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A Study on Technostress Emotional Exhaustion and Sleep Quality Among Future Psychologists in India an Intervention Plan

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Research Article

Keywords: Technostress, Emotional Exhaustion, Sleep Quality, Psychology Students, Intervention

Posted Date: January 21st, 2026

DOI: https://doi.org/10.21203/rs.3.rs-8411730/v1

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Additional Declarations: No competing interests reported.

Abstract

Background

The rapid changes in academic curriculum and the increasing use of digital platforms in learning, assessment, and communication have increased the use of technology among psychology students. Although digital technologies have increased access, accessibility and efficiency, continuous connectivity has brought about technostress, which is a psychological strain linked with the excessive use of technology.

Objectives

This research investigated the relationship between technostress, emotional exhaustion and sleep quality among emerging Indian psychologists, and whether emotional exhaustion acts as a mediator between technostress and sleep quality.

Method

A Quantitative correlational research design was used. Data was collected from psychology students aged 18 to 25 years. SPSS was used to analyse the descriptive statistics and Pearson's correlation, whereas the mediation analysis was done with the help of Jamovi.

Results

The findings showed that there was a positive correlation between technostress and emotional exhaustion and significant relationship between emotional exhaustion and poor sleep quality. The mediation analysis shows emotional exhaustion completely mediates the relationship between technostress and sleep quality, whereas emotional exhaustion has an indirect effect of technostress on sleep quality with no significant effect.

Conclusion

The findings of this study support the need to implement interventions that reduce emotional burnout in order to enhance sleep quality and personal well-being among psychology students. Therefore, this research suggests the REPEAT intervention model, which is expected to lead to digital balance, emotional regulation, and restorative sleep.

Introduction

Technology is now an inseparable part of both the academic and research domains in the last decade, especially among the students in the field of psychology who make excessive use of the digital platform for both their coursework and academic research, and professional communication. Although technology has increased the level of accessibility and efficiency, it has also become a major contributor to technostress, which is described as a psychological and physical stress caused by overindulgence in digital technology and the virtual world (Latorre, 2018). Technostress has been demonstrated to lead to emotional fatigue and sleep quality problems that, in turn are predictors of psychological well-being and academic achievement (Jiang et al., 2015). Empirical evidence also shows that technostress has a detrimental effect on academic performance among university students because attentional control, memory consolidation, and learning ability are impaired due to constant exposure to digital information and the need to be constantly connected, which results in low academic motivation and performance (Torales et al., 2022). The results of Indian institutions of higher education also support the existence of a strong negative correlation between technostress and academic performance, indicating that increased technological stress can severely affect the academic performance of students (Mahapatra et al., 2023). Moreover, screen time has also been associated with circadian rhythm disruption, such as a decrease in sleep onset and poor sleep quality (Jniene et al., 2019).

According to Yunita et al. (2023) that increased usage of educational technology especially mobile phones is a cause of technostress, which disrupts circadian regulation due to cognitive load and over exposure. In line with this, Yao and Wang (2022) showed that technostress is escalated by compulsive mobile phone use and information overload which consequently leads to poor sleep quality. In contrast, Abojedi et al. (2023) concluded that the use of technology has no direct influence on sleep quality, but rather serves as a mediator of the effect, which occurs via perceived stress, showing that emotional control and time-management skills are significant in reducing sleep disturbances. Goddard (2011) also found a significant relationship between poor sleep quality and technostress. Recently, Hapsari et al. (2024) found a strong negative relationship between technostress and quality of sleep, along with screen time, device multiplicity, and socioeconomic status were identified as major contributors. All of these findings suggest that although technostress is consistently associated with sleep impairment, the intensity and direction of the association may differ based on the individual and situational moderators, highlighting the importance of further empirical studies.

Emotional exhaustion is a fundamental component of burnout, a state of emotional depletion caused by long-term exposure to stressors (Maslach and Jackson, 1981). Psychology students are especially susceptible to emotional exhaustion due to rigorous academic demands, emotionally charged programs, and early introduction to clinical practice (Brand et al., 2014). Empirical research has always reported high scores of emotional exhaustion in university students, which are usually followed by a lack of motivation, poor learning, and negative mental health consequences (Ibrahim et al., 2013). Moreover, emotional exhaustion has been revealed to predispose people with sleeping disorders, which only increases cognitive and emotional stress (Elfering et al., 2018). Research studies examining the overlap between technostress and emotional exhaustion have shown that technostress exacerbates emotional fatigue through cognitive load and emotional distress. As discovered by Stoeckl and Eckhardt (2023),

teacher sociability was also found to lower emotional exhaustion in the online education environment during the COVID-19 pandemic, but components of technostress, including techno-overload and techno-complexity, had a significant impact in increasing emotional exhaustion. Similarly, Buenadicha-Mateos et al. (2022) found that perceived stress and intrapersonal conflict mediated the relationship between technostress and emotional exhaustion in university students, highlighting the impact of emotional and social aspects as well as technological needs. Upadhyaya and Vrinda (2021) determined five dimensions of technostress, such as techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty, and discovered that those students were more vulnerable to technostress, who had lower levels of Information in Computer Technology (ICT), were postgraduates, and female, which underscores the necessity of targeted intervention. Wang et al. (2021) also established that technostress developers, including techno-complexity, techno-insecurity, and techno-uncertainty, led to burnout in technology-enhanced learning settings, which in turn, undermined self-regulation, learning agency, and persistence among male students. Those who are less predisposed towards technology-enhanced learning were specifically impacted.

A study conducted by Li et al. (2020) identified academic pressure, financial stress, and social challenges as the main stressors leading to emotional exhaustion and burnout in university students, and the poor quality of sleep turned out to be one of the major predictors because of compromised cognitive functioning and lack of stress recovery. Jarrett et al. (2019) showed that emotional exhaustion has an indirect connection with sleep disorders, which disrupts emotion regulation, leading to perceived stress, especially in medical students. Xu et al. (2019) conducted a study on students in nursing programs and found that sleep disturbances were essentially the direct predictors of emotional exhaustion, with sleep-related stress becoming an additional predictor of depressive symptoms indicating that cognitive preoccupation with sleep increases exhaustion. According to Hu et al. (2020), the connection between disrupted sleep patterns and depressive symptoms was mediated by emotional exhaustion in shift workers, and evening-oriented sleep patterns led to increased fatigue and susceptibility to mental health issues. The overall implication of such findings is that, although sleep disturbances can be a direct contributor to emotional exhaustion, there are indirect mechanisms in which emotion regulation deficits and cognitive strain can interfere with this relationship.

Although the literature on the topic of technostress, emotional exhaustion, and sleep quality continues to expand, few studies in particular have explored the relationship between these aspects among psychology students in the context of the Indian setting. Additionally, the mediating effect of emotional exhaustion on the technostress-sleep quality association has not been well studied. This dichotomy is especially critical in light of recent changes to the curriculum that encourage earlier exposure to professional training in psychology. These interrelated problems are critical in the process of protecting the well-being of students and nurturing them to become competent and resilient mental health professionals. Digital wellness, sleep hygiene, mindfulness-based interventions, and resilience training are thus urgently necessary, and longitudinal studies should be conducted in the future to establish the directionality and the dynamics of the relationship between technostress, emotional exhaustion and sleep quality.

Methodology

Objectives

1. To investigate the relationship between technostress and emotional exhaustion among psychology students.

2. To investigate the association between technostress and sleep quality in psychology students.

3. To investigate whether emotional exhaustion mediates the relationship between technological stress and sleep quality.

Hypothesis

H1: Higher levels of technostress will be associated with greater emotional exhaustion among psychology students.

H2: Higher levels of technostress will be associated with lower sleep quality among psychology students.

H3: The association between technostress and sleep quality will be partially mediated by emotional exhaustion, such that higher technostress will contribute to increased emotional exhaustion, which in turn will be linked to lower sleep quality.

Sampling technique

● Sample Size: 200 participants (161 females, 39 males)

● Sample Age Range: 18-25 years

● Sampling Method: Purposive Sampling

Inclusive and Exclusive Criteria

The sample comprised of psychology students between the ages of 18 and 25 years old, pursuing or having recently graduated undergraduate or postgraduate psychology degrees, using digital devices in their academic activities and gave informed consent and could communicate in English.

Measures and Tools

1. ***Sleep Quality Scale (SQS)-*** The scale was developed by Yi et al. (2006). The instrument comprises 28 self-report questions designed to assess various aspects of sleep functioning, including daytime symptoms, sleep restoration, difficulties with sleep initiation and maintenance, waking problems, and overall satisfaction with sleep. The scale is suitable for adults aged 18 to 59, and it is administered in pencil-and-paper format. The respondents will be asked to answer each item on a four-point Likert scale, where a score of 0 corresponds to "few" and a response of "almost always" corresponds to 3. Questions that relate to post-sleep restoration and sleep satisfaction are reverse-scored before analysis. The total score ranges from 0 to 84, where higher scores indicate poorer sleep quality and more sleep-related problems. The scale exhibits strong psychometric properties, including high internal consistency (α = .92) and acceptable test-retest reliability (r = .81).
2. ***Emotional Exhaustion Scale (EES)-*** Originally developed by Maslach and Jackson (1981) and later modified to fit the academic level by Ramos et al (2005). The scale consists of 10 questions that investigate emotional exhaustion and burnout related to academic requirements over the last 12 months. The respondents review each item on a five-point Likert scale, with 1 indicating 'rarely' and 5 indicating 'always'. The range of scores, which are total, is between 10 and 50, with high scores indicating more emotional exhaustion. The presence of established cut-offs categorizes scores as follows: 1019 as low, 2029 as moderate, 3039 as high, and 4050 as very high levels of emotional exhaustion. The scale is highly internally consistent (α = 0.893) and exhibits acceptable levels of item homogeneity, as indicated by a mean inter-item correlation of 0.33.
3. ***Technostress Scale-*** The Technostress Scale was used to measure technostress (Tarafdar et al., 2007). The instrument comprises 23 items assessed using a five-point Likert scale and evaluated across five dimensions of technostress: techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty. Techno-overload refers to the pressure of working faster and longer due to the use of technology, while techno-invasion relates to the level of technology's intrusion into personal time and boundaries. The techno-complexity shows a response of inadequacy due to the perceived lack of technological abilities. In academic institutions, techno-insecurity refers to anxiety in terms of academic performance compared to students who are better technologically fitted. Techno-uncertainty is associated with the pressure created by the constant technological changes and updates. The reliability analysis revealed satisfactory internal consistency in all subscales, with Cronbach's alpha values exceeding .70.

Procedure

The study was conducted online, with an invitation sent through university portals and social media groups targeting Psychology students. Upon clicking the study link, participants were presented with a detailed informed consent form that explained the study's purpose, procedures, and their rights as participants. Once consent was provided, they proceeded to complete the questionnaire via a Google Form. The form was designed to gather data on technostress, perceived emotional exhaustion, and sleep quality, and included a manipulation check to ensure the accuracy of responses. Throughout the

process, every effort was made to ensure confidentiality, no identifying information was collected, and all data was stored securely. Contact information was provided for any further questions or concerns.

Result

In this section, the statistical results of the research is provided, which was analysed with the assistance of SPSS for descriptive and pearson's correlation and Jamovi for mediation analysis. The distribution of the data regarding technostress, sleep quality, and emotional exhaustion was reviewed with the help of descriptive statistics. The correlation analysis by Pearson was used to evaluate the relationships of all three variables and the subdomains of technostress, sleep quality, and emotional exhaustion. Lastly, mediation was carried out to investigate the possibility of emotional exhaustion mediating the relationship between technostress and sleep quality.

Table 1 *Descriptive Statistics for the Study Variables*

	Technostress	Sleep Quality	Emotional Exhaustion
N	200	200	200
Mean	2.87	44.25	33.25
Median	2.95	44.50	33.50
Standard Deviation	0.607	10.19	8.04
Shapiro-Wilk W	0.991	0.991	0.987
Skewness	-.246	-.105	-.029

A sample population of 200 participants was used to compute descriptive statistics of technostress, sleep quality, and emotional exhaustion. According to Table 1, the mean technostress score is M = 2.87 (SD = 0.61), which means the perceived technostress is moderate. The scores of emotional exhaustion were also moderate (M = 33.25, SD = 8.04), whereas the scores of sleep quality were of an average level (M = 44.25, SD = 10.19). The distribution of all variables was reasonably symmetric (the mean and median were close to each other).

The Shapiro-Wilk test was used to determine the normality of the data. The findings showed that there was no significant non-compliance with the assumption of normality when it comes to technostress (W = 0.991), sleep quality (W = 0.991), and emotional exhaustion (W = 0.987). The skewness values of all variables was within acceptable range. Hence, parametric analyses were considered suitable for further correlation and mediation analyses.

Table 2 *Correlation Between Technostress, Sleep Quality, and Emotional Exhaustion*

		Technostress	Sleep Quality	Emotional Exhaustion
Technostress	Pearson's r	—	.345**	.459**
	Sig. (2-tailed)	—	—	—
	N	200	200	200
Sleep Quality	Pearson's r	.345**	—	.552**
	Sig. (2-tailed)	.000	—	.000
	N	200	200	200
Emotional Exhaustion	Pearson's r	.459**	.552**	—
	Sig. (2-tailed)	.000	.000	—
	N	200	200	200

**. The correlation is significant at the p < .01 level (2-tailed).

The correlation analysis performed by Pearson was aimed at investigating the correlation between technostress and sleep quality with emotional exhaustion. Technostress was significantly and positively related to emotional exhaustion (r =.46, p <.01), as indicated in Table 2. Another positive correlation, which was also significant, between Technostress and Sleep quality (r =.35, p <.01). Also, emotional exhaustion had a high positive relationship with sleep quality (r =.55, p =.01).

These findings suggest that increased technostress level is linked to increased emotional exhaustion and that emotional exhaustion is highly correlated with sleep quality even among the students of psychology.

Table 3 *Correlation Between Sub-domains of Technostress, Sleep Quality, and Emotional Exhaustion*

Variable	SQ	EE	TO	TI	TC	TIS	TU
SQ	1	.552**	.308**	.279**	.245**	.394**	.060
		.000	.000	.000	.000	.000	.401
	200	200	200	200	200	200	200
EE	.552**	1	.424**	.490**	.324**	.429**	.041
	.000		.000	.000	.000	.000	.563
	200	200	200	200	200	200	200
TO	.308**	.424**	1	.505**	.293**	.446**	.330**
	.000	.000		.000	.000	.000	.000
	200	200	200	200	200	200	200
TI	.279**	.490**	.505**	1	.345**	.486**	.170*
	.000	.000	.000		.000	.000	.016
	200	200	200	200	200	200	200
TC	.245**	.324**	.293**	.345**	1	.529**	.230**
	.000	.000	.000	.000		.000	.001
	200	200	200	200	200	200	200
TIS	.394**	.429**	.446**	.486**	.230**	1	.286**
	.000	.000	.000	.000	.001		.000
	200	200	200	200	200	200	200
TU	.060	.041	.330**	.170*	.230**	.286**	1
	.401	.563	.000	.016	.001	.000	
	200	200	200	200	200	200	200

**. The correlation is significant at the p < .01 level (2-tailed).

*. The correlation is significant at the .05 level (two-tailed).

Additional testing was done on the correlation between the sub-domains of technostress and sleep quality and emotional exhaustion. Techno-overload (r = .42, p < .01), techno-invasion (r = .49, p < .01), techno-complexity (r =.32, p <.01) and techno-insecurity (r =.43, p <.01) had a significant and positive correlation with emotional exhaustion as shown in Table 3. The quality of sleep was also significantly positively correlated with some of the technostress dimensions, specifically techno-insecurity (r =.39, p < .01) and techno-overload (r =.31, p <.01).

Techno-uncertainty had less significant and mainly insignificant links to the sleep quality and emotional exhaustion. In general, the trend of correlations indicates that higher levels of digital workload, permanuity of connectivity, perceived complexity, and insecurity regarding technology are related to higher levels of emotional exhaustion and a distorted sleep quality.

An analysis carried out was a mediation to determine the mediating effect of emotional exhaustion between technostress and sleep quality. The mediation model is based on the hypothesis and is shown in Figure 1 and path coefficients are given in Table 4.

Table 4 *Mediation Model between technostress, emotional exhaustion and sleep quality*

Pathway	Effect	B	SE	95% CI [LL, UL]	β	*z*	*p*
Indirect Effect	TOTAL TSS → Total EE → TOTAL SQ	3.84	0.73	[2.41, 5.27]	0.23	5.26	< .001
Component Effects	TOTAL TSS → TOTAL EE	6.08	0.83	(4.45, 7.71)	0.46	0.46	7.31
Direct Effect	Total EE → TOTAL SQ	0.63	0.08	(0.47,0.80)	0.50	7.57	< .001
	TOTAL TSS → TOTAL SQ	1.96	1.11	[−0.21, 4.12]	0.12	1.77	.077
Total Effect	TOTAL TSS → TOTAL SQ	5.80	1.12	[3.61, 7.99]	0.35	5.19	< .001

The emotional exhaustion indirect effect of technostress on sleep quality was statistically significant (indirect effect = 3.84, SE = 0.73, 95 percent confidence interval [2.41, 5.27], p <.001). The results showed that technostress was a significant predictor of emotional exhaustion (B = 6.08, SE = 0.83, p < .001) as well as sleep quality being significantly predicted by emotional exhaustion (B = 0.63, SE = 0.08, p <.001).

The direct relationship between technostress and the quality of sleep was not found to be significant (B = 1.96, SE = 1.11, p =.077), though the overall impact was significant (B = 5.80, SE = 1.12, p <.001). These results show that emotional exhaustion is the complete mediator of the relationship between technostress and sleep quality.

Discussion

The current study examined the correlation between technostress, emotional exhaustion and sleep quality among emerging psychologists in the Indian context. The results have shown a relationship between emotional exhaustion and poor sleep quality, as well as higher levels of technostress. Emotional exhaustion emerged as a crucial mediating variable in the relationship between technostress and sleep quality, suggesting that the emotional load associated with the stressor of technology has a more significant impact on sleep disruption than the direct effect of technostress. These results are indicative of how long-term digital demands can lead to mental stress and impaired restorative functioning.

The results were in line with the first hypothesis, which states that emotional exhaustion among psychology students would be related to an increased level of technostress. Such a correlation highlights how cumulative exposure to techno-overload, techno-complexity, and techno-invasion are some of the causes of emotional depletion. Such findings align with prior studies by Stoeckl and Eckhardt (2023) and Buenadicha-Mateos et al. (2022), who have indicated that high levels of technological requirements in educational settings are among the factors contributing to emotional fatigue, especially under the condition of cognitive load and prolonged emotional stress. In psychology students, technostress can additionally deplete the emotional resources already exposed to emotionally intensive academic content and early clinical experiences, therefore, further predisposing them to burnout.

The second hypothesis that a greater level of technostress would be correlated with poor sleep quality was also accepted. This finding aligns with previous studies that have demonstrated the overuse of technologies, information overload, and constant digital connection disrupt circadian rhythms and sleep mechanisms. Similarly, research by Yunita et al. (2023) and Yao and Wang (2022) also found that involuntary gadget use and cognitive overstimulation contribute to the development of sleep disorders. The current results suggest that technostress disrupts cognitive and emotional disengagement before sleep, thus leading to poor sleep quality.

The third hypothesis was about the mediating role of emotional exhaustion between technostress and sleep quality. The findings showed that the mediation effect was significant, which proves that the relationship between technostress and sleep quality is mediated by emotional exhaustion. This observation confirms and builds on the study by Abojedi et al. (2023), who postulated that the indirect effects of technostress on sleep are mediated by stress-related processes. In contrast, Goddard (2011) proposed different factors as the mechanisms behind technological stress and sleep-related consequences. The current research gives evidence that emotional exhaustion serves as a key psychological mediator between technological stress and sleep disruption. It implies that the emotionally demanding aspect of long-term digital demands is more powerful in disrupting sleep compared to exposure to technology.

The reported relationship between emotional exhaustion and sleep quality also supports the existing literature, which suggests a close connection between fatigue associated with burnout and sleep disruptions. The studies by Li et al. (2020) and Jarrett et al. (2019) demonstrated that sleep deprivation is a cause of emotional fatigue affecting cognitive recovery and the ability to regulate emotions. Within the framework of technostress, the increased digital demands can extend physiological and psychological stimulation and rumination, contributing to the further process of exhaustion and impaired sleep quality. Combined, these results imply that the relationship between technostress and emotional exhaustion is reinforced by impaired sleep, which in turn leads to an increase in the chances of psychological distress among students.

Implications

The results highlight the significance of coping with technostress in maintaining emotional and sleep health, particularly among psychology students undergoing training and awaiting employment in the field of mental health care. The unmanaged digital stress and emotional burnout can not only affect personal well-being but also decrease professional competence, empathy, and clinical effectiveness. Higher education institutions must therefore focus more on integrating digital wellness programs, emotional regulation training programs and resilience-building programs into their academic programs. Clinical educators and supervisors must be vigilant in observing the emotional health of students, encourage healthy sleeping habits, and promote self-care measures to help students achieve high academic success and professional growth. At the policy level, the regulatory organizations may introduce policies regarding the use of academic technology, flexible learning, and increased access to mental health services to minimize cognitive overload and burnout risk. The results also bring the Cognitive Load Theory into the plan and stress that too much online activity can result in emotionally and physiologically significant pressure when the cognitive resources are constantly targeted.

Proposed Intervention Plan (REPEAT Model):

R – Regulate Digital Use

By implementing digital hygiene and screen-time limitations, we can promote mindful and planned technology engagement (Ramadhan et al., 2024).

E – Educate (Psychoeducation & Skills)

Develop awareness about technology-induced stress, about one’s capacity to handle emotions, and how to cope in situations to boost self-regulation and digital well-being (Bondanini et al., 2020).

P – Promote Restful Sleep

Techniques of Cognitive Behavioral Therapy for Insomnia (CBT-I) can be implemented to promote restful sleep, sleep hygiene, and decrease fatigue (Donaldson et al., 2022).

E – Enhance Resilience

To increase strength and management abilities, one can incorporate mindfulness-based and emotional regulation practices (Dawson et al., 2022).

A – Adjust Workload & Boundaries

Set boundaries between academic, digital and personal life to prevent burnout (Bes et al., 2023).

T – Track, Evaluate & Iterate

Tracking can help maintain consistency in monitoring technostress, and sleep indicators can aid in achieving long-term improvement (Ramadhan et al., 2024).

Limitations and Future Directions

The study has several limitations. The study of Indian psychology students limits the externalisation of the results to other cultures and professional settings. Emotional exhaustion and sleep quality may have been influenced by other unmeasured factors, which include physical health, lifestyle, caffeine intake, and prior psychological conditions. Additionally, a potential bias in the selection process may have occurred due to the use of online data collection only, as it excluded individuals with limited access to digital media.

Future studies should employ longitudinal and experimental studies to demonstrate the directional and temporal correlation between technostress, emotional exhaustion and sleep quality. It would be more externally valid to increase the sample to include students of other disciplines, working professionals, and other socioeconomic groups. Use of objective measurements, including digital use tracking and sleep monitors, can help decrease the level of self-reporting bias and provide more accurate information. The importance of structured intervention programs, such as digital wellness training, mindfulness-based interventions, and emotional regulation workshops, will also help in assessing the applied importance of this study.

Conclusion

This study examines the complex interconnection between the sleep quality of future Indian psychologists, emotional exhaustion, and technostress. The findings indicate that the negative impact of technostress on sleep disturbances is enhanced by emotional exhaustion, where the former acts as a strong mediating factor. Such results underscore the urgency of competencies in emotional self-regulation and greater digital wellness acuity, particularly in students whose future careers are in the field of mental health. In the modern digital environment, alleviating digital stress is an essential requirement for protecting psychological well-being, academic success, and professional effectiveness. This study significantly increases the body of evidence on how technology-induced stress affects emotional well-being and sleep.

Declarations

Clinical Trial Registration

Clinical Trial number: not applicable

Human Ethics and Consent to Participate

Ethical approval

for the study was obtained from the Institutional Ethics Committee of CHRIST (Deemed to be) University, Delhi NCR, India. All procedures involving human participants were conducted in accordance with institutional ethical guidelines. Informed consent was obtained from all participants prior to participation in the study.

Consent to Publish

All authors have approved the manuscript and consent to its publication.

Competing Interests

The authors declare that they have no financial or non-financial competing interests.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contribution

S.S. had the idea of the study, was in-charge of the research design, and provided overall supervision. The literature review was conducted by N.A. and N.V., who collected the data and processed it, wrote the original manuscript. M.M. and P.S. helped in gathering and initial analysis of data.M.G. helped to make the methodology finer, revise in a critical manner and strengthen theoretical foundation. edited and approved by all the authors. The final version of the manuscript was reviewed by all authors.

Data Availability

The datasets generated and/or analyzed in the current study are not publicly available due to ethical restrictions and the need to protect the confidentiality and privacy of the participants.

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Figures

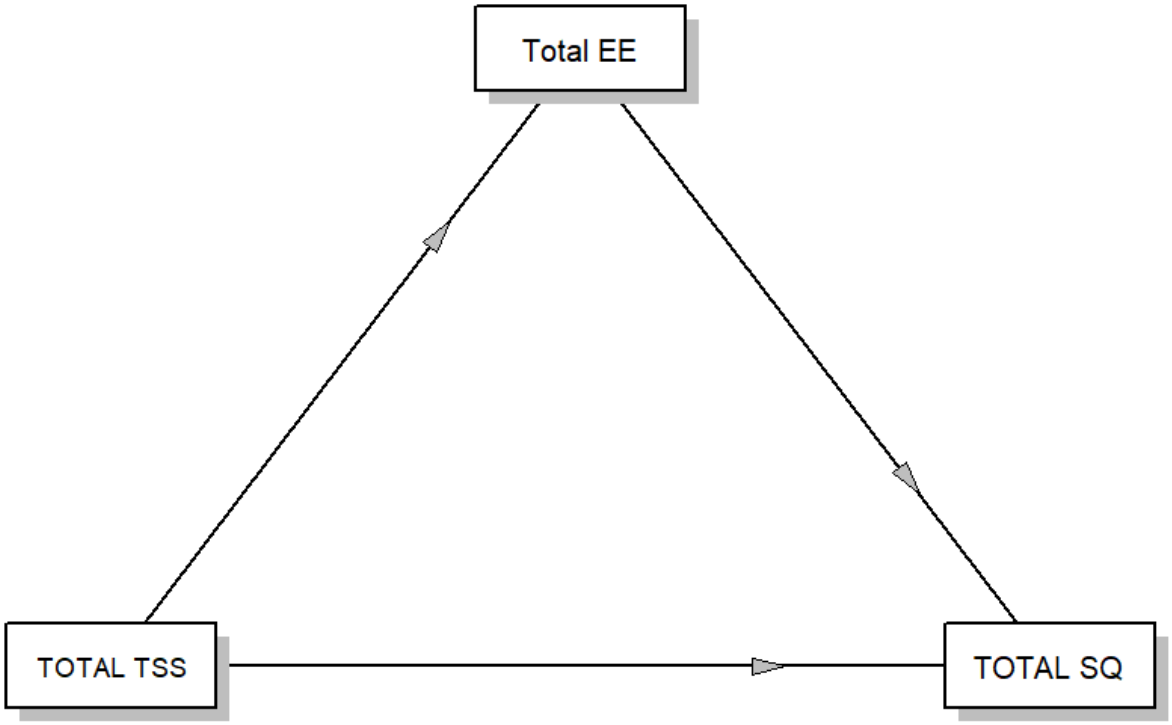


Figure 1

Mediation model showing Emotional Exhaustion as a mediator between Technostress and Sleep Quality

Note. TSS = Total Technostress Score; EE = Emotional Exhaustion; SQ = Sleep Quality.