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Impact of Techno-Stress on Job Satisfaction among IT Employees: Mediating Role of Work-Life Balance and Moderating Role of Organizational Support

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Abstract:
The accelerating digital transformation of workplaces has intensified techno-stress among IT professionals, with consequential implications for employee well-being and organizational productivity. This study investigates the impact of techno-stress on job satisfaction among IT employees in India, examining the mediating role of work-life balance and the moderating role of organizational support. Grounded in the Conservation of Resources (COR) theory and the Job Demands-Resources (JD-R) model, a quantitative cross-sectional survey design was employed. Data were collected from 430 IT professionals across five major Indian cities—Bengaluru, Hyderabad, Pune, Chennai, and Gurugram—using a structured questionnaire with validated scales. Confirmatory Factor Analysis (CFA) confirmed the reliability and validity of all constructs (CR > 0.80; AVE > 0.50; HTMT < 0.90). Structural Equation Modeling (SEM) in AMOS and Hayes PROCESS macro (Model 1) were employed for hypothesis testing. Results revealed that techno-stress significantly and negatively influenced job satisfaction ($\beta = -0.80$, $p < .001$) and work-life balance ($\beta = -0.80$, $p < .001$). Work-life balance fully mediated the techno-stress–job satisfaction relationship (indirect effect: $\beta = -0.758$, 95% CI [−0.951, −0.630]). Organizational support significantly moderated the techno-stress–job satisfaction relationship ($\beta = -0.092$, $p = .005$), with higher organizational support attenuating the negative effect of techno-stress. These findings contribute to the extant literature on occupational stress in digital work environments and offer actionable recommendations for HR practitioners and organizational policymakers.

Keywords: Techno-Stress, Job Satisfaction, Work-Life Balance, Organizational Support, Structural Equation Modelling, IT Employees, India.

1. INTRODUCTION

The rapid proliferation of digital technologies in contemporary workplaces has fundamentally reshaped the nature of work, particularly within the Information Technology (IT) sector. While technological advancement has enhanced efficiency and global connectivity, it has simultaneously engendered a psychological phenomenon known as techno-stress—a modern disease of adaptation caused by the inability to cope with new computer technologies in a healthy manner (Brod, 1984; Ragu-Nathan et al., 2008). Techno-stress encompasses a spectrum of stressors including techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty, each of which imposes unique cognitive and emotional demands on employees.

The Indian IT sector, employing over 5.4 million professionals and contributing approximately 8% of the national GDP (NASSCOM, 2024), serves as a particularly salient context for examining techno-stress. IT employees routinely interface with cutting-edge technologies, manage stringent deadlines, and navigate perpetual software updates—conditions that inherently elevate techno-stress levels. The post-pandemic normalization of hybrid and remote work has further blurred the boundaries between professional and personal domains, potentially exacerbating both techno-stress and work-life imbalance.

Job satisfaction, defined as a positive emotional state resulting from the appraisal of one's job or job experiences (Locke, 1976), is a critical determinant of employee retention, organizational commitment, and productivity. A growing body of research suggests that techno-stress adversely affects job satisfaction (Shu et al., 2011; Tarafdar et al., 2015); however, the mechanisms underlying this relationship remain insufficiently elucidated, particularly in the Indian IT context.

This study addresses this lacuna by proposing and testing a moderated mediation model in which: (1) work-life balance mediates the relationship between techno-stress and job satisfaction, and (2) organizational support moderates the direct relationship between techno-stress and job satisfaction. Drawing on the Conservation of Resources (COR) theory (Hobfoll, 1989) and the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007), the study offers a theoretically grounded and empirically rigorous examination of these dynamics.

The study makes several important contributions. First, it advances theoretical understanding by testing a moderated mediation framework in the understudied context of Indian IT professionals. Second, it employs a robust methodological approach combining SEM and the PROCESS macro to examine both direct and indirect effects. Third, it provides actionable insights for organizational leaders, HR professionals, and policymakers concerned with employee well-being in digitally intensive work environments.

2. LITERATURE REVIEW

2.1 Techno-Stress

Techno-stress was first conceptualized by Brod (1984) as a modern disease arising from the inability to adapt to new computer technologies. Subsequently, Ragu-Nathan et al. (2008) operationalized techno-stress into five distinct dimensions: techno-overload (technologies compelling workers to work faster and longer), techno-invasion (technologies enabling constant connectivity, invading personal life), techno-complexity (the complexity of technologies causing feelings of inadequacy), techno-insecurity (threats to job security due to technological change), and techno-uncertainty (continuous updates and changes creating uncertainty). In the IT sector, these stressors are omnipresent, given the sector's inherent dependence on and rapid adoption of emerging technologies.

Empirical evidence consistently links techno-stress to adverse individual outcomes. Tarafdar et al. (2007) demonstrated that techno-stress creators significantly reduce employee productivity. Subsequent studies have confirmed associations between techno-stress and burnout (Arnetz & Wiholm, 1997), turnover intention (Ayyagari et al., 2011), and diminished organizational commitment (Shu et al., 2011). Despite this body of evidence, research examining techno-stress in the specific context of Indian IT professionals, utilizing validated structural models, remains limited.

2.2 Techno-Stress and Job Satisfaction

The relationship between techno-stress and job satisfaction is theoretically grounded in the COR theory (Hobfoll, 1989), which posits that individuals are motivated to protect and accumulate valued resources—time, energy, psychological well-being. Techno-stressors deplete these resources, thereby diminishing job satisfaction. Shu et al. (2011) found significant negative effects of all five techno-stress dimensions on job satisfaction across a sample of Taiwanese IT users. Similarly, Ayyagari et al. (2011) demonstrated that technology characteristics contribute to techno-stress, which in turn negatively affects job satisfaction.

In the Indian context, Salanova et al. (2013) observed that employees experiencing higher techno-stress reported lower affective well-being and satisfaction with work. The JD-R model further supports this relationship, framing techno-stress as a job demand that, in the absence of adequate resources, leads to the exhaustion pathway culminating in reduced job satisfaction. Based on this theoretical and empirical foundation:

H1: *Techno-stress has a significant negative effect on job satisfaction among IT employees.*

2.3 Techno-Stress and Work-Life Balance

Work-life balance refers to the degree to which an individual is equally engaged in and equally satisfied with role demands in both work and non-work domains (Greenhaus & Allen, 2011). Techno-stress, particularly through the dimensions of techno-invasion and techno-overload, systematically erodes work-life balance by extending work demands into personal time through constant connectivity (Fenner & Renn, 2010). The "always-on" culture facilitated by digital technologies compels IT employees to remain available beyond formal working hours, compromising recovery time and personal relationships.

Empirical studies corroborate this relationship. Derks et al. (2014) demonstrated that smartphone use after work hours, driven by work demands, negatively predicted work-home balance. Tarafdar et al. (2019) found that techno-overload significantly diminished work-life balance among knowledge workers. In the Indian IT context, the prevalent practice of extended working hours and client-facing roles across different time zones exacerbates these dynamics.

H2: *Techno-stress has a significant negative effect on work-life balance among IT employees.*

2.4 Work-Life Balance and Job Satisfaction

The relationship between work-life balance and job satisfaction is well-established in the organizational behavior literature. When employees successfully manage the interface between work and non-work roles, they experience greater positive affect, reduced exhaustion, and enhanced job satisfaction (Greenhaus et al., 2003). Haar et al. (2014), in a cross-national study of five countries, demonstrated that work-life balance was a significant positive predictor of job satisfaction across diverse cultural contexts.

In the Indian IT sector, Srivastava and Kanpur (2014) found that perceived work-life balance was among the strongest predictors of job satisfaction. The mechanism through which balance enhances satisfaction involves resource replenishment: employees who can disengage from work and engage in restorative personal activities return to work with renewed energy and positive affect, which translates into higher satisfaction.

H3: *Work-life balance has a significant positive effect on job satisfaction among IT employees.*

2.5 Mediating Role of Work-Life Balance

A mediation model wherein work-life balance transmits the effect of techno-stress onto job satisfaction is theoretically supported by the stress-buffering perspective of the COR theory. When techno-stressors deplete the resource of work-life balance—a valued personal resource—the subsequent resource deficit undermines job satisfaction. Erum et al. (2020) provided preliminary evidence for this pathway in a Pakistani sample, finding that work-family conflict partially mediated the stress–satisfaction relationship. The present study proposes that in the context of Indian IT employees, where techno-stress is particularly pervasive and work-life boundaries are frequently violated, work-life balance serves as a key transmission mechanism explaining how techno-stress translates into reduced job satisfaction.

H5: *Work-life balance mediates the relationship between techno-stress and job satisfaction among IT employees.*

2.6 Moderating Role of Organizational Support

Organizational support, conceptualized within the framework of Perceived Organizational Support (POS; Eisenberger et al., 1986), refers to employees' perceptions of the degree to which the organization values their contributions and cares about their well-being. The JD-R model designates organizational support as a critical job resource that buffers the detrimental effects of job demands. In the context of techno-stress, organizational support may attenuate negative outcomes by providing employees with coping resources—technical assistance, emotional support, and stress management programs.

Empirical evidence supports the moderating role of organizational support in stress–outcome relationships. Bakker et al. (2005) demonstrated that social support moderated the relationship between job demands and burnout. In digital work contexts, organizations that proactively address techno-stress through training, flexible work arrangements, and supportive leadership can substantially mitigate the adverse effects of techno-stress on employee outcomes (Tarafdar et al., 2015).

H4: *Organizational support significantly moderates the relationship between techno-stress and job satisfaction, such that higher organizational support weakens the negative effect of techno-stress on job satisfaction.*

3. METHODOLOGY

3.1 Research Design

This study employed a quantitative, cross-sectional survey design, consistent with established practices in organizational behavior and management research (Hair et al., 2019). The positivist epistemological stance underpinning this design allows for the systematic testing of theoretically derived hypotheses through statistical analysis of numerical data. Cross-sectional data collection was deemed appropriate given the study's objective of examining the contemporaneous relationships among techno-stress, work-life balance, job satisfaction, and organizational support.

3.2 Sampling and Data Collection

The target population comprised full-time IT professionals employed in India's five major IT hubs: Bengaluru, Hyderabad, Pune, Chennai, and Gurugram. A purposive sampling strategy was adopted to ensure that respondents possessed relevant experience with technology use in the workplace. The sample size of 430 participants exceeds the minimum recommended threshold of 200 for SEM applications (Hair et al., 2019) and satisfies the 10:1 ratio of observations to parameters commonly recommended in the CFA/SEM literature.

Data were collected using a structured self-administered questionnaire distributed via a combination of professional networks (LinkedIn), organizational contacts, and snowball referrals. The survey was administered online using a secure platform over a period of three months. Respondents were assured of anonymity and the exclusive use of data for academic purposes.

3.3 Sample Profile

The final sample (N = 430) comprised predominantly male respondents (61.6%), with 37.4% female and 0.9% identifying as other. The majority were aged 25–30 years (37.7%) and held postgraduate degrees (55.8%). In terms of designation, software developers constituted the largest group (42.8%), followed by team leaders (24.4%). Multinational corporations (MNCs) employed the largest proportion of respondents (45.6%). Hybrid work mode was most prevalent (55.3%), and the dominant income bracket was ₹50,001–₹75,000 per month (40.7%). Bengaluru contributed the highest proportion of respondents (42.6%). Full demographic details are presented in Table 1.

Table 1.-*Demographic Profile of Respondents (N = 430)*

Variable	**Category**	**N**	**%**
Gender	Male	265	61.6
	Female	161	37.4
	Other	4	0.9
Age	Below 25 years	105	24.4
	25–30 years	162	37.7
	31–35 years	86	20.0
	36–40 years	53	12.3
	Above 40 years	24	5.6

Education	Undergraduate Degree	79	18.4
	Postgraduate Degree	240	55.8
	Professional Qualification	84	19.5
	Doctorate	27	6.3
Designation	Software Developer	184	42.8
	Team Leader	105	24.4
	Project Manager	65	15.1
	Senior Manager	30	7.0
	IT Support	46	10.7
Experience	Less than 1 year	73	17.0
	1–3 years	142	33.0
	4–6 years	114	26.5
	7–10 years	71	16.5
	Above 10 years	30	7.0
Organization Type	Startup	76	17.7
	Mid-sized Company	121	28.1
	MNC	196	45.6
	Government/PSU IT	37	8.6
Work Mode	Office	136	31.6
	Hybrid	238	55.3
	Remote	56	13.0
Working Hours	6–8 hours	227	52.8
	9–10 hours	149	34.7
	More than 10 hours	54	12.6
Monthly Income	₹25k–₹50k	123	28.6
	₹50k–₹75k	175	40.7
	₹75k–₹1 Lakh	91	21.2
	Above ₹1 Lakh	41	9.5
City	Bengaluru	183	42.6
	Hyderabad	90	20.9
	Pune	70	16.3
	Chennai	52	12.1
	Gurugram	35	8.1

3.4 Measurement Instrument

A structured questionnaire with 16 items measured four constructs using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Techno-Stress (TS) was measured with four items adapted from Ragu-Nathan et al. (2008), assessing stress arising from continuous technology use, frequent technological changes, constant online connectivity, and learning demands. Work-Life Balance (WLB) was assessed with four items examining the ability to maintain balance between work and personal life, adapted from Greenhaus et al. (2003). Job Satisfaction (JS) was measured with four items adapted from the Job Satisfaction Survey (Spector, 1985), assessing overall satisfaction, motivation, happiness with work experience, and organizational recommendation. Organizational Support (OS) was measured with four items adapted from the Survey of Perceived Organizational Support (Eisenberger et al., 1986), assessing organizational and supervisory support for stress management and well-being.

3.5 Common Method Bias Assessment

Given the self-report, single-source nature of the data, common method bias (CMB) was assessed using Harman's single-factor test (Podsakoff et al., 2003). The test involved extracting a single factor from all 16 items using Principal Component Analysis. The results indicated that the single factor explained 43.44% of the total variance—well below the 50% threshold commonly used to indicate the presence of CMB. Additionally, the KMO measure of sampling adequacy was .935 and Bartlett's test of sphericity was significant ($\chi^2 = 3563.491$, df = 120, $p < .001$), confirming the suitability of the data for factor analysis. These results suggest that CMB is unlikely to substantially distort the findings.

3.6 Data Analysis Strategy

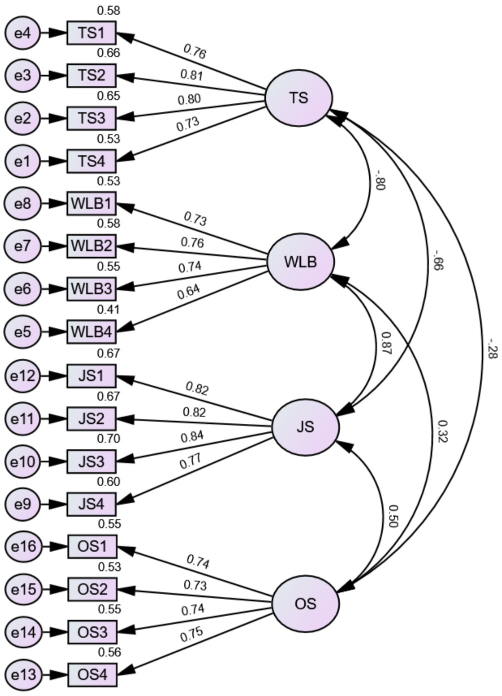
Data analysis proceeded in three stages. First, Confirmatory Factor Analysis (CFA) was conducted in IBM AMOS 24 to assess measurement model fit and establish the reliability and validity of all constructs. Second, Structural Equation Modeling (SEM) was employed to test the direct structural hypotheses (H1–H3). Third, Hayes PROCESS macro (Version 4.2, Model 1) was utilized to examine the moderating effect of organizational support on the techno-stress–job satisfaction relationship (H4), and the indirect mediation effect of work-life balance (H5) was evaluated using the SEM indirect effects with bias-corrected bootstrap confidence intervals based on 2,000 bootstrap samples.

4. RESULTS

4.1 Confirmatory Factor Analysis

The four-factor CFA model with 16 indicators was estimated using maximum likelihood in AMOS. The model yielded excellent fit: $\chi^2(98) = 104.413$, $p = .310$; $\chi^2/df = 1.065$; CFI = .998; TLI = .998; NFI = .971; GFI = .971; AGFI = .959; RMSEA = .012 (90% CI [.000, .029]; PCLOSE = 1.000). All fit indices met or exceeded established thresholds (CFI, TLI, NFI > .95; RMSEA < .05), confirming excellent model-data fit. Figure 1 presents the CFA path diagram with standardized factor loadings and squared multiple correlations.

Figure 1- *Confirmatory Factor Analysis (CFA) Model with Standardized Factor Loadings*



Note. CFA model with four latent constructs: Techno-Stress (TS), Work-Life Balance (WLB), Job Satisfaction (JS), and Organizational Support (OS). Numbers on indicator arrows are standardized factor loadings (λ); numbers inside/near indicator boxes are squared multiple correlations (R^2). Curved double-headed arrows represent inter-factor correlations. All loadings significant at $p < .001$. Model fit: $\chi^2(98) = 104.413$, $p = .310$; CFI = .998; RMSEA = .012.

Table 2- *CFA Factor Loadings, Composite Reliability, and Average Variance Extracted*

Construct	Item	λ	CR	AVE
Techno-Stress (TS)	TS1 – Stress from continuous digital technology use	.762	.870	.575
	TS2 – Pressure from frequent technological changes	.811		
	TS3 – Mental exhaustion from constant online connectivity	.805		
	TS4 – Stress from learning new software regularly	.726		
Work-Life Balance (WLB)	WLB1 – Maintain work–personal life balance	.729	.836	.511
	WLB2 – Sufficient time for family and personal activities	.760		
	WLB3 – Disconnect from work during personal time	.740		

	WLB4 – Work schedule does not harm personal wellbeing	.638		
Job Satisfaction (JS)	JS1 – Satisfied with current job	.818	.884	.658
	JS2 – Motivated to continue in organization	.816		
	JS3 – Happy with overall work experience	.839		
	JS4 – Would recommend organization as good workplace	.772		
Organizational Support (OS)	OS1 – Adequate organizational stress support	.745	.844	.577
	OS2 – Supervisors supportive under work pressure	.729		
	OS3 – Organization encourages employee wellbeing	.742		
	OS4 – Sufficient technical and emotional support	.750		

Note. λ = standardized factor loading. CR = Composite Reliability. AVE = Average Variance Extracted. All loadings significant at p < .001. CR > .80 and AVE > .50 indicate satisfactory convergent validity (Hair et al., 2019).

4.2 Reliability and Validity

Composite Reliability (CR) ranged from .836 (WLB) to .884 (JS), all exceeding the .70 threshold (Hair et al., 2019). Average Variance Extracted (AVE) ranged from .511 (WLB) to .658 (JS), all exceeding the .50 threshold (Fornell & Larcker, 1981), confirming convergent validity. Discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2015); all HTMT values fell below the conservative .90 threshold (highest: JS–WLB = .868), confirming discriminant validity. Table 3 presents inter-construct correlations and HTMT ratios.

Table 3- *Inter-Construct Correlations and HTMT Discriminant Validity Ratios*

Construct	**TS**	**WLB**	**JS**
Techno-Stress (TS)	—		
Work-Life Balance (WLB)	−.803	—	
Job Satisfaction (JS)	−.662	.867	—
Org. Support (OS)	−.284	.320	.499
HTMT: TS	—		
HTMT: WLB	.804	—	
HTMT: JS	.662	.868	—
HTMT: OS	.284	.320	.500

Note. Values below the diagonal are latent factor correlations from CFA. HTMT rows display Heterotrait-Monotrait ratios for each construct pair. All HTMT values < .90 indicate satisfactory discriminant validity (Henseler et al., 2015).

Table 4- Model Fit Indices for CFA and Structural Models

Model	χ^2	df	χ^2/df	CFI	TLI	NFI	GFI	RMSEA
CFA Model	104.41	98	1.065	.998	.998	.971	.971	.012
Structural Model	51.16	51	1.003	.972	.974	.982	.980	.003
Recommended	—	—	< 3	> .95	> .95	> .95	> .95	< .08

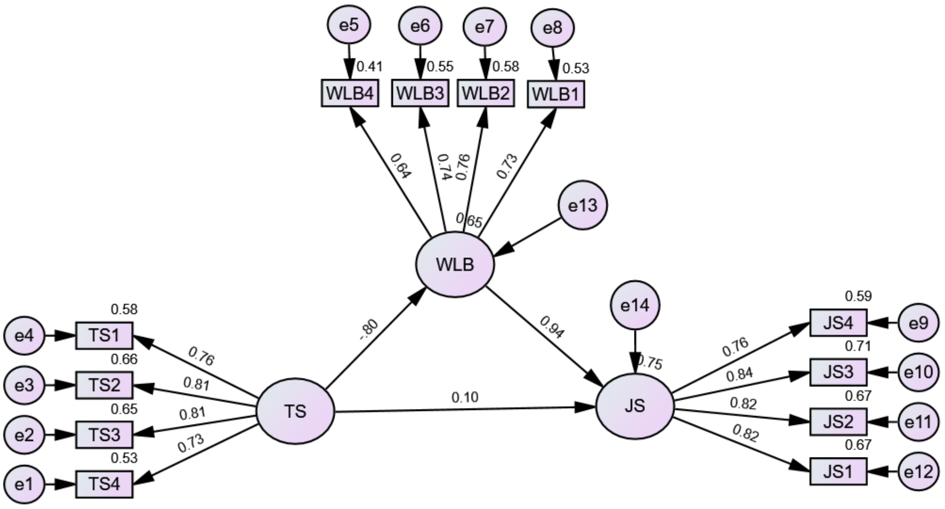
Note. CFA = Confirmatory Factor Analysis. χ^2/df = chi-square to degrees of freedom ratio. CFI = Comparative Fit Index. TLI = Tucker-Lewis Index. NFI = Normed Fit Index. GFI = Goodness of Fit Index. RMSEA = Root Mean Square Error of Approximation.

4.3 Structural Model: Direct Effects and Mediation (H1–H3, H5)

The structural model yielded excellent fit: $\chi^2(51) = 51.164$, $p = .467$; $\chi^2/df = 1.003$; CFI = .972; TLI = .974; NFI = .982; GFI = .980; RMSEA = .003 (90% CI [.000, .031]; PCLOSE = 1.000). The full SEM path diagram with standardized coefficients is presented in Figure 2.

Techno-stress significantly and negatively predicted work-life balance ($\beta = -.803$, SE = .064, $p < .001$), supporting H2. Work-life balance significantly and positively predicted job satisfaction ($\beta = .944$, SE = .137, $p < .001$), supporting H3. The total effect of techno-stress on job satisfaction was significant and negative ($\beta = -.662$, $p < .001$), supporting H1. The direct path from techno-stress to job satisfaction—controlling for work-life balance—was non-significant ($\beta = .096$, SE = .095, $p = .227$, 95% CI [−.055, .300]), indicating full mediation by work-life balance. The standardized indirect effect was −.758 (95% CI [−.951, −.630], $p < .001$), supporting H5. Structural path results are summarized in Table 5.

Figure 2- *Structural Equation Model (SEM) Depicting Mediation of Work-Life Balance Between Techno-Stress and Job Satisfaction*



Note. Standardized path coefficients shown on structural paths. Numbers near indicator arrows are standardized factor loadings. Numbers inside error term circles (e) are squared multiple correlations (R^2).

The direct path TS → JS ($\beta = .10$, $p = .227$) is non-significant, indicating full mediation by WLB. The indirect effect of TS on JS via WLB: $\beta = -.758$, 95% CI [−.951, −.630]. TS = Techno-Stress; WLB = Work-Life Balance; JS = Job Satisfaction. **$p < .001$.

Table 5- *Structural Path Coefficients and Hypothesis Testing Results*

H	Predictor	Outcome	β	SE	p	Decision
H1	Techno-Stress	JS — Total Effect	−.662	—	< .001	Supported
H2	Techno-Stress	Work-Life Balance	−.803	.064	< .001	Supported
H3	Work-Life Balance	Job Satisfaction	.944	.137	< .001	Supported
—	Techno-Stress	JS — Direct (w/ WLB)	.096	.095	.227	Not supported
H5	TS → WLB → JS	Indirect Effect	−.758	.079	< .001	Supported

Note. β = standardized coefficient. SE = standard error from bias-corrected bootstrap (2,000 samples). n.s. = not significant. Bootstrap 95% CI for indirect effect (H5): [−.951, −.630]. The non-significant direct path with significant indirect effect indicates full mediation.

4.4 Moderation Analysis: Organizational Support (H4)

The moderating role of organizational support was examined using Hayes PROCESS macro (Version 4.2, Model 1) with 2,000 bootstrap samples. The full model explained 43.46% of variance in job satisfaction ($R^2 = .435$, $F(3, 426) = 109.14$, $p < .001$). Main effects were significant for both techno-stress ($\beta = -.523$, $SE = .039$, $t = -13.50$, $p < .001$) and organizational support ($\beta = .331$, $SE = .040$, $t = 8.33$, $p < .001$). The TS × OS interaction term was statistically significant ($\beta = -.092$, $SE = .032$, $t = -2.84$, $p = .005$, $\Delta R^2 = .011$), confirming H4. The negative interaction coefficient indicates that when organizational support is lower, the negative effect of techno-stress on job satisfaction is stronger; when organizational support is higher, the effect is attenuated. Moderation regression results are presented in Table 6. Conditional effects at three levels of organizational support are presented in Table 7 and visually depicted in Figure 3.

Table 6- *Moderation Analysis: Organizational Support Moderating Techno-Stress → Job Satisfaction*

Predictor	β	SE	t	p	LLCI	ULCI
Constant	2.970	.046	65.03	< .001	2.880	3.060
Techno-Stress (TS)	−.523	.039	−13.50	< .001	−.599	−.447
Organizational Support (OS)	.331	.040	8.33	< .001	.253	.410
TS × OS (Interaction)	−.092	.032	−2.84	.005	−.156	−.028
$R^2 = .435$; $F(3, 426) = 109.14$, $p < .001$; ΔR^2 for interaction = .011						

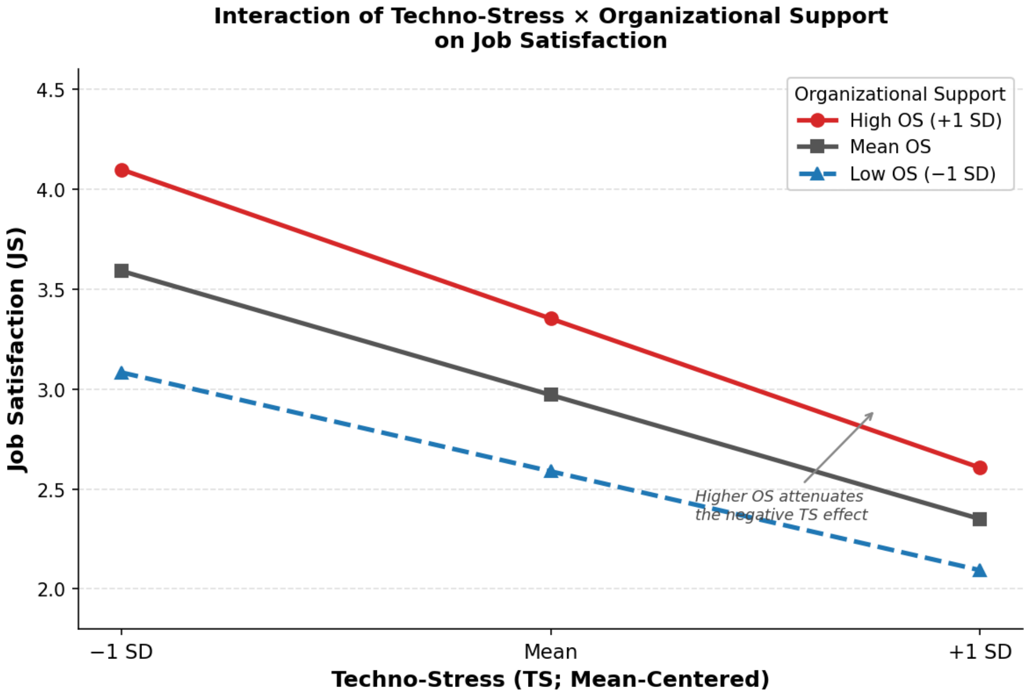
Note. Outcome: Job Satisfaction (JS). Predictors mean-centered prior to computing the interaction term. LLCI/ULCI = 95% lower/upper confidence interval limits. N = 430. Analyzed using Hayes PROCESS macro (Version 4.2, Model 1) with 2,000 bootstrap samples.

Table 7- *Conditional Effects of Techno-Stress on Job Satisfaction at Three Levels of Organizational Support*

OS Level	OS Value	Effect (β)	SE	t	LLCI	ULCI
Low OS (−1 SD)	−1.152	−.417	.052	−7.99	−.519	−.314
Mean OS	0.000	−.523	.039	−13.50	−.599	−.447
High OS (+1 SD)	1.152	−.629	.055	−11.37	−.737	−.520

Note. Conditional effects represent the slope of TS → JS at each level of OS. All three conditional effects are statistically significant ($p < .001$), indicating that techno-stress remains a significant negative predictor of job satisfaction at all levels of OS; however, the magnitude is attenuated at higher OS levels. SD = standard deviation.

Figure 3- *Interaction Plot: Moderating Effect of Organizational Support on the Techno-Stress–Job Satisfaction Relationship*



Note. Interaction plot depicting the conditional effect of Techno-Stress (TS) on Job Satisfaction (JS) at three levels of Organizational Support (OS): low (−1 SD), mean, and high (+1 SD). Predicted values derived from Hayes PROCESS macro (Version 4.2, Model 1) output. The converging lines illustrate that higher organizational support attenuates the negative relationship between techno-stress and job satisfaction. Interaction coefficient: $\beta = -.092$, $p = .005$, $\Delta R^2 = .011$.

Table 8- *Summary of Hypothesis Testing Results*

H	Hypothesis Statement	Statistical Result	Decision
H1	TS → JS (significant negative effect)	Total $\beta = -.662$, $p < .001$	Supported
H2	TS → WLB (significant negative effect)	$\beta = -.803$, $p < .001$	Supported
H3	WLB → JS (significant positive effect)	$\beta = .944$, $p < .001$	Supported
H4	OS moderates TS → JS relationship	$\beta = -.092$, $p = .005$, $\Delta R^2 = .011$	Supported
H5	WLB fully mediates TS → JS	Indirect $\beta = -.758$, 95% CI $[-.951, -.630]$	Supported

Note. TS = Techno-Stress; WLB = Work-Life Balance; JS = Job Satisfaction; OS = Organizational Support. All five hypotheses supported at $\alpha = .05$.

5. DISCUSSION

5.1 Overview of Findings

This study examined the impact of techno-stress on job satisfaction among 430 IT professionals in India within a moderated mediation framework. All five hypotheses were supported, collectively demonstrating that techno-stress erodes work-life balance (H2), which in turn reduces job satisfaction (H3), with work-life balance fully mediating the overall negative techno-stress–job satisfaction relationship (H1, H5). Organizational support significantly moderated the techno-stress–job satisfaction link (H4), attenuating but not eliminating the negative effect.

5.2 Techno-Stress and Job Satisfaction (H1)

The significant total negative effect of techno-stress on job satisfaction ($\beta = -.662$, $p < .001$) is consistent with prior research (Shu et al., 2011; Tarafdar et al., 2007) and corroborates the COR theory's prediction that resource-depleting stressors reduce positive work outcomes. The magnitude of this effect underscores the pervasive influence of technology-induced stress in the Indian IT context, where employees regularly navigate complex technological ecosystems under demanding performance expectations.

5.3 Work-Life Balance as Full Mediator (H2, H3, H5)

The finding that techno-stress significantly erodes work-life balance ($\beta = -.803$, $p < .001$) extends evidence from Derks et al. (2014) and Fenner and Renn (2010) to the Indian IT context. The large magnitude of this path coefficient suggests that techno-stress is among the most consequential antecedents of work-life imbalance for IT professionals, consistent with the sector's culture of constant connectivity. Work-life balance's strong positive effect on job satisfaction ($\beta = .944$, $p < .001$), combined with the non-significant direct path from techno-stress to job satisfaction when WLB is controlled ($\beta = .096$, $p = .227$), demonstrates full mediation. This finding—supported by bootstrap CIs entirely excluding zero $[-.951, -.630]$—reveals that the erosion of work-life balance is the primary mechanism through which techno-stress diminishes job satisfaction.

5.4 Moderating Role of Organizational Support (H4)

The significant TS × OS interaction ($\beta = -.092$, $p = .005$, $\Delta R^2 = .011$) confirms the buffering role of organizational support, consistent with the JD-R model (Bakker & Demerouti, 2007). As depicted in Figure 3, the negative slope of TS on JS is steeper under low organizational support and flatter under high support, indicating that supportive organizations can partially shield employees from the job satisfaction costs of techno-stress. However, the negative conditional effect remained significant even at high OS levels ($\beta = -.629$, $p < .001$), suggesting organizational support attenuates but does not eliminate the detrimental impact—reinforcing the need for comprehensive, multi-pronged interventions.

5.5 Theoretical Contributions

This study advances the COR theory and JD-R model by applying them to the understudied context of techno-stress among Indian IT professionals. By demonstrating full mediation via work-life balance, the study identifies the mechanism through which techno-stress translates into diminished job satisfaction—providing a more nuanced theoretical account than prior research examining these relationships in isolation. The simultaneous testing of mediation and moderation responds to calls for integrated, boundary-condition-specifying models in the techno-stress literature (Tarafdar et al., 2019).

6. CONCLUSION

6.1 Summary of Findings

This study provides robust empirical evidence that techno-stress exerts a significant negative influence on the job satisfaction of IT professionals in India, with work-life balance serving as a full mediator and organizational support functioning as a significant moderator. Collectively, the findings underscore the critical importance of addressing techno-stress in digital work environments.

6.2 Practical Implications

Several actionable recommendations emerge from this research. First, organizations should implement structured technology stress management programs—digital wellness initiatives, mandatory device-free hours, and clear policies limiting after-hours communication. Second, HR departments should proactively promote work-life balance through flexible work arrangements and encouraging employees to disengage from technology during personal time. Third, supervisory training programs should equip managers with skills to recognize and respond to techno-stress symptoms, given the significant role of supervisory support within the OS construct. Fourth, organizations should invest in regular technology skill development programs to reduce stress associated with techno-complexity and techno-uncertainty.

6.3 Limitations and Future Directions

Several limitations warrant acknowledgement. The cross-sectional design precludes causal inference; longitudinal studies are needed to confirm directional relationships. The reliance on self-report measures introduces potential social desirability bias. The purposive sampling strategy and focus on five Indian cities limit generalizability. Future research should replicate and extend this model using longitudinal designs, objective technology use data, and samples from diverse geographic and industry contexts. Additionally, future studies could explore personality traits (e.g., resilience, technology self-efficacy) as additional boundary conditions and investigate sector-specific differences within the broader IT industry.

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