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Perceptions of the Relationship Between Stress and Sexual Desire: Gender Differences

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Abstract: ***Objectives:** This study investigates the association between perceived stress and sexual desire, emphasizing gender-specific patterns. We examined how stress influences sexual desire in men and women, exploring potential psychological, neuroendocrine, and psychosocial mechanisms. **Methodology:** A cross-sectional survey was conducted with 116 participants (60.34% female, 39.66% male), who completed an online questionnaire assessing perceived stress and sexual desire using Likert scales. Statistical analyses included Spearman correlations and independent-samples t-tests. **Results:** Men reported significantly higher sexual desire than women ($p < 0.001$). Under stress, men's sexual desire remained more stable compared to women's ($p < 0.001$). Prolonged stress negatively correlated with sexual desire ($r = -0.191$, $p = 0.040$), while general daily stress did not significantly affect sexual desire ($p = 0.435$). **Conclusions:** Gender and stress duration influence sexual desire, with men maintaining higher levels under stress. These findings suggest the need for clinical interventions that consider gender-specific coping strategies and highlight the importance of validated measures in future research.*

Keywords: stress; sexual desire; gender differences; psychology of sexuality; coping mechanisms.

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1. Introduction

Sexual desire is shaped by the interplay of biological, psychological, and social factors. Stress has been identified as a significant determinant of sexual functioning, with effects modulated by individual differences, coping strategies, and gender (Basson, 2017). Physiologically, stress may reduce sexual desire through elevated cortisol levels, decreased testosterone, and impaired emotional connectedness in intimate relationships (Hamilton & Julian, 2019; Negomireanu & Delcea, 2022).

Acute stress may have varying effects on sexual desire. Some studies suggest that moderate stress can stimulate sexual activity and may even serve as a coping mechanism (Mark & Lasslo, 2018). In contrast, chronic and intense stress has been associated with reduced sexual desire, particularly among women, who are more vulnerable to decreases in sexual interest due to emotional and relational stress (Schoenfeld et al., 2017).

Fluctuations in oxytocin and prolactin have been implicated in sexual motivation and stress regulation, with evidence suggesting that variations in these hormones can influence sexual desire. Combined with sociocultural pressures and relational expectations, these neuroendocrine factors may contribute to women's greater susceptibility to stress-related reductions in sexual desire. Considering these mechanisms provides a biological and psychosocial framework for interpreting the current findings (Love, 2018; Marwen et al., 2023).

Although prior research has explored stress and sexual functioning, few studies focus on individual perceptions of stress influence on sexual desire or gender-differentiated patterns. Research suggests that men are more likely to sustain sexual desire under stress, while women often experience a pronounced decrease, potentially due to hormonal differences, social expectations, and divergent coping strategies (Pascoal et al., 2021; Muller-Fabian, 2024). Contextual factors, including the nature of stressors (occupational versus relational), also influence sexual responses.

2. Research Aim

This study investigates perceptions of the relationship between stress and sexual desire, focusing on:

1. Gender differences in how stress modulates sexual desire.
2. The impact of prolonged stress compared to acute stress.
3. Alignment of participants' perceptions with known biological and psychological mechanisms.

By taking this approach, the research aims to contribute to a better understanding of the complex relationship between stress and sexual desire, providing clinically relevant evidence for both mental health and sexual health professionals.

3. Methodology

3.1. Research Objective

The present study investigates perceptions of the relationship between stress and sexual desire, with particular attention to gender differences. A quantitative, cross-sectional design was employed, enabling data collection at a single point in time and the examination of correlations between variables.

3.2. Participants

The sample consisted of 116 participants, 60.34% of whom were female and 39.66% were male. Inclusion criteria were as follows: (a) a minimum age of 18 years; (b) an active sexual life prior to participation; and (c) the absence of clinical diagnosis of severe psychiatric disorders. The age distribution of the sample was as follows: 6.03% were aged 18–24 years, 67.24% were aged 25–34 years, and 26.73% were 35 years or older. Regarding relationship status, 38.79% of participants were married, 41.38% were in a stable relationship, and 19.83% were unpartnered.

3.3. Measurement Instruments

A self-developed questionnaire was used to assess (a) perceived stress and sexual desire using 7-point Likert scales, (b) changes in sexual desire under stress in terms of frequency and intensity, and (c) open-ended perceptions of the relationship between stress and sexual desire.

The absence of psychometric validation limits comparability across studies. Future research would benefit from the use of standardized instruments (e.g., the Perceived Stress Scale, the Sexual Desire Inventory) to enhance replicability.

In addition, the potential application of advanced computational approaches should be noted. For example, artificial intelligence (AI) and machine learning models may enable the identification of complex response patterns, particularly when integrated with physiological or behavioral data.

3.4. Procedure

The questionnaire was distributed online using a snowball sampling strategy between February 8 and February 25, 2025. All participants provided informed consent and were assured of the confidentiality of their responses.

3.5. Data Analysis

Data was processed using SPSS (IBM SPSS Statistics). The following statistical techniques were applied: (a) descriptive statistics (means, standard deviations, and frequencies), (b) independent-samples t-tests to compare gender differences, and (c) Spearman's rank-order correlations to examine the relationship between stress and sexual desire. Spearman correlations were selected due to the non-normal distribution of the variables.

Looking ahead, big data methodologies could be employed to complement traditional analyses, for example, by linking psychological variables with physiological indicators, lifestyle factors, or digital phenotyping derived from social media and wearable devices. Such approaches may increase the translational potential of the findings and facilitate their integration into intelligent, data-driven assessment tools.

4. Results

4.1. Descriptive Analysis

To assess the distribution of the study variables, descriptive analyses were conducted on the level of sexual desire, the impact of stress on sexual desire, and perceived stress levels.

The overall mean for usual sexual desire was $M = 5.58$, $SD = 1.24$, indicating a relatively high frequency of sexual desire among participants. Under conditions of stress, sexual desire decreased, with a mean of $M = 4.29$, $SD = 1.27$. This difference between sexual desire under normal conditions and under stress suggests a notable effect of stress on sexual behaviour.

Table 1. Descriptive analysis

#	Variable	Mean (M)	Standard deviation (SD)	Minimum	Maximum
1.	Usual sexual desire	5.58	1.24	1	7
2.	Sexual desire under stress	4.29	1.27	1	7
3.	Desire modification under stress	-0.57	0.75	-1	1
4.	Prolonged stress and desire	-1.0	0.96	-2	2
5.	Perceived level of stress	4.27	1.95	1	7

Regarding perceived changes in sexual desire during periods of stress, the reported mean was $M = -0.57$, $SD = 0.75$, indicating that most participants experienced a reduction in desire under stress. Prolonged stress also appeared to negatively affect sexual desire, with a mean of $M = -1.00$, $SD = 0.96$. The mean level of perceived stress was $M = 4.27$, $SD = 1.95$, reflecting a moderately elevated level of stress among participants.

4.2. Gender Differences in Sexual Desire

Independent-samples *t*-tests were conducted to examine gender differences in sexual desire and its response to stress. Results indicated that men reported significantly higher habitual sexual desire ($M = 6.22$, $SD = 0.59$) compared to women ($M = 5.16$, $SD = 1.42$), and this difference was statistically significant ($t(114) = 4.789$, $p < 0.001$). Under stress, men also maintained a higher level of sexual desire ($M = 5.54$, $SD = 1.22$) relative to women ($M = 4.16$, $SD = 1.82$), with the difference again reaching statistical significance ($t(114) = 4.543$, $p < 0.001$). Regarding the change in sexual desire under stress, women reported a greater reduction ($M = -0.66$, $SD = 0.66$) than men ($M = -0.43$, $SD = 0.75$), although this difference did not reach statistical significance ($t(114) = 1.685$, $p = 0.095$).

Table 2. *t*-tests for gender differences

#	Variable	Men (M, SD)	Women (M, SD)	<i>t</i> (df)	p-value
1.	Usual sexual desire	6.22 (0.593)	5.16 (1.421)	4.789 (114)	<0.001
2.	Sexual desire under stress	5.54 (1.224)	4.16 (1.815)	4.543 (114)	<0.001
3.	Desire modification under stress	-0.43 (0.750)	-0.66 (0.657)	1.685 (114)	0.095
4.	Prolonged stress and desire	-0.65 (0.994)	-1.00 (0.963)	1.879 (114)	0.063

Analysis of prolonged stress and its impact on sexual desire revealed a greater reduction among women ($M = -1.00$, $SD = 0.96$) compared to men ($M = -0.65$, $SD = 0.99$); however, this difference did not reach statistical significance ($t(114) = 1.879$, $p = 0.063$). The effect size for the difference in habitual sexual desire between men and women, calculated using Cohen's *d*, was $d = 1.166$, indicating a robust effect and corroborating the observed gender differences in habitual sexual desire.

Table 3. Effect size (Cohen's *d*)

#	Variable	Cohen's <i>d</i>	interpretation
1.	Usual sexual desire	1.67	large effect
2.	Sexual desire under stress	1.61	large effect
3.	Desire modification under stress	0.70	moderate effect
4.	Prolonged stress and desire	0.98	moderate effect

Analysis of the sources of stress revealed notable gender differences. Men more frequently reported professional (56.5%) and financial (32.6%) stressors, whereas women more often indicated emotional and relational stress, including relationship difficulties (44.3%) and family responsibilities (38.6%). Health-related stress was also reported more frequently by women (40% vs. 26.1%), and social pressure was more acutely felt by women (22.9% vs. 15.2%).

Regarding stress management, men more commonly engaged in physical exercise, while women tended to seek psychosocial support, such as talking with a partner, therapy, or relaxation techniques.

Overall, 82.7% of participants mentioned open communication as a coping strategy, and scheduling time for intimacy was more common among women (25.7% vs. 17.3%). Men were more likely to report having no clear stress management strategy, whereas women explored a greater variety of methods, including sex therapy (7.1% vs. 2.2%).

These findings underscore gender differences in stress perception and coping strategies, highlighting the influence of emotional, social, and professional factors on sexual desire.

4.3. Correlations Between Stress and Sexual Desire

Spearman's rank-order correlation coefficients were calculated to examine the relationship between stress and sexual desire.

Table 4. Spearman's rank-order correlations between stress and sexual desire

#	Variable	Spearman coef. (r)	p-value
1.	prolonged stress – sexual desire	-.19	0.040
2.	usual sexual desire -sexual desire under stress	.71	<0.001
3.	stress level- usual desire	-.07	0.435

Spearman's rank-order correlations revealed the following relationships:

- Prolonged stress was negatively correlated with sexual desire ($r = -.191$, $p = 0.040$), indicating that higher levels of long-term stress were associated with a reduction in sexual desire.
- Habitual sexual desire was strongly correlated with sexual desire under stress ($r = .712$, $p < 0.001$), suggesting that participants with higher habitual sexual desire were more likely to maintain this desire even during periods of stress.
- Perceived daily stress was not significantly correlated with habitual sexual desire ($r = -.073$, $p = 0.435$), indicating that everyday stress does not influence sexual desire to the same extent as prolonged stress.

4.4. Summary of Main Results

Gender Differences in Sexual Desire:

- Men reported a significantly higher habitual sexual desire than women ($M = 6.22$ vs. 5.16 , $p < 0.001$).
- Under stress, men maintained a higher sexual desire than women ($M = 5.54$ vs. 4.16 , $p < 0.001$).
- Women experienced a greater reduction in sexual desire under stress than men, although this difference was not statistically significant.

Impact of Prolonged Stress

- Prolonged stress was negatively correlated with sexual desire ($r = -.191$, $p = 0.040$), suggesting that long-term stress reduces sexual desire.
- Short-term perceived stress was not significantly associated with a habitual sexual desire ($r = -.073$, $p = 0.435$).

Relationship Between Habitual and Stress-Affected Desire

- Habitual sexual desire was strongly correlated with sexual desire under stress ($r = .712$, $p < 0.001$), indicating that individuals with a higher baseline desire are more resilient to stress-induced reductions.

Stress Sources and Coping Strategies

- Men more frequently reported professional and financial stressors, whereas women more often reported relational, family, and health-related stress.
- Coping strategies differed by gender: men relied primarily on physical activity, while women preferred emotional support and relaxation techniques. Open communication was reported by the majority of participants (82.7%), and scheduling time for intimacy was used by both men and women, although somewhat more frequently by women (25.7% vs. 17.3%).

Effect Sizes

- Cohen's d indicated large gender differences for habitual sexual desire ($d = 1.666$) and sexual desire under stress ($d = 1.608$), and moderate-to-large effects for changes in desire under stress ($d = 0.695$) and prolonged stress ($d = 0.975$).

5. Discussion

5.1. Gender-Specific Patterns in Sexual Desire

The present study confirms that men report higher sexual desire than women under both typical and stressful conditions, consistent with prior research (Basson, 2017; Pascoal et al., 2021). Hormonal differences, such as higher testosterone levels in men, may partially account for this pattern, while gender-specific coping strategies and sociocultural expectations likely contribute to women's greater vulnerability to reductions in sexual desire under stress.

Although women reported a slightly greater reduction in desire under stress, this difference did not reach statistical significance. This finding may reflect individual heterogeneity in coping mechanisms and contextual factors, including the type of stressor (e.g., relational vs. occupational). Previous studies indicate that women often experience decreases in sexual desire under emotional stress, whereas men may use sexual activity as a stress-coping mechanism (Mark & Lasslo, 2018).

5.2. Prolonged Stress and Sexual Desire

Prolonged stress was negatively correlated with sexual desire, suggesting that chronic exposure to stress impairs sexual motivation. This finding is consistent with previous literature on the suppressive effects of cortisol on sex hormones and sexual functioning (Hamilton & Julian, 2019). In contrast, short-term or general perceived stress did not significantly influence habitual sexual desire, highlighting that the duration and accumulation of stressors play a critical role in determining sexual outcomes.

5.3. Neuroendocrine and Psychosocial Considerations

These findings can be interpreted through both neuroendocrine and psychosocial lenses. Fluctuations in oxytocin and prolactin, together with sociocultural pressures and relational expectations, may help explain why women are more susceptible to stress-induced reductions in sexual desire. Individuals with a high baseline sexual desire appear more resilient to stress, consistent with theories of sexual robustness and adaptive coping. Coping strategies such as emotional support, open communication, and scheduling intimacy may buffer against stress-related decreases in desire, particularly among women (Vică et al., 2022).

5.4. Clinical Implications

The present findings have direct relevance for clinical practice. Psychiatrists, sex therapists, and psychologists may consider incorporating stress management into sexual health interventions. Gender-sensitive strategies could include emotion-focused coping and relational counseling for women, and activity-based or behavioral strategies for men. Assessing baseline sexual desire levels can help identify individuals at risk of stress-related sexual dysfunction and guide personalised interventions. Additionally, psychoeducation on the interplay between stress, hormones, and sexual desire may enhance treatment adherence and patient understanding (Delcea et al., 2023).

5.5. Limitations

Several limitations should be noted. First, the cross-sectional design precludes causal inference, limiting conclusions about the directionality of the relationship between stress and sexual desire. Second, the sample size ($N = 116$) may limit external validity. Third, reliance on self-report measures introduces potential bias. Finally, the use of a non-validated instrument reduces replicability and comparability across studies.

5.6. Future Directions

Future research should employ longitudinal designs to explore causal relationships and incorporate validated psychometric instruments, such as the Perceived Stress Scale and the Sexual Desire Inventory. Potential moderating variables, including relationship satisfaction, attachment style, and mental health history, warrant further examination to clarify individual differences. The

integration of objective physiological measures—such as cortisol or oxytocin levels—would also complement self-report data and provide a more comprehensive understanding of the interplay between stress and sexual desire.

In addition, emerging computational approaches hold promise for advancing this field. Artificial intelligence (AI) and machine learning models may enable the detection of complex patterns and prediction of trajectories of stress and sexual desire. Big data methodologies, such as linking psychological measures with physiological indicators, lifestyle factors, or digital phenotyping derived from social media and wearable devices, could further broaden the scope of assessment. Incorporating these perspectives would strengthen the forward-looking dimension of research and highlight its potential for integration into intelligent, data-driven frameworks of analysis.

6. Conclusion

Overall, both gender and the duration of stress are key determinants of sexual desire. Men tend to maintain higher levels of desire under stress, whereas women may experience greater reductions, particularly in the context of prolonged stress. Habitual sexual desire and coping strategies appear to moderate these effects. These findings highlight the importance of personalised, gender-sensitive interventions in sexual health practice and provide a foundation for future research integrating biological, psychological, and relational perspectives.

References

- Basson, R. (2017). The role of stress in sexual health. *Journal of Sexual Medicine*, 14(3), 345–357.
- Delcea, C., Bululoi, A. S., Gyorgy, M., & Rad, D. (2023). Psychological distress prediction based on maladaptive cognitive schemas and anxiety with random forest regression algorithm. *Pharmacophore*, 14(5), 62–69. <https://doi.org/10.51847/UKRB1PaFyV>
- Hamilton, L., & Julian, K. (2019). Cortisol and sexual functioning: A review of the literature. *Psychology & Health*, 34(2), 123–138.
- Love, T. M. (2018). The impact of oxytocin on stress: The role of sex. *Current Opinion in Behavioral Sciences*, 23, 136–142. <https://doi.org/10.1016/j.cobeha.2018.06.018>
- Mark, K., & Lasslo, J. (2018). Gender differences in sexual desire under stress conditions. *Sexual Behavior Review*, 25(1), 45–67.
- Marwen, N., Ameni, A., Naim, D., Kouloud, T., Mannai, J., & Mohamed, F. (2023). Impact on sexual functioning: Total versus subtotal hysterectomy. *International Journal of Advanced Studies in Sexology*, 5(1), 5–16. <https://doi.org/10.46388/ijass.2023.1.1>
- Muller-Fabian, A. (2024). The relationship between stress, emotional regulation, relationship satisfaction and sexual desire. *International Journal of Advanced Studies in Sexology*, 6(1), 39–44. <https://doi.org/10.46388/ijass.2024.6.1.4>
- Negomireanu, A. S. B., & Delcea, C. (2022). Sexual dysfunction, mental illness and quality of life: A systematic review of the literature. *International Journal of Advanced Studies in Sexology*, 4(1), 103–111. <https://doi.org/10.46388/ijass.2022.4.12>
- Pascoal, P. M., et al. (2021). Sexuality and stress: A gendered perspective. *Journal of Psychology and Sexuality*, 22(4), 278–294.
- Schoenfeld, E. A., Loving, T. J., Pope, M. T., & Campbell, L. (2017). The effect of stress on sexual desire and satisfaction: A longitudinal study. *Journal of Social and Personal Relationships*, 34(4), 476–496.
- Vică, M. L., Delcea, C., Dumitrel, G. A., Vușcan, M. E., Matei, H. V., Teodoru, C. A., & Siserman, C. V. (2022). The influence of HLA alleles on the affective distress profile. *International Journal of Environmental Research and Public Health*, 19(19), 12608. <https://doi.org/10.3390/ijerph191912608>