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## **Repetitive negative thinking and sexual functioning in Portuguese men and women: A cross-sectional study**

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## Abstract

Repetitive negative thinking (RNT) is a transdiagnostic process involved in the development and maintenance of emotional disorders that negatively affect sexual functioning. However, empirical evidence for the role of RNT on sexual functioning is still lacking. The current study aimed to investigate the role of RNT on sexual functioning in men and women by examining differences in RNT between men and women and between individuals with and without subclinical sexual difficulties. It also aimed to investigate the predictive role of RNT on sexual function indices in men and women. A total of 424 participants (270 women) completed online a sociodemographic questionnaire and Portuguese versions of the Persistent and Intrusive Negative Thoughts Scale, the Female Sexual Functioning Index, and the International Index of Erectile Function. The main findings showed that women scored significantly higher than men on the RNT. Similarly, individuals with subclinical sexual difficulties scored significantly higher on the RNT compared with individuals without sexual difficulties. RNT was a statistically significant and negative predictor of sexual functioning in women and men. The role of RNT on sexual functioning in women and men was found, with men and women with subclinical sexual difficulties more likely to express persistent and intrusive negative thoughts compared with men and women without sexual difficulties. In summary, RNT appears to be a negative predictor of sexual functioning in both women and men, suggesting that individuals with more intrusive and negative persistent thoughts also have more difficulty in their sexual response.

**Keywords:** men; repetitive negative thinking; sexual difficulties; sexual functioning; women

## **Introduction**

Repetitive negative thinking (RNT) is a transdiagnostic process characterized by intrusive and repetitive thoughts that are difficult to disengage and overcome (Ehring et al., 2011) and are strongly implicated in the onset, development, and maintenance of emotional distress and disorders (Ehring & Watkins, 2008; Hur et al., 2017; McEvoy & Brans, 2013; Nolen-Hoeksema et al., 2008; Watkins et al., 2005). Worry (i.e., a thinking pattern characterized by future potential negative outcomes) and rumination (i.e., a thinking style characterized by negative, past-oriented thoughts) are common types of RNT (Hur et al., 2017; McEvoy & Brans, 2013; Watkins et al., 2005), which are defined as major features of generalized anxiety disorder and depression, respectively (Ehring & Watkins, 2008; Hur et al., 2017; McEvoy & Brans, 2013; Nolen-Hoeksema et al., 2008; Watkins et al., 2005).

As a transdiagnostic process, RNT underlies mechanisms and pathways for emotional disorders (Ehring & Watkins, 2008), which are highly prevalent among women, compared to men (Angst, Gamma, Gastpar, et al. 2002; Cyranowski et al., 2000, Kornstein, 1997; Leach, Christensen, Mackinnon, Windsor, & Butterworth, 2008; Parker & Brotchie, 2010; Riecher-Rössler, 2016). Given the high comorbidity in emotional disorders and the overlap between RNT patterns in these emotional disorders (Arditte et al., 2016; Ehring & Watkins, 2008; Wahl et al., 2019), it has been suggested that RNT should be considered a neutral and nonspecific disorder feature (Magson et al., 2019). Previous research has found evidence for conceptualizing sexual dysfunctions as internalizing spectrum of psychopathology (Forbes et al., 2017; Forbes et al., 2016), proposing the examination of transdiagnostic dimensions for treatment implication (Forbes et al., 2016). Thus, RNT as a nonspecific disorder feature can not only be linked to emotional and affective disorders, as well as to sexual

dysfunction. Mindfulness approaches have been described as effective strategies to easily disengage from RNT (Feruglio, Matiz, Grecucci, Pascut, Fabbro, & Crescentini, 2021; Greeson, Garland, & Black, 2014; Schlosser, Jones, Demnitz-King, et al., 2022; Vanzhula & Levinson, 2020), and in recent years, empirical research has also demonstrated the positive role of mindfulness in the treatment of sexual dysfunction (Banbury, Lusher, Snuggs, & Chandler, 2021; Bossio, Basson, Driscoll, et al., 2018; Brotto, Stephenson, & Zippa, 2022; Stephenson, 2017), recommending that emotional awareness and staying in the present moment are important strategies for reducing sexual difficulties.

Although empirical evidence linking RNT and sexual function has not been found, there is extensive empirical evidence of the negative impact of depression, anxiety, and related disorders on sexual function in both men and women (Baldwin, 2001; Barlow, 1986; Castellini et al., 2018; Ciocca et al., 2015; Laurent & Simons, 2009; Rellini et al., 2010). More recently, worry and rumination have been positively associated with sexual distress and negatively related to sexual pleasure in partnered heterosexual men and women (Pascoal, Raposo, & Roberto, 2020), providing evidence for the potential role of RNT in sexuality. In addition, cognitive distraction in the area of sexual difficulties has been studied extensively (e.g., Adams, Haynes, & Brayer, 1985; Carvalheira, Godinho, & Costa, 2017; Dove & Wiederman, 2000; Lacefield & Negy, 2012; Lacefield, Negy, & Velezmoro, 2013; Nelson & Purdon, 2011; Newcombe & Weaver, 2016; Pascoal, Narciso, & Pereira, 2012; Purdon & Holdaway, 2006; Purdon & Watson, 2011; Silva, Pascoal, & Nobre, 2016), initially following the *spectatoring* concept described by Masters and Johnson (1970), in which men are cognitively distracted from their own sexual performance. Later research found that women can also be cognitively distracted by thoughts and concerns about their appearance (Dove &

Wiederman, 2000). Cognitive distraction in the area of sexual problems has been particularly studied and linked to sexual performance and body image (Carvalho, Godinho, & Costa, 2017; Dove & Wiederman, 2000; Pascoal, Narciso, & Pereira, 2012), with RNT being a broader conceptualization of intrusive and distracting thoughts.

Given the close relationship between RNT and emotional disturbance (Ehring & Watkins, 2008) and the close relationship between psychopathological symptoms and sexual function, the current study aims to examine the role of RNT on sexual function in men and women by examining differences in RNT between men and women and between individuals with and without subclinical sexual difficulties. In addition, the predictive role of RNT on sexual function indexes of men and women will be examined. The hypothesis is that women will express more RNT compared to men and that individuals with subclinical sexual difficulties will also be more likely to report RNT compared to individuals without sexual difficulties. It is also expected that RNT will be a significant and negative predictor of sexual functioning indexes in men and women.

## **Material and Methods**

### ***Participants and Procedures***

The present study was ethically approved by the author's ethics committee, and the Portuguese versions of the self-report questionnaires were approved. Then, a web survey was developed using Google forms, and the sample survey took place between March and May 2021. The web survey was announced via social networks (e.g., LinkedIn, Facebook, Instagram) and university and personal mailing lists. Potential volunteers were provided with a detailed explanation of the purpose of the study, including information about privacy and anonymity of participation (no IP addresses or other personally identifying information was collected or recorded). Participants were

asked to read this information and provide informed consent. Self-report measures were completed in 10 to 15 minutes, and no incentives were offered for participation. A sample of 424 participants (270 women, 63.7%) was collected. A detailed sociodemographic characterization is provided in Table 1.

[insert table 1]

Using cut-off scores for sexual functioning (Cappelleri et al., 1999; Wiegel et al., 2005), participants were assigned to a subclinical group or a group without sexual difficulties. Among men, 53 participants (34.4%) scored less than 25 on the erectile function subscale of the International Index of Erectile Function (Rosen et al., 1997) and were assigned to the group with subclinical sexual difficulties. Among women, 98 participants (36.3%) who scored less than 26.55 on the total Female Sexual Functioning Index scale (Rosen et al., 2000) were assigned to the subclinical sexual difficulties groups.

### ***Measures***

#### *Sociodemographic Screening.*

For the current study, a sociodemographic screening was developed to capture sociodemographic information, i.e., age, biological sex, sexual orientation, education level, relationship status, current pharmacotherapy, and psychotherapeutic treatments.

#### *Persistent and Intrusive Negative Thoughts Scale (PINTS)*

The PINTS (Magson et al., 2019) is a brief and easy-to-administer self-report instrument that allows to assess the main characteristics of maladaptive repetitive negative thinking (i.e., repetitive, intrusive, and difficult to overcome). It includes five items answered on a five-point Likert scale ranging from 1 (never) to 5 (almost always). Scores were calculated as a sum and range from 5 to 25, with higher scores indicating a greater presence of repetitive negative thinking. The original study found PINTS to

have good to excellent psychometric properties (Magson et al., 2019). The Portuguese version of PINTS also has good to excellent psychometric properties (Peixoto & Cunha, 2021). In the current study, internal consistency was .92.

#### *Female Sexual Functioning Index (FSFI)*

The FSFI (Rosen et al., 2000) is a self-report questionnaire assessing women's sexual functioning (i.e., sexual interest/desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and sexual pain). It includes 19 items answered on a Likert scale of five (e.g., 1 - almost never/never to 5 - almost always/always) or six points (e.g., 0 - no sexual activity, 1 - almost never/never to 5 - almost always/always). Scores were calculated using a computational formula (sum of items from each domain and multiplication by the domain factor; see Rosen et al., 2000), with higher scores indicating better levels of female sexual functioning. The FSFI showed good psychometric properties (Rosen et al., 2000), and the Portuguese version also shows good psychometric properties (Pechorro et al., 2013). The instrument allows discrimination between women with and without sexual disorder using a cut-off score of 26.55 (Wiegel et al., 2005). Internal consistency for the current study was .96 for the overall sample, .80 for the sample of women without sexual difficulties, and .90 for the sample of women with subclinical sexual difficulties.

#### *International Index of Erectile Function (IIEF)*

The IIEF (Rosen et al., 1997) is a self-administered instrument containing 15 questions assessing sexual functioning in men (i.e., erectile function, orgasmic function, sexual desire, satisfaction with intercourse, and overall satisfaction). Participants answered each question on a five-point (e.g., 1 - very low to 5 - very high) or six-point (e.g., 0 - no sexual activity, 1 - almost never/sometimes to 5 - almost always/always) Likert scale. Scores were calculated as a sum, with higher scores indicating better

sexual functioning. The original study showed that the IIEF had good psychometric properties (Rosen et al., 1997). The Portuguese version of the IIEF also showed good psychometric properties (Quinta-Gomes & Nobre, 2012). According to Cappelleri et al. (1999), a cut-off score of 25 on the erectile function subscale allows discrimination between men with and without erectile dysfunction. In the current study, Cronbach's alpha was .96 for the total sample, .94 for the subclinical sample, and .80 for the sample without sexual difficulties.

### ***Data Analysis***

An a priori power analysis was performed using G\*Power software. A minimum sample size of 251 participants was required to perform a univariate analysis of covariance with a medium-size effect ( $f = 0.25$ ) with 95% power. A sample size of 89 participants was required to perform a linear regression analysis with a predictor with a medium-size effect ( $f = 0.25$ ) and 95% power.

Statistical procedures and analyses were performed using the software IBM SPSS, version 26.0. Descriptive statistics (calculation of means, standard deviations, ranges, and frequencies) were performed to characterise the sample. To assess differences in repetitive negative thinking (assessed by the PINTS total score) between men and women with and without subclinical sexual difficulties, a univariate analysis of covariance was performed, with current psychotherapy and current pharmacotherapy status as covariables. Finally, a series of linear regression analyses were performed to assess the predictive role of repetitive negative thinking (assessed by the PINTS total score) on sexual functioning in men (assessed by the IIEF total score and subscales) and on sexual functioning in women (assessed by the FSFI total score and subscales).

## Results

### *Differences in repetitive negative thinking between men and women with and without subclinical sexual difficulties*

Means and standard deviations for repetitive negative thinking (as assessed by the total score of PINTS) are presented in Table 2, for the total sample, for female and male samples, and for the groups with subclinical sexual difficulties and without sexual difficulties.

[insert table 2]

A univariate analysis of covariance was performed to assess differences in repetitive negative thinking by sex (male vs. female) and by group (subclinical sexual difficulties vs. no sexual difficulties), controlling for current psychotherapy status,  $F(3, 420) = 5.72, p = .017, \eta^2 = .014$ , and current pharmacotherapy status,  $F(3, 420) = 10.59, p = .001, \eta^2 = .025$ . The assumption of homogeneity of variances was met (Levene's test,  $F(3, 420) = 0.56, p = .640$ ). Statistically significant differences were found between sex,  $F(1,423) = 10.35, p = .001, \eta^2 = .024$ , with women scoring significantly higher on repetitive negative thinking ( $M = 17.93, SE = 0.27, 95\% CI 17.40-18.46$ ), compared to men ( $M = 16.46, SE = 0.36, 95\% CI 15.75-17.17$ ). In addition, statistically significant differences were found for group,  $F(1,423) = 13.30, p < .001, \eta^2 = .031$ , with individuals in the subclinical sexual difficulties group scoring significantly higher on repetitive negative thinking ( $M = 18.00, SE = 0.36, 95\% CI 17.30-18.71$ ), compared to individuals in the no sexual difficulties group ( $M = 16.38, SE = 0.26, 95\% CI 15.87-16.90$ ). No statistically significant differences were found for the interaction between sex and group,  $F(1,423) = 0.33, p = .567, \eta^2 = .001$ .

*Repetitive negative thinking as predictor of male and female sexual functioning*

For the men's sample, a series of linear regression analyses were conducted. Table 3 shows the results of the linear regression models. The repetitive negative thinking explained 7% of the variance in sexual functioning ( $R^2 = .07, p = .001$ ) and orgasmic function ( $R^2 = .07, p = .001$ ). Similarly, repetitive negative thinking explained 6% of the variance in erectile function ( $R^2 = .06, p = .003$ ), 5% of the variance in satisfaction with intercourse ( $R^2 = .05, p = .006$ ), and 4% of the variance in overall satisfaction ( $R^2 = .04, p = .011$ ). Regression analysis with repetitive negative thinking predicting sexual desire in men yielded a statistically nonsignificant model ( $R^2 = .02, p = .068$ ).

[insert table 3]

For the female's sample, a series of linear regression analyses were conducted. Table 3 shows the results of the linear regression models. Repetitive negative thinking explained 5% of the variance in absence of sexual pain ( $R^2 = .05, p < .001$ ). Similarly, repetitive negative thinking explained 4% of the variance in sexual functioning ( $R^2 = .04, p = .001$ ), 3% of the variance in sexual arousal ( $R^2 = .03, p = .003$ ), and in lubrication ( $R^2 = .03, p = .019$ ), and 2% of the variance in sexual desire ( $R^2 = .02, p = .018$ ), in sexual satisfaction ( $R^2 = .03, p = .030$ ), and in orgasmic function ( $R^2 = .03, p = .033$ ).

### **Discussion**

The role of transdiagnostic processes on sexual functioning has not been sufficiently explored and to address this gap, the current study aimed to investigate the role of RNT on sexual functioning in men and women. Thus, differences in RNT between men and women, and between individuals with and without subclinical sexual difficulties, and their interaction were examined. The predictive role of RNT on indexes

of sexual functioning in men and women was also examined. The main findings suggest that RNT is more common in women than in men, and more common in individuals with subclinical sexual difficulties than in individuals without subclinical sexual difficulties. Furthermore, RNT is a statistically significant and negative predictor of sexual functioning in both men and women.

As hypothesized, our findings suggest that women are more likely than men to report repetitive negative thoughts, characterized by persistent and intrusive thoughts that are difficult to disengage from. This finding suggests that women are more prone to repetitive thought patterns and have greater difficulty disengaging from these types of thought processes. This gender discrepancy has been previously observed in internalizing psychopathology, suggesting that women are more prone to depressive and anxiety disorders (WHO, 2017). Considering that RNT is a transdiagnostic process involved in the development and maintenance of these internalizing disorders (e.g., Ehring & Watkins, 2008), our findings are consistent with previous literature and allow us to expand current knowledge about gender differences in the RNT process.

In addition, men and women with subclinical sexual difficulties were more likely to exhibit a RNT pattern represented by intrusive and persistent thoughts with negative content, compared to men and women without subclinical sexual difficulties, as expected. Previous research has found a positive correlation between worry, rumination and sexual distress, and a negative correlation between worry, rumination and sexual pleasure (Pascoal et al., 2020). Worry and rumination are, by definition, different forms of RNT involved in psychopathological symptomatology (Hur et al., 2017; McEvoy & Brans, 2013; Watkins et al., 2005), and there is empirical evidence of a negative association between psychopathological symptomatology and impaired sexual function in men and women (Baldwin, 2001; Barlow, 1986; Castellini et al.,

2018; Ciocca et al., 2015; Laurent & Simons, 2009; Rellini et al., 2010). Therefore, the current findings could be understood under the assumption that there is an association between transdiagnostic processes, psychopathological symptoms, and impaired sexual function. In addition, the current data strengthen the role of RNT measured as a neutral and nonspecific disorder process (Magson et al., 2019), as suggested by previous researchers examining latent and dispositional variables, transdiagnostic processes and pathways in internalizing spectrum disorders and sexual dysfunctions (Forbes et al., 2017; Forbes et al., 2016).

The predictive role of RNT on men' and women' sexual functioning indexes, as hypothesized, was statistically and negatively significant. These findings underpin the idea that a RNT style predicts sexual function impairment in both men and women.

Moreover, the RNT pattern had a strongest predictive role on overall men's sexual functioning and orgasmic function impairment, followed by erectile difficulties, and intercourse and overall satisfaction. Cognitive distractions related to concerns about sexual performance are known to negatively affect arousability and erectile function in men (Barlow, 1986; Masters & Johnson, 1970). Thus, it is possible that the cognitive process that underlines RNT impairs male sexual arousal and, consequently, orgasmic and erectile function. Moreover, satisfaction with intercourse and sexual satisfaction have been strongly associated with erectile function and orgasm in men (e.g., Gomes et al., 2017; Montorsi, Padma-Nathan, & Glina, 2006), which may also help explain the negative relationship between RNT and satisfaction with intercourse and sexual satisfaction in men. These findings suggest that men with a cognitive profile characterized by a RNT pattern also tend to experience a global decline in their sexual functioning, particularly in relation to orgasmic and erectile function, as well as to intercourse and overall satisfaction. Interestingly, RNT has no predictive role on men's

sexual desire. A possible explanation for this finding may be related with the theoretical framework on sexual desire, that postulates that men's sexual desire is highly influenced by biological and neuroendocrine dimensions, whereas women's sexual desire is more predisposed by psychosocial dimensions (Bancroft, 2002; Baumeister, 2000).

For women, RNT had a greatest predictive role on sexual pain, followed by overall sexual functioning, sexual arousal, lubrication, sexual desire, sexual satisfaction, and orgasmic function. Previous empirical evidence has highlighted the role of cognitive distraction (Bergeron, Corsini-Munt, Aerts, et al., 2015; Lykins, Meana, & Minimi, 2011) and pain catastrophizing cognitions (Bergeron et al., 2015; Borg et al., 2012) on female sexual pain, and the positive influence of mindfulness approaches focusing on RNT disengagement for treating female sexual pain (Rosenbaum, 2013). Consistent with this, and as noted earlier, it is plausible that the cognitive process underlying the RNT pattern resembles cognitive distraction and therefore negatively affects women's sexual pain. Given this approach, previous studies have examined the role of cognitive distraction on women's orgasmic functioning (Dove & Wiederman, 2000) and on women's sexual functioning (Lacefield, Negy, & Velezmore, 2013), which also suggest that cognitive distraction negatively affects women's ability to achieve orgasm (Dove & Wiederman), experience sexual interest and arousal (Adams, Haynes, & Brayer, 1985), and feel sexually satisfied (Newcombe & Weaver, 2016). Thus, the current findings can be interpreted as a function of the cognitive processes underlying cognitive distraction and RNT patterns that negatively affect women's sexual functioning.

Although current results revealed RNT as a statistically significant and negative predictor of men's and women's sexual functioning, this transdiagnostic process explain less than 10% of variance of overall sexual functioning. Nonetheless, this study is one

of the first attempts to examine the role of a broader, neutral, and nonspecific disorder transdiagnostic process and sexual function in men and women. Because RNT is closely related to emotional and affective disorders (Arditte et al., 2016; Ehring & Watkins, 2008; Wahl et al., 2019), this study underpins the role of internalizing spectrum disorders and sexual difficulties.

Despite the relevance of the current data, this study had some limitations that should be considered. Although the sample size met the requirements of power analysis, the male sample was underrepresented compared to females. In addition, regarding sexual difficulties, only subclinical difficulties were assessed using self-report cut-off scores. Future studies should include clinical samples of men and women with a diagnosis of sexual dysfunction. In addition, only information on current psychotherapy and pharmacotherapy status was assessed and its effect controlled, but no mood or anxiety disorders were assessed. Also, the present study is a cross-sectional study, so no cause-and-effect conclusions can be drawn because cross-sectional studies demonstrate the relationship between variables and not causality. Further research is needed to better understand the role of transdiagnostic processes such as RNT in clinical and community samples.

### **Conclusions**

RNT is a transdiagnostic process involved in the development and maintenance of a wide range of emotional disorders (Ehring & Watkins, 2008), such as depression or generalized anxiety disorder, that negatively affect quality of life, well-being, and sexual functioning (Laurent & Simons, 2009). To our knowledge, the current study was the first attempt to examine the role of RNT, measured as a transdiagnostic and nonspecific disturbance process, on sexual difficulties in men and women. The main findings indicated that intrusive and negative persistent thoughts played a negative role

in sexual functioning in men and women, with individuals with subclinical sexual difficulties reporting this pattern of thinking more frequently compared with individuals without sexual difficulties. This study is a relevant theoretical and empirical contribution to a deeper understanding of sexual difficulties and internalizing spectrum disorders by linking underlying cognitive processes such as transdiagnostic dimensions like RNT to subclinical sexual difficulties in men and women. Sex therapists, psychotherapists, psychologists, and psychiatrists should pay careful attention to transdiagnostic processes such as RNT during clinical assessment and examine the role of persistent and intrusive thoughts on patients' sexual functioning.

**Conflict of Interest statement:** The authors have no conflicts of interest to declare that are relevant to the content of this article.

**Data availability statement:** The datasets generated during and/or analysed during the current study are not publicly available due to further data analysis in the scope of the ongoing project. Datasets may be made available in the future from the corresponding author on reasonable request.

**Ethical Statement:** All procedures performed were in accordance with the ethical standards of the institutional ethics committee and with the 1964 Helsinki declaration and its later amendments. The current study is part of a research project approved by University Ethics Committee.

**Informed Consent:** Informed consent was obtained from all individual participants included in the study.

## References

- Adams, A., Haynes, S. N., & Brayer, M. A. (1985). Cognitive Distraction in Female Sexual Arousal. *Psychophysiology*, 22, 689-696.
- Angst, J., Gamma, A., Gastpar, M., Lépine, J. P., Mendlewicz, J., Tylee, A., & Depression Research in European Society Study (2002). Gender differences in depression. Epidemiological findings from the European DEPRES I and II studies. *European Archives of Psychiatry and Clinical Neuroscience*, 252(5), 201-209. <https://doi.org/10.1007/s00406-002-0381-6>
- Arditte, K. A., Shaw, A. M., & Timpano, K. R. (2016). Repetitive negative thinking: A transdiagnostic correlate of affective disorders. *Journal of Social and Clinical Psychology*, 35(3), 181-201. <https://doi.org/10.1521/jscp.2016.35.3.181>
- Baldwin D. S. (2001). Depression and sexual dysfunction. *British Medical Bulletin*, 57, 81-99. <https://doi.org/10.1093/bmb/57.1.81>
- Banbury, S., Lusher, J., Snuggs, S., & Chandler, C. (2021). Mindfulness-based therapies for men and women with sexual dysfunction: A systematic review and meta-analysis. *Sexual and Relationship Therapy*. Advance online publication. <https://doi.org/10.1080/14681994.2021.1883578>
- Bancroft J. (2002). The medicalization of female sexual dysfunction: the need for caution. *Archives of Sexual Behavior*, 31(5), 451-455. <https://doi.org/10.1023/a:1019800426980>
- Barlow D. H. (1986). Causes of sexual dysfunction: the role of anxiety and cognitive interference. *Journal of Consulting and clinical Psychology*, 54(2), 140-148. <https://doi.org/10.1037//0022-006x.54.2.140>
- Baumeister R. F. (2000). Gender differences in erotic plasticity: the female sex drive as socially flexible and responsive. *Psychological Bulletin*, 126(3), 347-389.

<https://doi.org/10.1037/0033-2909.126.3.347>

Bergeron, S., Corsini-Munt, S., Aerts, L., et al. (2015). Female Sexual Pain Disorders: a

Review of the Literature on Etiology and Treatment. *Current Sexual Health*

*Reports*, 7, 159-169. <https://doi.org/10.1007/s11930-015-0053-y>

Borg, C., Peters, M. L., Schultz, W. W., & de Jong, P. J. (2012). Vaginismus:

heightened harm avoidance and pain catastrophizing cognitions. *The journal of*

*sexual medicine*, 9(2), 558-567. <https://doi.org/10.1111/j.1743->

6109.2011.02535.x 2012; 9:558-567

Bossio, J. A., Basson, R., Driscoll, M., Correia, S., & Brotto, L. A. (2018).

Mindfulness-Based Group Therapy for Men With Situational Erectile

Dysfunction: A Mixed-Methods Feasibility Analysis and Pilot Study. *The*

*journal of sexual medicine*, 15(10), 1478-1490.

<https://doi.org/10.1016/j.jsxm.2018.08.013>

Brotto, L. A., Stephenson, K. R., & Zippan, N. (2022). Feasibility of an Online

Mindfulness-Based Intervention for Women with Sexual Interest/Arousal

Disorder. *Mindfulness*, 13(3), 647-659. <https://doi.org/10.1007/s12671-021->

01820-4

Cappelleri, J. C., Rosen, R. C., Smith, M. D., Mishra, A., & Osterloh, I. H. (1999).

Diagnostic evaluation of the erectile function domain of the International Index

of Erectile Function. *Urology*, 54(2), 346-351. <https://doi.org/10.1016/s0090->

4295(99)00099-0

Carvalho, A., Godinho, L., & Costa, P. (2017). The Impact of Body Dissatisfaction

on Distressing Sexual Difficulties Among Men and Women: the Mediator Role

of Cognitive Distraction. *Journal of sex research*, 54(3), 331-340.

<https://doi.org/10.1080/00224499.2016.1168771>

Castellini, G., Maggi, M., Ricca, V. (2004). Sexual Dysfunction in Eating Disorders. In: E. Jannini, & A. Siracusano (Eds). *Sexual Dysfunctions in Mentally Ill Patients. Trends in Andrology and Sexual Medicine*. Springer

Ciocca, G., Limoncin, E., Di Tommaso, S., Mollaioli, D., Gravina, G. L., Marcozzi, A., Tullii, A., Carosa, E., Di Sante, S., Gianfrilli, D., Lenzi, A., & Jannini, E. A. (2015). Attachment styles and sexual dysfunctions: a case-control study of female and male sexuality. *International journal of impotence research*, 27(3), 81-85. <https://doi.org/10.1038/ijir.2014.33>

Cyranowski, J. M., Frank, E., Young, E., & Shear, M. K. (2000). Adolescent onset of the gender difference in lifetime rates of major depression: a theoretical model. *Archives of general psychiatry*, 57(1), 21-27.  
<https://doi.org/10.1001/archpsyc.57.1.21>

Dove, N. L., & Wiederman, M. W. (2000). Cognitive distraction and women's sexual functioning. *Journal of sex & marital therapy*, 26(1), 67-78.  
<https://doi.org/10.1080/009262300278650>

Ehring, T., & Watkins, E. R. (2008). Repetitive negative thinking as a transdiagnostic process. *International Journal of Cognitive Therapy*, 1(3), 192-205.  
<https://doi.org/10.1680/ijct.2008.1.3.192>

Ehring, T., Zetsche, U., Weidacker, K., Wahl, K., Schönfeld, S., & Ehlers, A. (2011). The Perseverative Thinking Questionnaire (PTQ): validation of a content-independent measure of repetitive negative thinking. *Journal of behavior therapy and experimental psychiatry*, 42(2), 225-232.  
<https://doi.org/10.1016/j.jbtep.2010.12.003>

Feruglio, S., Matiz, A., Grecucci, A., Pascut, S., Fabbro, F., & Crescentini, C. (2021). Differential effects of mindfulness meditation conditions on repetitive negative

thinking and subjective time perspective: a randomized active-controlled study.

*Psychology & health*, 36(11), 1275-1298.

<https://doi.org/10.1080/08870446.2020.1836178>

Forbes, M. K., Baillie, A. J., Eaton, N. R., & Krueger, R. F. (2017). A Place for Sexual Dysfunctions in an Empirical Taxonomy of Psychopathology. *Journal of sex research*, 54(4-5), 465-485. <https://doi.org/10.1080/00224499.2016.1269306>

Forbes, M. K., Baillie, A. J., & Schniering, C. A. (2016). A Structural Equation Modeling Analysis of the Relationships between Depression, Anxiety, and Sexual Problems over Time. *Journal of sex research*, 53(8), 942-954.

<https://doi.org/10.1080/00224499.2015.1063576>

Gomes, C. M., Miranda, E. P., de Bessa, J., Jr, Bellucci, C., Battistella, L. R., Abdo, C., Bruschini, H., Srougi, M., & Mulhall, J. P. (2017). Erectile Function Predicts Sexual Satisfaction in Men With Spinal Cord Injury. *Sexual medicine*, 5(3), e148-e155. <https://doi.org/10.1016/j.esxm.2017.06.002>

Greeson, J., Garland, E. L., & Black, D. (2014). Mindfulness: A transtherapeutic approach for transdiagnostic mental processes. In A. C. T. Ngnoumen & E. J. Langer (Eds.), *The Wiley Blackwell handbook of mindfulness*. Wiley Blackwell

Hur, J., Heller, W., Kern, J. L., & Berenbaum, H. (2017). A Bi-Factor Approach to Modeling the Structure of Worry and Rumination. *Journal of Experimental Psychopathology*, 252-264. <https://doi.org/10.5127/jep.057116>

Kornstein S. G. (1997). Gender differences in depression: implications for treatment. *The Journal of clinical psychiatry*, 58, 12-18.

Lacefield, K., & Negy, C. (2012). Non-erotic cognitive distractions during sexual activity in sexual minority and heterosexual young adults. *Archives of Sexual Behavior*, 41, 391-400.

- Lacefield, K., Negy, C., & Velezmoro, R. (2013). Anxiety related to nonerotic cognitive distractions during sexual activity in lesbian, bisexual, and heterosexual women. *Journal of Bisexuality*, 13, 390-408.
- Laurent, S. M., & Simons, A. D. (2009). Sexual dysfunction in depression and anxiety: conceptualizing sexual dysfunction as part of an internalizing dimension. *Clinical psychology review*, 29(7), 573-585.  
<https://doi.org/10.1016/j.cpr.2009.06.007>
- Leach, L. S., Christensen, H., Mackinnon, A. J., Windsor, T. D., & Butterworth, P. (2008). Gender differences in depression and anxiety across the adult lifespan: the role of psychosocial mediators. *Social psychiatry and psychiatric epidemiology*, 43(12), 983-998. <https://doi.org/10.1007/s00127-008-0388-z>
- Lykins, A. D., Meana, M., & Minimi, J. (2011). Visual attention to erotic images in women reporting pain with intercourse. *Journal of sex research*, 48(1), 43–52.  
<https://doi.org/10.1080/00224490903556374>
- Magson, N. R., Rapee, R. M., Fardouly, J., Forbes, M. K., Richardson, C. E., Johnco, C. J., & Oar, E. L. (2019). Measuring repetitive negative thinking: Development and validation of the Persistent and Intrusive Negative Thoughts Scale (PINTS). *Psychological assessment*, 31(11), 1329–1339.  
<https://doi.org/10.1037/pas0000755>
- Masters, W. H., & Johnson, V. E. (1970). *Human sexual inadequacy*. Little, Brown.
- McEvoy, P. M., & Brans, S. (2013). Common versus unique variance across measures of worry and rumination: Predictive utility and mediational models for anxiety and depression. *Cognitive Therapy and Research*, 37(1), 183–196.  
<https://doi.org/10.1007/s10608-012-9448-5>
- Montorsi, F., Padma-Nathan, H., & Glina, S. (2006). Erectile function and assessments

- of erection hardness correlate positively with measures of emotional well-being, sexual satisfaction, and treatment satisfaction in men with erectile dysfunction treated with sildenafil citrate (Viagra®). *Urology*, 68, 26-37.
- Nelson, A. L., & Purdon, C. (2011). Non-erotic thoughts, attentional focus, and sexual problems in a community sample. *Archives of Sexual Behavior*, 40, 395–406.
- Newcombe, B. C., & Weaver, A. D. (2016). Mindfulness, cognitive distraction, and sexual well-being in women. *Canadian Journal of Human Sexuality*, 25, 99-108
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking Rumination. *Perspectives on psychological science: a journal of the Association for Psychological Science*, 3(5), 400–424. <https://doi.org/10.1111/j.1745-6924.2008.00088.x>
- Parker, G., & Brotchie, H. (2010). Gender differences in depression. *International review of psychiatry*, 22(5), 429–436.  
<https://doi.org/10.3109/09540261.2010.492391>
- Pascoal, P., Narciso, I., & Pereira, N. M. (2012). Predictors of Body Appearance Cognitive Distraction during Sexual Activity in Men and Women. *Journal of Sexual Medicine*, 9, 2849-2860
- Pascoal, P. M., Raposo, C. F., & Roberto, M. S. (2020). A Transdiagnostic Approach to Sexual Distress and Sexual Pleasure: A Preliminary Mediation Study with Repetitive Negative Thinking. *International journal of environmental research and public health*, 17(21), 7864. <https://doi.org/10.3390/ijerph17217864>
- Pechorro, P., Diniz, A., Almeida, S., & Vieira, R. (2009). Validação portuguesa do índice de Funcionamento Sexual Feminino (FSFI) [Portuguese validation of the Female Sexual Functioning Index (FSFI)]. *Laboratório de Psicologia*, 7, 33-44.
- Peixoto, M. M. & Cunha, O. (2021). Translation and Validation for the Portuguese

- Adult Population of the Persistent and Intrusive Negative Thoughts Scale: Assessing Measurement Invariance. *International Journal of Cognitive Therapy*, 14, 724-737
- Purdon, C., & Holdaway, L. (2006). Non-erotic thoughts: content and relation to sexual functioning and sexual satisfaction. *Journal of sex research*, 43(2), 154–162.  
<https://doi.org/10.1080/00224490609552310>
- Purdon, C. & Watson, C. (2011). Non-erotic thoughts and sexual functioning. *Archives of Sexual Behavior*, 40 (891).
- Quinta Gomes, A. L., & Nobre, P. (2012). The International Index of Erectile Function (IIEF-15): psychometric properties of the Portuguese version. *The journal of sexual medicine*, 9(1), 180–187. <https://doi.org/10.1111/j.1743-6109.2011.02467.x>
- Rellini, A. H., Vujanovic, A. A., & Zvolensky, M. J. (2010). Emotional dysregulation: concurrent relation to sexual problems among trauma-exposed adult cigarette smokers. *Journal of sex & marital therapy*, 36(2), 137–153.  
<https://doi.org/10.1080/00926230903554545>
- Riecher-Rössler A. (2017). Sex and gender differences in mental disorders. *The lancet. Psychiatry*, 4(1), 8–9. [https://doi.org/10.1016/S2215-0366\(16\)30348-0](https://doi.org/10.1016/S2215-0366(16)30348-0)
- Rosen, R., Brown, C., Heiman, J., Leiblum, S., Meston, C., Shabsigh, R., Ferguson, D., & D'Agostino, R., Jr. (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(2), 191–208.  
<https://doi.org/10.1080/009262300278597>
- Rosen, R. 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(6), 822–830.

[https://doi.org/10.1016/s0090-4295\(97\)00238-0](https://doi.org/10.1016/s0090-4295(97)00238-0)

Rosenbaum, T. Y. (2013). An integrated mindfulness-based approach to the treatment of women with sexual pain and anxiety: Promoting autonomy and mind/body connection. *Sexual and Relationship Therapy*, 28(1-2), 20–28.

<https://doi.org/10.1080/14681994.2013.764981>

Schlosser, M., Jones, R., Demnitz-King, H., & Marchant, N. L. (2022). Meditation experience is associated with lower levels of repetitive negative thinking: The key role of self-compassion. *Current Psychology*, 41, 3144–3155.

Silva, E., Pascoal, P. M., & Nobre, P. (2016). Beliefs About Appearance, Cognitive Distraction and Sexual Functioning in Men and Women: A Mediation Model Based on Cognitive Theory. *The journal of sexual medicine*, 13(9), 1387–1394.

<https://doi.org/10.1016/j.jsxm.2016.06.005>

Stephenson, K. R. (2017). Mindfulness-based therapies for sexual dysfunction: A review of potential theory-based mechanisms of change. *Mindfulness*, 8(3), 527–543. <https://doi.org/10.1007/s12671-016-0652-3>

Vanzhula, I. A., & Levinson, C. A. (2020). Mindfulness in the treatment of eating disorders: Theoretical rationale and hypothesized mechanisms of action. *Mindfulness*, 11(5), 1090–1104. <https://doi.org/10.1007/s12671-020-01343-4>

Wahl, K., Ehring, T., Kley, H., Lieb, R., Meyer, A., Kordon, A., Heinzl, C. V., Mazanec, M., & Schönfeld, S. (2019). Is repetitive negative thinking a transdiagnostic process? A comparison of key processes of RNT in depression, generalized anxiety disorder, obsessive-compulsive disorder, and community controls. *Journal of Behavior Therapy and Experimental Psychiatry*, 64, 45–53. <https://doi.org/10.1016/j.jbtep.2019.02.006>

Watkins, E., Moulds, M., & Mackintosh, B. (2005). Comparisons between rumination and worry in a non-clinical population. *Behaviour research and therapy*, 43(12), 1577–1585. <https://doi.org/10.1016/j.brat.2004.11.008>

World Health Organization (2017). *Depression and other common mental disorders: Global health estimates*. Geneva.

Wiegel, M., Meston, C., & Rosen, R. (2005). The female sexual function index (FSFI): cross-validation and development of clinical cutoff scores. *Journal of sex & marital therapy*, 31(1), 1–20. <https://doi.org/10.1080/00926230590475206>

Table 1. Sociodemographic characteristics of the sample (N = 424)

Variables	Total Sample (N = 424)	Male sample (n = 154)	Female sample (n = 270)
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )
Age	27.82 (8.91)	28.50 (8.51)	27.44 (9.12)
	Range 18-72	Range 19-62	Range 18-72
	n (%)	n (%)	n (%)
<b>Sexual Orientation</b>			
Heterosexual	392 (92.5)	145 (94.2)	247 (91.5)
Gay/Lesbian	7 (1.7)	4 (2.6)	3 (1.1)
Bisexual	23 (5.4)	4 (2.6)	19 (7.0)
Asexual	2 (0.5)	1 (0.6)	1 (0.4)
<b>Educational Level (years)</b>			
0 to 9	7 (1.6)	4 (2.5)	3 (1.1)
10 to 12	124 (29.2)	44 (28.6)	80 (29.6)
12 or more	293 (69.1)	106 (68.8)	187 (69.3)
<b>Civil Status</b>			
Single, within a relationship	321 (75.7)	127 (82.5)	194 (71.9)
Married/Common Law	89 (21.0)	22 (14.3)	67 (24.8)
Divorced/Separated/Widow	14 (3.3)	5 (3.2)	9 (3.4)
<b>Current pharmacotherapy</b>			
No	388 (91.5)	150 (97.4)	238 (88.1)
Yes	36 (8.5)	4 (2.6)	32 (11.9)
<b>Current psychotherapy</b>			
No	384 (90.6)	151 (98.1)	233 (86.3)
Yes	40 (9.4)	3 (1.9)	37 (13.7)

Table 2. Means and standard deviations for Repetitive Negative Thinking in total sample and subsamples (N = 424)

	Total Sample (N = 424)			Female Sample (n = 270)			Male Sample (n = 154)		
	Total sample (N = 424)	Subclinical difficulties (n = 151)	No difficulties (n = 273)	Female sample (n = 270)	Subclinical difficulties (n = 98)	No difficulties (n = 172)	Male sample (n = 154)	Subclinical difficulties (n = 53)	No difficulties (n = 101)
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Repetitive Negative Thinking	17.17 (4.51)	18.29 (4.28)	16.55 (4.51)	17.91 (4.36)	18.99 (4.16)	17.30 (4.36)	15.86 (4.47)	17.00 (4.24)	15.27 (4.50)

Legend. Repetitive Negative Thinking – total score from Persistent and Intrusive Negative Thoughts Scale, ranging from 5 to 25

Table 3. Linear regression models with repetitive negative thinking as predictor, and total score and subscales from IIEF and from FSFI as outcomes (N = 424).

Outcome	$\beta$	SE	95% CI		p
			LL	UL	
<b>Male sample</b>					
IIEF total score	-.26	.33	-1.72	-0.43	.001
Erectile function	-.24	.16	-0.82	-0.18	.003
Orgasmic function	-.26	.09	-0.44	-0.08	.001
Sexual desire	-.15	.04	-0.17	-0.02	.068
Intercourse satisfaction	-.22	.05	-0.28	-0.07	.006
Overall satisfaction	-.20	.03	-0.11	0.00	.011
Outcome	$\beta$	SE	95% CI		p
<b>Female sample</b>					
FSFI total score	-.19	.10	-0.52	-0.13	.001
Sexual desire	-.14	.02	-0.06	-0.01	.018
Sexual arousal	-.18	.02	-0.11	-0.02	.003
Lubrication	-.16	.02	-0.11	-0.02	.009
Orgasm	-.13	.03	-0.11	-0.00	.033
Sexual satisfaction	-.13	.02	-0.08	-0.00	.030
(absence of) Sexual pain	-.22	.02	-0.10	-0.03	< .001

Legend:  $\beta$  - standardized coefficient (beta); SE - standard error; 95% CI - 95% confidence interval; LL - lower limit; UL - upper limit; p - p-value