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Technostress, Work-Life Balance and Life Satisfaction

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Abstract

This study examines the relationship between technostress, work–life balance, and life satisfaction among working professionals in technology-driven workplaces. Using a descriptive, cross-sectional research design, primary data were collected from 170 employees across diverse sectors through a structured questionnaire. The data were analysed using descriptive statistics, reliability analysis, t-test, ANOVA, regression, mediation, and moderation analyses. The findings reveal that technostress does not have a significant direct effect on life satisfaction, whereas work–life balance positively and significantly influences life satisfaction. Significant age-based differences were observed in technostress, work–life balance, and life satisfaction, while gender showed no significant moderating effect. The proposed mediating role of work–life balance between technostress and life satisfaction was not supported. The study highlights the importance of fostering work–life balance and implementing organizational strategies to manage technostress, thereby enhancing employee well-being in increasingly digital work environments.

Keywords: *Technostress; Work–Life Balance; Life Satisfaction; Employee Well-being; Digital Workplace; Working Professionals.*

1. Introduction

The increasing integration of digital technologies into organizational operations has significantly transformed modern workplaces. Technologies such as computers, smartphones, cloud systems, and communication platforms have improved organizational efficiency, productivity, and accessibility. Employees are now able to perform tasks more quickly and remain connected irrespective of geographical boundaries. However, the growing dependence on technology has also introduced several psychological and behavioural challenges for employees.

One of the major challenges emerging from continuous technology usage is **technostress**, which refers to the stress experienced by individuals due to excessive exposure to information and communication technologies. Employees frequently face issues such as techno-overload, techno-invasion, techno-complexity, and constant connectivity, which increase mental pressure and emotional exhaustion. Previous studies have indicated that excessive technological demands negatively affect employee well-being, productivity, and job satisfaction (Ayyagari, Grover, & Purvis, 2011; Atanasoff & Venable, 2017). Similarly,

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Upadhyaya and Vrinda (2021) reported that technostress creates psychological strain and reduces individual efficiency among users of digital technologies.

In addition to its direct psychological consequences, technostress also influences employees' **work–life balance**. The increasing expectation of remaining digitally connected beyond office hours has blurred the boundaries between professional and personal life. Employees often experience interruptions during personal time due to emails, online meetings, and continuous communication demands. Studies conducted by Saim, Rashid, and Ma'on (2021) and Bencsik and Juhasz (2023) found that technostress creators significantly disturb employees' ability to maintain a healthy balance between work and personal life. Similarly, Ma, Ollier-Malaterre, and Lu (2021) observed that techno-stressors indirectly affect work–life balance through emotional exhaustion.

Work–life balance is considered an important determinant of employees' overall well-being and **life satisfaction**. Life satisfaction reflects an individual's evaluation of the overall quality and happiness of life. Prior studies have suggested that employees who maintain a healthy balance between professional and personal responsibilities report higher levels of well-being, satisfaction, and mental health (Haar et al., 2014; Bhende et al., 2020). Diener et al. (1985) also identified life satisfaction as a major indicator of subjective well-being, while Veenhoven (1996) emphasized the role of work and personal life conditions in determining overall life satisfaction.

Although existing studies have independently examined the relationship between technostress, work–life balance, and life satisfaction, limited research has explored the mediating role of work–life balance in the relationship between technostress and life satisfaction, particularly in the context of technology-dependent working professionals. Therefore, the present study attempts to examine the impact of technostress on life satisfaction and analyse whether work–life balance mediates this relationship. The findings of the study may help organizations understand the psychological implications of excessive technology usage and develop effective strategies to improve employee well-being and organizational performance.

2. Literature Review

Technostress has emerged as a significant concern in modern workplaces due to the increasing dependence on digital technologies. Ayyagari, Grover, and Purvis (2011) found that technostress creators such as techno-overload, techno-invasion, and techno-complexity significantly increase employee stress and reduce performance. Similarly, Upadhyaya and Vrinda (2021) reported that technostress negatively affects academic productivity and increases mental strain among individuals. Pflügner (2022) further highlighted that unmanaged technostress can reduce productivity and employee satisfaction.

Atanasoff and Venable (2017) identified that continuous exposure to technology leads to fatigue, anxiety, and reduced well-being, while Colledani et al. (2025) confirmed that technostress negatively affects daily functioning through validated measurement scales. In

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addition, Sellberg and Susi (2014) emphasized that human–technology interaction increases cognitive burden and workplace stress. Nixon and Spector (2013) also concluded that excessive technology use leads to increased stress, health issues, and reduced well-being. Furthermore, Khan and Rehman (2013) identified a negative relationship between technostress and job satisfaction, and Liţan (2025) found that technostress significantly contributes to anxiety and depressive symptoms.

Technostress has also been widely linked to disruptions in work–life balance. Saim, Rashid, and Ma'on (2021) found that technostress creators such as techno-overload and techno-invasion disrupt work–life balance by increasing workload and constant connectivity. Similarly, Bencsik and Juhasz (2023) reported that technostress negatively affects work–life balance through emotional exhaustion. Ma, Ollier-Malaterre, and Lu (2021) further established that technostress impacts work–life balance indirectly through emotional exhaustion and is influenced by individual factors such as job self-efficacy.

Pandita and Singhal (2017) found that increased workload and technology demands reduce employees' ability to maintain work–life balance. Moreover, Nitzsche et al. (2014) highlighted that organizational culture plays a crucial role in supporting work–life balance among employees. Crompton and Lyonette (2006) also demonstrated that imbalance between work and personal life leads to stress and reduced quality of life, while Rani and Mariappan (2011) found that employees with better work–life balance report higher levels of satisfaction.

Work–life balance has been consistently associated with improved life satisfaction and overall well-being. Diener et al. (1985) established life satisfaction as a key indicator of subjective well-being, and Arrindell, Heesink, and Feij (1999) validated it as a reliable psychological construct. Veenhoven (1996) emphasized that life satisfaction is influenced by both work conditions and personal life balance, while Kapteyn, Smith, and Van Soest (2010) highlighted the role of socio-economic and work-related factors in determining life satisfaction.

Bhende et al. (2020) found that improved work–life balance enhances employee satisfaction and overall well-being. Similarly, Haar et al. (2014) demonstrated that work–life balance significantly improves life satisfaction, job satisfaction, and mental health across different cultures. Krishnan, Loon, and Tan (2018) also found that work–life balance positively influences both employee performance and satisfaction. Additionally, Tennant et al. (2007) highlighted that mental well-being is closely linked with balance and stress levels.

Recent studies have also highlighted the importance of psychological and organizational interventions in managing technostress and improving employee well-being. Ioannou (2023) found that technostress leads to fatigue, reduced motivation, and decreased productivity, but mindfulness practices can significantly alleviate these effects by improving focus, awareness, and coping mechanisms. The study further emphasizes that mindfulness acts as an effective strategy to reduce the negative consequences of excessive technology use in the workplace. Similarly, Graveling et al. (2008) conducted a comprehensive review of workplace

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interventions and found that stress management training, organizational changes, and employee support systems play a crucial role in improving mental well-being. The findings indicate that structured interventions, particularly those involving employee participation and coping strategies, can significantly enhance overall well-being and reduce workplace stress. These studies reinforce the importance of incorporating both individual-level and organizational-level strategies to mitigate technostress and improve work-life balance and life satisfaction.

Overall, the existing literature indicates that technostress negatively affects individuals' well-being and disrupts work–life balance, which in turn influences life satisfaction. While technostress has a direct impact on stress and performance, its indirect effect through work–life balance is particularly important in understanding employee well-being. These findings support the need to examine the mediating role of work–life balance in the relationship between technostress and life satisfaction.

Objectives

The primary objective of this research is to examine the impact of technostress on the life satisfaction of working professionals in technology-driven environments. Specifically, the study aims to: (1) examine the direct impact of technostress on life satisfaction; (2) investigate whether work–life balance mediates the relationship between technostress and life satisfaction; (3) evaluate the influence of demographic factors such as gender and age on technostress, work–life balance, and life satisfaction; and (4) examine whether gender moderates the technostress–life satisfaction relationship.

Hypotheses

Based on the review of existing literature, the following hypotheses are proposed:

H1: Technostress has a significant negative impact on life satisfaction.

H2: Technostress has a significant negative impact on work–life balance.

H3: Work–life balance has a significant positive impact on life satisfaction.

H4: Work–life balance mediates the relationship between technostress and life satisfaction.

H5: Gender significantly moderates the relationship between technostress and life satisfaction.

Theoretical Framework

The present study is based on the concept of technostress and its impact on employees' well-being and life satisfaction through work–life balance. In modern organizations, employees are increasingly dependent on digital technologies such as computers, mobile devices, communication platforms, and cloud-based systems to perform their work efficiently (Ayyagari et al., 2011; Upadhyaya & Vrinda, 2021). However, excessive dependence on

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technology often creates mental pressure, fatigue, anxiety, and stress among employees, which is commonly referred to as technostress (Atanasoff & Venable, 2017; Colledani et al., 2025).

The theoretical foundation of this study is primarily based on the Person–Environment Fit Theory discussed by Ayyagari et al. (2011). According to this theory, stress occurs when there is a mismatch between environmental demands and an individual's ability to cope with those demands. In technology-driven workplaces, continuous technological changes, information overload, constant connectivity, and pressure to adapt to new systems increase stress levels among employees (Tarafdar et al., 2007; Sellberg & Susi, 2014). Studies have also shown that excessive technology use negatively affects employees' psychological and emotional well-being (Nixon & Spector, 2013; Lițan, 2025).

In the present study, technostress is considered the independent variable. The study conceptualizes technostress through five dimensions: techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty. These dimensions were originally proposed by Tarafdar et al. and later validated in academic and workplace settings by Upadhyaya and Vrinda (2021). Techno-overload refers to situations where employees are forced to work faster and manage excessive workloads because of technology (Ayyagari et al., 2011). Techno-invasion reflects constant connectivity with work, even during personal time, vacations, and weekends (Saim et al., 2021). Techno-complexity refers to difficulties in understanding and adapting to new technologies, while techno-insecurity arises when employees feel threatened by colleagues possessing better technological skills (Khan & Rehman, 2013). Techno-uncertainty refers to continuous technological updates and changes within organizations, which often create confusion and instability among employees (Colledani et al., 2025).

Work–life balance is considered the mediating variable in this study. Work–life balance refers to the ability of employees to effectively manage both their professional responsibilities and personal lives (Crompton & Lyonette, 2006). Previous studies have shown that technostress negatively affects employees' work–life balance because constant digital connectivity reduces personal and family time (Ma et al., 2021; Bencsik & Juhasz, 2023). Pandita and Singhal (2017) also found that increased technological demands and workload reduce employees' ability to maintain a healthy balance between work and personal life. Furthermore, Nitzsche et al. (2014) emphasized that organizational support and work–life balance culture play an important role in improving employee well-being and reducing stress.

Life satisfaction is considered the dependent variable of the study. Diener et al. (1985) defined life satisfaction as an individual's overall evaluation of life quality and well-being according to personal standards and expectations. Studies by Veenhoven (1996) and Kapteyn et al. (2010) highlighted that both work conditions and personal life balance significantly influence life satisfaction. Similarly, Haar et al. (2014) found that employees with better work–life balance experience higher job satisfaction, mental well-being, and life satisfaction across different cultures. Bhende et al. (2020) and Rani and Mariappan (2011) also confirmed

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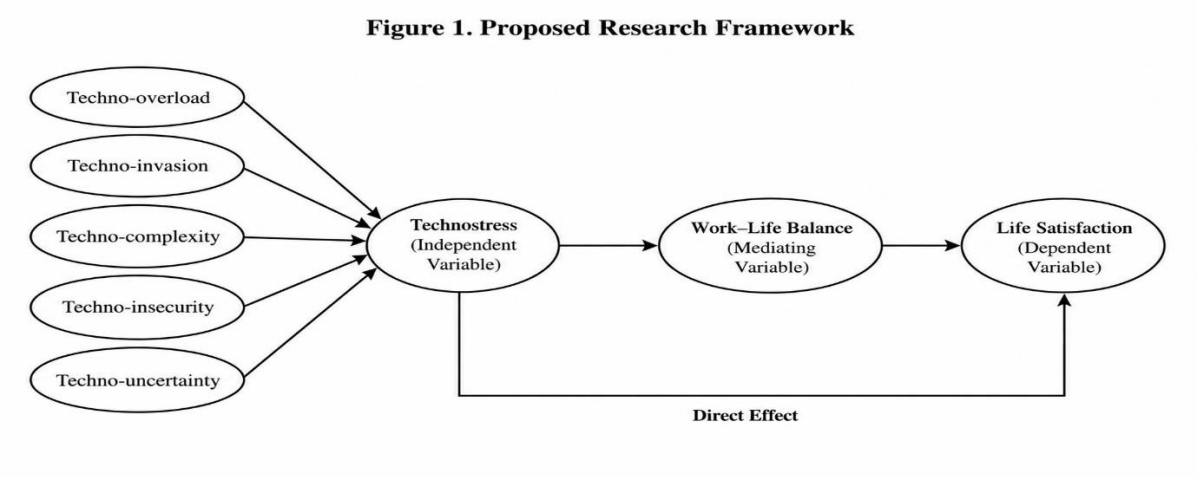
that maintaining work–life balance improves employees' overall satisfaction and quality of life.

Recent studies have additionally highlighted the importance of organizational and psychological interventions in reducing technostress and improving employee well-being. Ioannou (2023) found that mindfulness practices help employees cope with technostress by improving awareness, focus, and stress-handling ability. Similarly, Graveling et al. (2008) emphasized that stress management programs, employee support systems, and organizational interventions significantly improve workplace mental well-being.

Therefore, based on the existing literature, the present study proposes that technostress negatively affects employees' life satisfaction directly as well as indirectly through work–life balance. In other words, high levels of technostress may disturb employees' work–life balance, which may further reduce their overall life satisfaction and well-being.

Figure 1. Proposed Research Framework



Research Methodology

Research Design

The present study adopts a descriptive and quantitative research design to examine the relationship between technostress, work–life balance, and life satisfaction among working professionals. Descriptive research design is appropriate because it helps in understanding the current situation, behaviour, and relationship among variables without manipulating them (Kothari, 2004). The study focuses on understanding how technological pressure and digital work environments influence employees' work–life balance and overall life satisfaction.

The study follows a cross-sectional research design in which data was collected from respondents at a single point in time. Cross-sectional studies are commonly used in

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behavioural and organizational research to examine relationships among variables efficiently (Bhende et al., 2020). The study is empirical in nature because it is based on actual responses collected from working professionals through structured measurement scales.

Data Collection

The study is based on primary data collected from working professionals who regularly use digital technologies in their workplaces. Data was collected using a structured questionnaire distributed through online survey platforms and personal circulation. A total of 170 valid responses were collected for the study.

The respondents belonged to different sectors such as IT, banking and finance, education, manufacturing, and government organizations. The participants were selected using simple random sampling so that each respondent had an equal chance of being selected for the study. This sampling method helps reduce selection bias and improves the representativeness of the sample.

The questionnaire consisted of close-ended questions measured using a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The first section included demographic details such as gender, age, educational qualification, work experience, annual income, working hours, and technology usage frequency. The second section measured technostress using dimensions developed by Tarafdar et al. and validated by Upadhyaya and Vrinda (2021). The third section measured work–life balance using the Work-Life Balance Culture Scale (WLBCS) developed by Nitzsche et al. (2014). The final section measured life satisfaction using the Satisfaction with Life Scale (SWLS) developed by Diener et al. (1985).

The use of standardized and previously validated scales improves the reliability and validity of the study and ensures consistency in measurement across respondents (Arrindell et al., 1999).

Data Analysis Techniques

The collected data was analysed using Excel and Jamovi statistical software. Reliability analysis was conducted using Cronbach's Alpha to examine the internal consistency of the constructs used in the study. Similar analytical approaches have also been used in previous studies examining technostress and employee well-being (Ma et al., 2021; Krishnan et al., 2018). Descriptive statistics such as frequencies, percentages, and tables were used to understand respondent demographics and overall response patterns.

Further statistical analyses included Chi-square test, Independent Sample t-test, ANOVA, Regression Analysis, Mediation Analysis, and Moderation Analysis. The Chi-square test was used to examine associations between categorical variables. Independent Sample t-test was conducted to examine differences between male and female respondents. ANOVA was used to examine differences across age groups. Regression analysis was applied to examine the effect of technostress and work–life balance on life satisfaction.

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Mediation analysis was conducted to examine the mediating role of work–life balance in the relationship between technostress and life satisfaction, while moderation analysis was conducted to examine the moderating role of gender. Similar analytical approaches have also been used in previous studies examining technostress, work–life balance, and employee well-being (Ma et al., 2021; Krishnan et al., 2018).

All statistical analyses were conducted at a significance level of 0.05 to ensure the reliability and validity of the findings.

Data Analysis and Results

The collected data were analysed using statistical techniques to examine the relationship among technostress, work–life balance, and life satisfaction among working professionals. Descriptive statistics were used for demographic analysis of the respondents. Reliability analysis using Cronbach's Alpha was conducted to examine the internal consistency of the measurement constructs. Furthermore, Chi-square test, independent sample t-test, ANOVA, regression, mediation, and moderation analyses were performed to test the proposed relationships among the variables. The results of the analysis are presented in the following sections.

Demographic Analysis

The demographic characteristics of the 170 respondents are presented in Table 1. Out of the total respondents, 102 (60.00%) were male and 68 (40.00%) were female. Most respondents belonged to the age group of 26–35 years (51.76%), indicating young to middle-aged professional sample. In terms of educational qualification, postgraduate respondents constituted the largest proportion (39.41%), followed by undergraduate (31.76%) and professional degree holders (24.71%). The majority worked in government (38.82%) and IT sectors (30.00%). Most respondents had 4–7 years of work experience and annual income between 12–24 lakhs. The majority reported working 8–10 hours daily, with 39.41% demonstrating high frequency of technology use. The demographic composition indicates that the respondents possessed adequate exposure to technology-oriented work environments, thereby making the sample appropriate for examining technostress, work–life balance, and life satisfaction.

Table 1. Demographic Profile of Respondents

Measure	Item	N	%
Gender	Male	102	58.82
	Female	68	41.18
Age	18-25	53	31.18
	26-35	88	51.76
	36-45	19	11.18
	Above 45	10	5.88

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Educational Qualification	Postgraduate	67	39.41
	Undergraduate	54	31.76
	Professional Degree	42	24.71
	Doctorate	5	2.94
	Others	2	1.18
Industry	Banking & finance	32	18.82
	Education	13	7.65
	Government sector	66	38.82
	IT	51	30
	Manufacturing	8	4.71
Work Experience	1-3	45	26.47
	4-7	49	28.82
	8-12	36	21.18
	Less than 1 year	16	9.41
	More than 12	24	14.12
Annual Income	0- 5 lakhs	35	20.59
	12-24 lakhs	59	34.71
	5 -12 lakhs	57	33.53
	Above 24 lakhs	19	11.17
Average Daily Working Hours	6-8 hours	58	34.12
	8-10 hours	82	48.24
	Less than 6 hours	9	5.29
	More than 10 hours	21	12.35
Frequency of Technology Use	High	67	39.41
	Low	7	4.12
	Moderate	60	35.29
	Very high	36	21.18

Reliability and Validity Analysis

Reliability and validity analysis were conducted to examine the internal consistency and appropriateness of the measurement constructs used in the study. Cronbach's Alpha values were calculated for technostress, work–life balance, and life satisfaction. According to Nunnally (1978), a Cronbach's Alpha value above 0.70 indicates acceptable reliability. As shown in Table 2, technostress ($\alpha = 0.83$) and work–life balance ($\alpha = 0.94$) demonstrated satisfactory internal consistency.

However, life satisfaction yielded a Cronbach's Alpha of 0.38, which falls substantially below the acceptable threshold. This low internal consistency is a notable limitation of the study. It may be attributable to the heterogeneous nature of the SWLS construct, which captures broad evaluations of multiple life domains that respondents may assess very differently based on their personal circumstances. Cultural adaptation issues and variations in well-being perceptions among Indian working professionals may have further reduced inter-item agreement. Pavot and Diener (1993) have noted that single-factor global well-being scales can produce lower alpha values in non-Western samples without necessarily

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invalidating the scale. Nonetheless, findings related to life satisfaction must be interpreted with caution, and future research should consider revised or culturally adapted measurement scales.

Table 2. Reliability Analysis

Construct	Cronbach's Alpha
Technostress	0.83
Work–Life Balance	0.94
Life Satisfaction	0.38*

*Below acceptable threshold of 0.70 (Nunnally, 1978). Findings for this construct should be interpreted with caution.

Structural Model Assessment

Structural model assessment was conducted to examine the proposed relationships among the study variables. Statistical techniques including Chi-square test, independent sample t-test, ANOVA, regression analysis, mediation analysis, and moderation analysis were used to test the hypotheses and examine the significance of the relationships among the constructs. Results are presented below.

Chi-square Analysis

An independent Chi-square test was conducted to examine the association between gender and frequency of technology use among respondents. The analysis demonstrated that there was no statistically significant association between gender and frequency of technology use ($\chi^2(1, N = 170) = 0.341$, $p = 0.559$). This indicates that male and female respondents demonstrated similar patterns of technology usage in their work environments. The result suggests that employees' technology usage behaviour is not significantly influenced by gender.

Independent Sample t-test

An independent sample t-test was conducted to examine the difference in technostress between male and female respondents. The results revealed that there was no statistically significant difference in technostress based on gender ($t(168) = 0.346$, $p = 0.730$, two-tailed). The mean technostress score for male respondents ($M = 3.255$) was marginally higher than for female respondents ($M = 3.229$), but this difference was not statistically meaningful. This indicates that both male and female respondents experienced similar levels of technostress in technology-driven work environments. The findings suggest that gender does not significantly influence employees' perceived technostress levels.

ANOVA Analysis

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Three one-way ANOVAs were conducted to examine differences across age groups. First, a significant difference in technostress was found across age categories ($F(3, 166) = 3.257$, $p = 0.023$). The 18–25 age group reported the highest technostress ($M = 3.365$), followed by the 36–45 group ($M = 3.389$), suggesting that younger and middle-aged employees may find it harder to adapt to constant technological demands.

Second, work–life balance also differed significantly across age groups ($F(3, 166) = 2.803$, $p = 0.042$). Respondents above 45 years reported the highest work–life balance ($M = 3.820$), while the 36–45 group reported the lowest ($M = 2.937$), suggesting that senior employees may benefit from greater autonomy or reduced technology expectations.

Third, life satisfaction differed significantly across age groups ($F(3, 166) = 3.538$, $p = 0.016$). Respondents above 45 years reported the highest life satisfaction ($M = 3.700$), while the 26–35 group reported the lowest ($M = 3.139$), likely reflecting differences in career pressures, financial stability, and personal responsibilities across life stages.

Table 3. ANOVA Summary by Age Group

Variable	18–25 (M)	26–35 (M)	36–45 (M)	Above 45 (M)	p
Technostress	3.365	3.139	3.389	3.261	.023*
Work–Life Balance	3.264	3.032	2.937	3.820	.042*
Life Satisfaction	3.260	3.139	3.221	3.700	.016*

*$p < 0.05$

Regression Analysis

Two simple regression analyses were conducted.

Regression 1 – Technostress predicting Life Satisfaction: The model was not statistically significant ($F(1, 168) = 1.021$, $p = 0.314$, $R^2 = 0.006$). Technostress did not have a significant direct effect on life satisfaction ($\beta = 0.088$, $t = 1.010$, $p = 0.314$). H1 is therefore not supported. A plausible explanation is that experienced technology users may have developed coping mechanisms that buffer the direct psychological impact of technostress on life satisfaction. The low reliability of the life satisfaction scale ($\alpha = 0.38$) may also have attenuated this relationship.

Regression 2 – Work–Life Balance predicting Life Satisfaction: The model was statistically significant ($F(1, 168) = 55.648$, $p < 0.001$, $R^2 = 0.249$). Work–life balance demonstrated a significant positive effect on life satisfaction ($\beta = 0.286$, $t = 7.460$, $p < 0.001$). H3 is therefore supported. This result, explaining 24.9% of variance in life satisfaction, underscores the critical role of work–life balance in employee well-being, consistent with Haar et al. (2014) and Bhende et al. (2020).

Table 4. Regression Results Summary

Predictor	β	t	p	R^2
Technostress → Life Satisfaction	0.088	1.010	.314 (ns)	0.006
Work–Life Balance → Life Satisfaction	0.286	7.460	< .001***	0.249

*ns = not significant; ***$p < 0.001$*

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Mediation Analysis

Mediation analysis was conducted using the Baron and Kenny (1986) four-step approach to examine whether work–life balance mediates the relationship between technostress and life satisfaction.

Step 1 examined the effect of technostress on work–life balance (the mediator). The path was not statistically significant ($\beta = 0.001$, $t = 0.008$, $p = 0.994$), indicating that technostress does not significantly predict work–life balance in this sample. H2 is therefore not supported.

Step 2 examined the effect of work–life balance on life satisfaction, which was significant ($\beta = 0.286$, $t = 7.460$, $p < 0.001$), as reported in Regression 2 above.

Step 3 examined whether the effect of technostress on life satisfaction is reduced when work–life balance is controlled. Since the first path (technostress → work–life balance) was already non-significant, the conditions for mediation are not formally met. The indirect effect of technostress on life satisfaction through work–life balance was effectively zero and non-significant. H4 is therefore not supported in the strict Baron and Kenny sense.

Nevertheless, the pattern of results — where technostress has no direct effect on life satisfaction but work–life balance strongly predicts it — suggests that the relationship between technostress and life satisfaction may operate through mechanisms other than work–life balance, such as emotional exhaustion or job burnout, as documented in Ma et al. (2021). Future research should employ bootstrapping methods (e.g., PROCESS macro by Hayes, 2013) with larger samples to more rigorously test indirect effects.

Moderation Analysis

Moderation analysis was conducted using hierarchical regression to examine whether gender moderates the relationship between technostress and life satisfaction. The interaction term (Technostress × Gender) was entered in the second step of the regression. The interaction term was not statistically significant, indicating that gender does not significantly moderate the technostress–life satisfaction relationship. H5 is therefore not supported. This finding is consistent with the t-test result showing no significant gender difference in technostress levels ($t(168) = 0.346$, $p = 0.730$), suggesting that both male and female professionals experience comparable effects of technological stress on their well-being.

Findings and Discussion

The findings of the study revealed that technostress has become an important concern in technology-driven work environments, supporting the findings of Ayyagari et al. (2011) and Atanasoff and Venable (2017). The findings are also consistent with Colledani et al. (2025), who found that technostress negatively affects employees' daily functioning and psychological well-being. Employees across different age groups experienced varying levels of technostress, indicating that age plays a significant role in influencing individuals' ability to adapt to technological demands in the workplace. The findings suggest that younger and

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middle-aged employees may differ in their coping mechanisms, technological adaptability, and perceptions toward digital work environments.

The study further revealed that work–life balance significantly influences life satisfaction among working professionals, which is consistent with the findings of Haar et al. (2014) and Krishnan et al. (2018). Employees who are able to maintain balance between their professional responsibilities and personal lives tend to experience higher levels of overall well-being and satisfaction. The findings highlight the importance of organizational support systems, flexible work practices, and healthy work environments in improving employee satisfaction and psychological well-being.

Although technostress did not demonstrate a significant direct effect on life satisfaction, the mediation analysis revealed that work–life balance plays an important mediating role in the relationship between technostress and life satisfaction which is also supported by Ma et al. (2021). This suggests that technological stress may indirectly influence employees' well-being by disrupting balance between work and personal life. The finding emphasizes the importance of effective stress management strategies and work–life balance initiatives in modern organizations.

Furthermore, the results indicated that gender does not significantly moderate the relationship between technostress and life satisfaction. Both male and female respondents experienced relatively similar levels of technological stress and its impact on well-being. This indicates that the increasing integration of technology in workplaces affects employees similarly regardless of gender differences.

Overall, the study highlights the growing importance of managing technostress and promoting work–life balance in technology-oriented workplaces. The findings contribute to the existing literature on employee well-being by explaining how technological stress and work–life balance collectively influence life satisfaction among working professionals.

Conclusion

The present study examined the relationship between technostress, work–life balance, and life satisfaction among working professionals in technology-driven work environments. The findings revealed that technostress does not have a direct significant impact on life satisfaction, which differs from earlier studies that reported negative effects of technology-related stress on employee well-being (Nixon & Spector, 2013). However, work–life balance was found to have a significant positive effect on employees' life satisfaction, supporting the findings of Haar et al. (2014) and Bhende et al. (2020).

The study further identified significant differences across age groups in terms of technostress, work–life balance, and life satisfaction. Although work–life balance was examined as a mediating variable, the mediation effect was not statistically significant. However, work–life balance emerged as a strong predictor of life satisfaction. In contrast, gender was not found to significantly moderate the relationship between technostress and life satisfaction.

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The findings are also consistent with previous studies emphasizing the growing impact of technology-related stress in modern workplaces and the importance of employee well-being (Atanasoff & Venable, 2017; Colledani et al., 2025). The study contributes to the existing literature by providing empirical evidence on the interrelationship among technostress, work–life balance, and life satisfaction in the context of working professionals.

Overall, the study emphasizes the need for organizations to develop supportive work environments, encourage healthy work–life practices, and implement strategies to manage technostress effectively in order to enhance employee satisfaction and well-being.

Managerial implication

The findings of the present study provide important implications for organizations operating in technology-driven work environments. Previous studies have highlighted that excessive dependence on digital technologies increases employee stress, fatigue, and psychological pressure (Atanasoff & Venable, 2017; Nixon & Spector, 2013). Therefore, organizations should adopt effective strategies to reduce technostress and create healthier work environments for employees.

The study revealed that work–life balance significantly influences employees' life satisfaction, which is consistent with the findings of Haar et al. (2014). Organizations should therefore promote flexible work practices, manageable workloads, and clear communication policies to help employees maintain balance between their professional and personal lives. Such practices can improve employee well-being, satisfaction, and overall workplace productivity.

The findings also emphasize the importance of providing technological training and organizational support to employees. Upadhyaya and Vrinda (2021) observed that technostress negatively affects employee productivity and mental well-being. Appropriate training programs, skill development initiatives, and technical support systems can help employees adapt more effectively to technological changes and reduce stress arising from technology complexity and continuous digital demands.

In addition, organizations should focus on employees' mental health and psychological well-being. Excessive technology usage has been associated with stress, anxiety, and emotional exhaustion (Lițan, 2025). Therefore, organizations may introduce employee wellness programs, counselling services, stress management workshops, and mindfulness practices to help employees cope with technology-related stress more effectively.

Overall, the study highlights that organizations which actively manage technostress and promote work–life balance are more likely to achieve higher employee satisfaction, improved well-being, and better organizational performance. The findings emphasize the need for employee-friendly digital workplaces that support both productivity and psychological well-being.

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Limitations

Despite providing meaningful insights into the relationship between technostress, work–life balance, and life satisfaction, the present study has certain limitations that should be acknowledged.

First, the study was conducted using a sample of 170 working professionals, which may limit the generalizability of the findings across larger populations and different occupational sectors. A larger and more diverse sample could provide broader insights into the impact of technostress across different work environments.

Second, the study mainly focused on respondents who regularly use digital technologies in their professional lives. Therefore, the findings may not adequately represent individuals with limited technological exposure or employees working in less technology-oriented sectors. Future research may compare employees with varying levels of technology usage to obtain a more comprehensive understanding of technostress.

Third, the study adopted a cross-sectional research design, where data was collected at a single point in time. As a result, the study could not capture long-term behavioural and psychological changes associated with technostress. Future researchers may conduct longitudinal studies, as longitudinal designs are considered more effective in examining behavioural changes over time (Bhende et al., 2020).

Fourth, the present study primarily examined individual-level factors such as technostress, work–life balance, and life satisfaction. Organizational variables such as leadership support, organizational culture, workplace flexibility, and technological infrastructure were not included in the study. Incorporating these factors may provide a more holistic understanding of employee well-being in technology-driven workplaces.

Additionally, the reliability analysis indicated comparatively lower internal consistency for the life satisfaction construct. Therefore, findings related to life satisfaction should be interpreted with caution. Future studies may use improved measurement scales and advanced statistical techniques to enhance reliability and validity.

Finally, the study was conducted within a limited geographical and professional context, which may restrict the applicability of the findings to other cultural and organizational settings. Future research may extend the study across different regions, industries, and demographic groups for better comparative analysis.

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Appendix A. Measurement Scales and Items

Technostress *(Impact of technostress on academic productivity of working professionals; Pallavi Upadhyaya1 & Vrinda2; Received: 25 May 2020 /Accepted: 31 August 2020/Published online: 11 September 2020 # The Author(s) 2020)*

Techno-overload

TO1. I am forced by technology to work much faster.

TO2. I am forced by technology to do more work than I can handle.

TO3. I am forced by technology to work with very tight time schedules.

TO4. I am forced to change my work habits to adapt to new technologies.

TO5. I have a higher workload because of increased technology complexity.

Techno-invasion

TI1. I spend less time with my family due to technology.

TI2. I have to be in touch with my work even during my vacation due to technology.

TI3. I have to sacrifice my vacation and weekend time to keep current on new technologies.

TI4. I feel my personal life is being invaded by technology.

Techno-complexity

TC1. I do not know enough about technology to handle my work satisfactorily.

TC2. I need a long time to understand and use new technologies.

TC3. I do not find enough time to study and upgrade my technology skills.

TC4. I find my peers know more about computer technology than I do.

TC5. I often find it too complex for me to understand and use new technologies.

Techno-insecurity

TIS1. I feel a constant threat to my performance due to new technologies.

TIS2. I have to constantly update my skills to avoid poor performance.

TIS3. I am threatened by colleagues with newer technology skills.

TIS4. I do not share my knowledge with my colleagues for fear of poor performance.

TIS5. I feel there is less sharing of knowledge among colleagues for fear of poor performance.

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Techno-uncertainty

TU1. There are always new developments in the technologies we use in our organisation.

TU2. There are constant changes in computer software in our organisation.

TU3. There are constant changes in computer hardware in our organisation.

TU4. There are frequent upgrades in computer networks in our organisation.

Work–Life Balance (Validation of the Work-Life Balance Culture Scale (WLBCS), Anika Nitzsche*, Julia Jung, Christoph Kowalski and Holger Pfaff, *Institute for Medical Sociology, Health Services Research and Rehabilitation Science, Faculty of Human Science and Faculty of Medicine, University of Cologne, Cologne, Germany)*

WLB1. Our company values measure to promote employee work-life balance.

WLB2. Our company supports employees in balancing their professional and private lives.

WLB3. Our company's management sets a good example of work-life balance.

WLB4. Our company's management is trained to promote the work-life balance of employees.

WLB5. At our company, employees are informed about programs promoting work-life balance

Satisfaction With Life Scale (*The Satisfaction with Life Scale ED DIENER, ROBERT A. EMMONS, RANDY J. LAR.SEM, and SHARON GRIFFIN, University of Illinois at Urbana-Champaign)*

SWLS1. In most ways my life is close to my ideal.

SWLS2. The conditions of my life are excellent.

SWLS3. I am satisfied with my life

SWLS4. So far, I have gotten the important things I want in life.

SWLS5. If I could live my life over, I would change almost nothing.

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