the objectives of the investigation were to study the relationships between mood and sexual functioning, and that the data are anonymous and confidential. It was further stated that the study was aimed at heterosexual and sexually active adults (more than 18 years old). The study was approved by the local Ethics Committee.

Measures

Female sexual function was assessed by a Portuguese version (Pechorro et al., 2009) of the Female Sexual Function Index (Rosen et al., 2000), which has 19 questions clustering in six dimensions: desire, arousal, lubrication, orgasm, satisfaction and pain with higher scores indicating better sexual function. Female sexual distress was measured by a Portuguese version (Berenguer et al.,, 2019) of the Female Sexual Distress Scale – Revised (DeRogatis et al., 2008). This instrument has 13 items measuring several negative emotions related to female sexuality on a 5-point scale with higher scores indicating greater distress with one's sexuality.

Male sexual function was assessed with the Portuguese version (Quinta Gomes & Nobre, 2012) of the International Index of Erectile Function (Rosen et al., 1997). The Portuguese version of the IIEF has 14 items clustered in the five original five dimensions: erectile function, orgasmic function, sexual desire, intercourse satisfaction and overall satisfaction. Higher scores indicate better sexual function (Rosen et al., 1997).

The quality of the romantic relationship was assessed using the Portuguese short version (Costa & Brody, 2007) of the Perceived Relationship Quality Components Inventory (Fletcher et al., 2000). The questionnaire consists of six items assessing satisfaction, commitment, intimacy, trust, passion, and love on a 7-point scale from 1 (absolutely nothing) to 7 (extremely).

Negative mood was assessed with the Portuguese version (Pais-Ribeiro et al., 2004) of the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995). This instrument has 21 questions (seven items for each dimension rate on a 4-point scale). Each item corresponds to a phrase

that refers to negative emotional symptoms and the participants must answer according to how they felt in the last week. The higher the scores in each dimension, the more severe the emotional distress.

Table 1. Descriptive statistics.

	Women *N* (%) or Mean (*SD*)	Men *N* (%) or Mean (*SD*)
N	265	136
Age	27.54 (9.31)	29.17 (10.96)
Marital Status		
Single	181 (68.3)	92 (67.65)
Married	78 (29.4)	41 (30.15)
Divorced/separated	6 (2.3)	3 (2.2)
Nationality		
Portuguese	229 (86.4)	121 (89.0)
Brazilian	35 (13.2)	14 (10.3)
Angolan	1 (0.4)	0
Spanish	0	1 (0.7)
Educational qualifications		
Basic education	3 (1.1)	5 (3.7)
High school	70 (26.4)	36 (26.5)
Graduation	121 (45.7)	68 (50.0)
Master's degree	64 (24.2)	24 (17.6)
Doctorate	7 (2.6)	3 (2.2)
Professional situation		
Student	97 (36.6)	34 (25.0)
Student and employed	5 (1.9)	1 (0.7)
Employed	153 (57.7)	96 (70.6)
Unemployed	9 (3.4)	5 (3.7)
Retired	1 (0.4)	0
Cohabitation with partner		
No	161 (60.8)	79 (58.1)
Yes	104 (39.2)	57 (41.9)
Relationship duration (months)	68.77 (86.79)	68.54 (90.71)

Note: *SD* = Standard deviation

RESULTS

In women, better relationship quality correlated with lesser depression ($r = -.27$; $p < .001$), lesser anxiety ($r = -.19$; $p = .002$), and lesser stress ($r = -.20$; $p = .001$). In men, better relationship quality correlated with lesser depression ($r = -.41$; $p < .001$), and lesser stress ($r = -.24$; $p = .005$), but not with lesser anxiety ($r = -.15$; $p = .073$).

As can be seen in Tables 2 and 3, for both sexes, more sexual difficulties correlated with more depression, more anxiety, more stress, and poorer relationship quality.

In order to examine the independent statistical contributions of negative mood and relationship quality in predicting sexual function, while also controlling for the effects of age and use of medicines for depressions or anxiety, we performed a series of multiple regressions, in which the dependent variables were sexual function dimensions, and the independent variables were negative mood (composite measure of depression, anxiety and stress), relationship quality, age, and use of medicines for depression or anxiety. Of note, 12 women (4.5%) reported to consume such medicines, whereas two men (1.5%) reported to do so.

Table 2. Correlations between female sexual functioning, mood, and relationship quality.

	Depression	Anxiety	Stress	Relationship quality
Sexual distress	.44***	.30***	.38***	-.33***
Desire	-.26***	-.23***	-.26***	.30***
Arousal	-.28***	-.22***	-.24***	.40***
Lubrication	-.19**	-.15*	-.17**	.16**
Orgasm	-.30***	-.26***	-.33***	.26***
Satisfaction	-.35***	-.24***	-.30***	.59***
Pain	-.15*	-.18**	-.19**	.03
Female sexual function (FSFI total score)	-.37***	-.31***	-.36***	.41***

Note: ***$p < .001$; **$p < .01$; *$p < .05$; FSFI = Female Sexual Function Index

Table 3. Correlations between male sexual functioning, mood, and relationship quality.

	Depression	Anxiety	Stress	Relationship quality
Erectile function	-.27**	-.31***	-.33***	.26**
Orgasmic function	-.44***	-.30***	-.38***	.26**
Desire	-.25**	-.16↑	-.19*	.24**
Intercourse satisfaction	-.29**	-.17↑↑	-.29***	.44***
Overall satisfaction	-.30***	-.19*	-.32***	.49***

Note: ***$p < .001$; **$p < .01$; *$p < .05$; ↑$p = .067$; ↑↑$p = .052$

As shown in Table 4, poorer female sexual function was independently predicted by more negative mood and poorer relationships quality across all dimensions with the exception of pain, which was not predicted by relationship quality (in fact, pain was the only dimension of female sexual function that was not associated with relationship quality in univariate correlations, as depicted in Table 2). Interestingly, use of medicines for depression or anxiety was an additional independent predictor of lower desire, more sexual dissatisfaction, and greater sexual distress (see Table 4).

Table 4. Multiple regressions predicting female sexual functioning from mood, relationship quality, age, and medicines for depression or anxiety.

	Negative mood[1] β (*p*)	Relationship quality β (*p*)	Medicines for depression or anxiety β (*p*)	Age β (*p*)	*R*
Sexual distress	.30***	-.25***	.21***	-.05	.52
Desire	-.19**	.25***	-.12*	.02	.39
Arousal	-.19**	.34***	-.06	-.03	.45
Lubrication	-.15*	.13*	-.01	.03	.23
Orgasm	-.25***	.23***	.01	.16**	.41
Satisfaction	-.19***	.52***	-.13**	-.08	.64
Pain	-.14*	.04	.01	.22***	.29
FSFI total score	-.27***	.35***	-.07	.10	.51

Note: ***$p < .001$; **$p < .01$; *$p < .05$; [1]Negative mood results from the composite measure of depression, anxiety, and stress. FSFI = Female Sexual Function Index

As displayed in Table 5, poorer male sexual function was independently predicted by more negative mood and poorer relationship quality across all dimensions except orgasm, which was unrelated to relationship quality, but nevertheless with a nonsignificant trend.

Table 5. Multiple regressions predicting male sexual functioning from mood, relationship quality, age, and medicines for depression or anxiety.

	Negative mood β (*p*)	Relationship quality β (*p*)	Medicines for depression or anxiety β (*p*)	Age β (*p*)	*R*
Erectile function	-.28***	.16*	-.28***	-.16*	.51
Orgasmic function	-.36***	.15↑	-.06	.020	.44
Desire	-.17*	.17*	-.12	-.16↑↑	.36
Intercourse satisfaction	-.16*	.38***	-.18*	-.08	.51
Overall satisfaction	-.18*	.43***	-.15*	-.18*	.58

Note: ***$p < .001$; **$p < .01$; *$p < .05$; ↑$p = .066$; ↑↑$p = .064$; [1] Negative mood results from composite measure of depression, anxiety, and stress.

DISCUSSION

In the present study, we confirmed that, for women and men, more negative mood, poorer relationship quality, and poorer sexual function were intercorrelated, as previous research shows. However, more negative mood and poorer intimate relationship quality were independently associated with more sexual difficulties. Although dysphoria can lead to relationship dissatisfaction, and vice versa (Trudel & Goldfarb, 2010), the two factors appear to influence sexual function by independent means, as the present results suggest. This means that many relationship problems do not affect sexual functioning by means of the dysphoria that can ensue from relationship difficulties. It also means that dysphoric states can affect sexual functioning without affecting the perceived quality of the relationship.

The present findings are important for sex and relationship therapists, as they imply that interventions to improve relationship quality with the aim of improving sex life may not be enough, if mood problems are not addressed. Conversely, ameliorating mood might not be enough to improve sexual function, if relationship quality problems are not addressed. In this regard, it is pertinent to note that relationship quality is a more comprehensive concept than relationship satisfaction by encompassing love, passion, intimacy, commitment, and trust, in addition to satisfaction (Fletchers et al., 2000).

The correlational nature of our findings also implies caution in the interpretation of causal links. Sexual problems may also lead to relationship and mood problems (Byers, 2005; McNulty et al., 2016; Shiri et al., 2007), and other variables can additionally play a role in the associations of sexual function with mood and relationship quality; for example, sexual and relationship satisfaction might be improved concurrently by increases in intercourse frequency (Brody et al., , 2018; Weiss & Brody, 2011), increases in quality of intimate communication (Byers, 2005), as well as by particularly intense experiences during sexual activity (Ellero & Costa, 2020). These are topics to be explored in future research.

It worth noting that, in the present study, use of medicines for depression or anxiety did not influence the relation between negative mood and poorer sexual function; in fact, the use of these drugs independently predicted sexual difficulties. Use of benzodiazepines has been related to sexual dysfunctions (Chen et al., 2016; Ghadirian et al., 1992), but the research on the topic is yet very

limited. It is unclear if sexual dysfunctions emerge from drug effects or are the result of the mental condition for which benzodiazepines are prescribed. Case studies suggest that different benzodiazepines might have different effects on sexual function (Balon et al., 1989), but there is lack of investigation on the subject.

In contrast, it is well known that antidepressants are important causes of sexual dysfunction (Lorenz et al., 2016; Segraves & Balon, 2014), especially those that increase serotonin neurotransmission (Lorenz et al., 2016; Rothmore, 2020; Segraves & Balon, 2014). Research has been showing that antidepressants (selective serotonin reuptake inhibitors and selective serotonin and norepinephrine reuptake inhibitors) may be more dangerous for sexual function than depression proper (Shiri et al., 2007), and its adverse effects on sexual function may continue after discontinuation (Rothmore, 2020). The role of antidepressants in the aetiology of sexual dysfunctions should be given high consideration, especially when it is becoming increasingly clear that antidepressants do not have clinically significant benefits in comparison with placebos in the treatment of depression and anxiety, regardless of the difference in statistical significance (Kirsch, 2014; 2019; Moncrieff & Kirsch, 2015). Finally, mood stabilizers also appear to be associated with sexual dysfunction, but research on the topic is scarce (La Torre et al., 2014).

Our findings need to be replicated in more diverse and more representative samples, as our convenience sample consisted mostly of unmarried young people. We need further research in older and/or married samples.

In conclusion, the present study provided evidence that negative mood and poorer relationship quality are independently associated with more sexual difficulties.

ORCID

Rui Miguel Costa https://orcid.org/0000-0002-9937-1121

AUTHOR CONTRIBUTIONS

Inês Rodrigues: Conceptualization, Data Curation, Formal Analysis, Investigation, Writing – Original draft, Revision and Edition

Rui Miguel Costa: Conceptualization, Data Curation, Formal Analysis, Methodology, Project Administration, Supervision, Writing – Revision and Edition

REFERENCES

Balon, R., Ramesh, C., & Pohl, R. (1989). Sexual dysfunction associated with diazepam, but not clonazepam. *Canadian Journal of Psychiatry, 34*, 947-948. https://doi.org/10.1177/070674378903400925

Berenguer, C. Rebôlo, C, & Costa, R. M. (2019). Interoceptive awareness, alexithymia, and sexual function. *Journal of Sex & Marital Therapy, 45*, 729-738. https://doi.org/10.1080/0092623X.2019.1610128

Brody, S., Costa, R. M., Klapilova, K., & Weiss, P. (2018). Specifically penile-vaginal intercourse frequency is associated with better relationship satisfaction: A commentary on Hicks, McNulty, Meltzer, and Olson (2016). *Psychological Science, 29*, 667-669. https://doi.org/10.1177/0956797617691547

Byers, E. S. (2005). Relationship satisfaction and sexual satisfaction: A longitudinal study of individuals in long-term relationships. *Journal of Sex Research, 42*, 113-118. https://doi.org/10.1080/00224490509552264

Chen, K. F., Liang, S. J., Lin, C. L., Liao, W. C., & Kao, C. H. (2016). Sleep disorders increase risk of subsequent erectile dysfunction in individuals without sleep apnea: a nationwide population-based cohort study. *Sleep Medicine, 17*, 64-68. https://doi.org/10.1016/j.sleep.2015.05.018

Costa, R. M., & Brody, S. (2007). Women's relationship quality is associated with specifically penile-vaginal intercourse orgasm and frequency. *Journal of Sex & Marital Therapy, 33*, 319-327. https://doi.org/10.1080/00926230701385548

DeRogatis, L., Clayton, A., Lewis-D'Agostino, D., Wunderlich, G., & Fu, Y. (2008). Validation of the female sexual distress scale–revised for assessing distress in women with hypoactive sexual desire disorder. *Journal of Sexual Medicine, 5*, 357–364. https://doi.org/10.1111/j.1743-6109.2007.00672.x

Ellero, J., & Costa, R. M. (2020). Altered states of consciousness, absorption, and sexual responsiveness. *Psicologia, Saúde & Doenças, 21*, 782-795. https://doi.org/10.15309/20psd210320

Fletcher, G., Simpson, J., & Geoff, T. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin, 26*, 3, 340-354. https://doi.org/10.1177/0146167200265007

Frohlich, P., & Meston, C. (2002). Sexual functioning and self-reported depressive symptoms among college women. *Journal of Sex Research, 39*, 231-325. https://doi.org/10.1080/00224490209552156

Ghadirian, A. M., Annable, L., & Bélanger, M. C. (1992). Lithium, benzodiazepines, and sexual function in bipolar patients. *American Journal of Psychiatry, 149*, 801–805. https://doi.org/10.1176/ajp.149.6.801

Jern, P., Gunst, A., Sandnabba, K., & Santtila, P. (2012). Are early and current erectile problems associated with anxiety and depression in young men? A retrospective self-report study. *Journal of Sex & Marital Therapy, 38*, 349-364. https://doi.org/10.1080/0092623X.2012.665818

Kirsch, I. (2014). Antidepressants and the placebo effect. *Zeitschrift für Psychologie, 222*, 128-134. https://doi.org/10.1027/2151-2604/a000176

Kirsch, I. (2019). Placebo effect in the treatment of depression and anxiety. *Frontiers in Psychiatry, 10*, 407. https://doi.org/10.3389/fpsyt.2019.00407

La Torre, A., Giupponi, G., Duffy, D. M., Pompili, M., Grözinger, M., Kapfhammer, H. P., & Conca, A. (2014). Sexual dysfunction related to psychotropic drugs: a critical review. Part III: mood stabilizers and anxiolytic drugs. *Pharmacopsychiatry, 47*, 1-6. https://doi.org/10.1055/s-0033-1358683

Lorenz, T., Rullo, J., & Faubion, S. (2016). Antidepressant-induced female sexual dysfunction. *Mayo Clinic Proceedings, 91*, 1280-1286. https://doi.org/10.1016/j.mayocp.2016.04.033

Lovibond, P., & Lovibond, S. (1995). The structure of emotional negative states: Comparison of Depression Anxiety Stress Scale (DASS) and Beck Depression and Anxiety Inventories. *Behavior Research and Therapy, 33,* 335-343. https://doi.org/10.1016/0005-7967(94)00075-U

McCabe, M., & Connaughton, C. (2017). Sexual dysfunction and relationship stress: how does this association vary for men and women? *Current Opinion in Psychology, 13*, 81-84. https://doi.org/10.1016/j.copsyc.2016.05.007

McNulty, J. K., Wenner, C. A., & Fisher, T. D. (2016). Longitudinal associations among relationship satisfaction, sexual satisfaction and frequency of sex in early marriage. *Archives of Sexual Behavior, 45*, 85-97. https://doi.org/10.1007/s10508-014-0444-6

Moncrieff, J., & Kirsch, I. (2015). Empirically derived criteria cast doubt on clinical significance of antidepressant-placebo differences. *Contemporary Clinical Trials, 43*, 60-62. https://doi.org/10.1016/j.cct.2015.05.005

Pais-Ribeiro, J. L., Honrado, A., & Leal, I. (2004). Contribuição para o estudo da adaptação portuguesa das Escalas de Ansiedade, Depressão e Stress (EADS) de 21 itens de Lovibond e Lovibond. *Psicologia, Saúde e Doenças, 5(2),* 229-239.

Pechorro, P., Diniz, A., Almeida, S., & Vieira, R. (2009). Validação portuguesa do Índice de Funcionamento Sexual Feminino (FSFI). *Laboratório de Psicologia, 7*, 33-44. https://doi.org/10.14417/lp.684

Quinta Gomes, A. L., & Nobre, P. (2012). The International Index of Erectile Function (IIEF-15): psychometric properties of the Portuguese version. *Journal of Sexual Medicine, 9,* 180-187. https://doi.org/10.1111/j.1743-6109.2011.02467.x

Rosen, C., Riley, A., Wagner, G., Osterloh, I. H., Kirkpatrick, J., & Mishra, A. (1997). The International Index of Erectile Function (IIEF): a multidimensional scale for assessment of erectile dysfunction. *Urology*, *49,* 822-830. https://doi.org/10.1016/s0090-4295(97)00238-0

Rosen, R., Brown, C., Heiman, J., Leiblum, S., Meston, C., Shabisigh, R., Fergunson, D., & D'Agostino, R. (2000). The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy, 26,* 191-208. https://doi.org/10.1080/009262300278597

Sangi-Haghpeykar, H., Ambani, D. S., & Carson, S. A. (2009). Stress, workload, sexual well-being and quality of life among physician residents in training. *International Journal of Clinical Practice, 63*, 462-467. https://doi.org/10.1111/j.1742-1241.2008.01845.x

Segraves, R. T., & Balon, R. (2014). Antidepressant-induced sexual dysfunction in men. *Pharmacology, Biochemestry, and Behavior, 121*, 132-137. https://doi.org/10.1016/j.pbb.2013.11.003

Shiri, R., Koskimäki, J., Tammela, T. L. J., Häkinen, J, Auvinen, A., & Hakama, M. (2007). Bidirectional relationship between depression and erectile dysfunction. *Journal of Urology, 177*, 669-673. https://doi.org/10.1016/j.juro.2006.09.030

Trudel, G., & Goldfarb, M. R. (2010). Marital and sexual functioning and dysfunctioning, depression and anxiety. *Sexologies, 19*, 137-142. https://doi.org/10.1016/j.sexol.2009.12.009

Weiss, P., & Brody, S. (2011). International Index of Erectile Function (IIEF) scores generated by men or female partners correlate equally well with own satisfaction (sexual, partnership, life, and mental health). *Journal of Sexual Medicine, 8*, 1404-1410. https://doi.org/10.1111/j.1743-6109.2011.02214.x

Yazdanpanahi, Z., Beygi, Z., Bagheri, S., & Akbarzadeh, M. (2019). An investigation into the correlation of marital adaptation with sexual function and its components. *Family Medicine & Primary Care Review, 3,* 264-269. https://doi.org/10.5114/fmpcr.2019.88386