

Techno stress and Work–Life Balance among Women Employees in the Banking Sector: The Mediating Role of Mental Well-Being

Chaitrashree M R

PhD Scholar in Management

USN: 1DA2oPBA02

School of Commerce and Management, Dr. Ambedkar Institute of Technology, Visvesvaraya Technological University (VTU) Belagavi Karnataka.

chaitrachetan22@gmail.com

ORCID: 0009-0007-9519-9815

Dr Shailaja M L

Associate Professor and Research supervisor

School of Commerce and Management, Dr. Ambedkar Institute of Technology, Visvesvaraya Technological University (VTU) Belagavi Karnataka.

aitshailajaml@gmail.com

ORCID ID : 0000-0003-3666-4151

Abstract:

The present study focuses on the impact of techno-stress on work–life balance of women employees of the banking sector in Bengaluru and the mediation effect of mental well-being. The banking workplace is increasingly being changed due to heavy dependence on digital technologies and round-the-clock connectivity, making it difficult for employees to manage work-life balance. The descriptive and analytical designs guided the study design. Primary data was collected through a structured questionnaire from 240 women employees working in various banks. The Cronbach's Alpha was used to check the reliability of the scales. Various techniques such as factor analysis and multiple regression analysis and sobel mediation were used to test the data. As per the findings techno-stress has three major dimensions Digital Exhaustion and Boundary Conflict, Technology Induced Stress and Continuous Connectivity and Work Intrusion. The regression results showed that these variables significantly affect work–life balance, with an explanatory power of 56.1 percent. The strongest predictor among them was Continuous Connectivity and Work Intrusion. The mediation between techno-stress and work–life balance is further established by Sobel test which indicate a partial mediation impact. The research reveals that the extensive use of technology negatively impacts the work-life balance and mental health of women bank employees. Therefore, it is necessary to enhance the mental health of employees through measures like digital detox and more.

Keywords: Techno stress, Work-life balance, Women Employees, Banking sector, Technology engagement, Psychological well-being etc.,

1. INTRODUCTION

The advancement in the information and communication technology (ICT) have changed the face of modern-world workplaces. In particular, this is true for the service sector such as the banking industry (Omerović et al., 2025). The use of digital platforms, mobile apps, automated processes, cloud services and constant internet connectivity has improved operational efficiency, customer service and productivity (Stella et al., 2025)(Farmanesh, 2025). Despite these benefits, over-reliance on technology has led to new challenges at the workplace now known as techno-stress. Techno-stress happens when people have a hard time adjusting to the

demands of technology, leading to stress, fatigue, anxiety and lower psychological well-being (James & Sahu, 2023)(Ioannou, 2023).

In recent years, the banking sector has undergone extensive digital transformation to which employees need to always be connected through emails, messages, video calls and online banking. While these technological improvements have enhanced organizational performance, they have also intermingled the work life and personal life (Santos et al., 2023)(Sharma & Sharma, 2024). Women workers are more prone to techno-stress because they face greater difficulties to balance work, family and caregiving responsibilities than men (Asensio-martínez et al., 2023)(Mendiratta, 2024)(Shah et al., 2025).

Maintaining a work-life balance is now crucial for employees to perform better and be healthier (Pawar, 2025). The idea is that constant connectivity via technology can interfere with personal time, heighten pressure to work and generate emotional exhaustion (Avinash, 2025)(Zaitouni et al., 2024). This can harm employees' work-family balance. In addition to this, mental health is also crucial in determining responses to workplace stressful situations and may impact the effects of techno-stress on work-life balance (Nordiana et al., 2025).

While earlier researches have studied techno-stress, work-life balance and employee well-being in isolation, there is limited study on mental well-being's mediating role between techno-stress and work-life balance among women employees of the banking sector. This study addresses this gap by seeing if techno-stress of women employees in Bengaluru has any bearing on their work-life balance and whether mental well-being plays a mediating role. It is expected that the results will add to the literature on workplace technology, employee well-being and gender issues in the bank. At the same time, it will have practical implications concerning the creation of a healthier and more balanced workplace.

2. REVIEW OF LITERATURE

2.1. Techno-Stress

Techno-stress is becoming a workplace reality, with more and more information and communication technologies (ICTs) being adopted in organizations. Though digital technologies have enhanced efficiency, improved communication and accessibility excessive dependency on technological systems has created a new form of psychological pressure among employees (Dragano & Lunau, 2020). Techno-stress is an inability to adapt to the demands of modern technology (Harunavamwe et al., 2025). It can be illustrated by increased workload, constant connectivity, information overload and less control over work boundaries. Based on the previous research results, techno-stress is not merely caused by technology (Omerović et al., 2025). It is due to their interplay along with the ability of the employees to cope with technology (Consiglio et al., 2023). The major dimensions of techno-overload, techno-invasion, techno-complexity, techno-insecurity and techno-uncertainty illustrate that technology can create work stress, prolong work hours and communicate expectations of uninterrupted availability (Mendiratta, 2024)(Masluk et al., 2024). Stress due to technology has increased amongst employees engaged in online systems, communication tools, automated processes in the service sector mainly in the banking sector due to digitalisation. As a result of constant connectivity, employees are no longer able to recover from work demands due to separation of work and personal life (Bencsik & Juhasz, 2023). Moreover, emotional exhaustion, anxiety, reduced concentration, fatigue and declining ongoing psychological well-being are associated with techno-stress (Fatin et al., 2023). The impact of techno-stress would depend on personal characteristics, organizational support and coping mechanisms (Fatin et al., 2023). Prior research has examined techno-stress's causes and effects but, on the other hand, not much

study is conducted on how it affected women employees who handle professional and personal responsibilities. As a result, the assessment of techno-stress in connection with work-life balance and mental well-being of women employees of the banking sector throws useful light.

2.2. Work-life Balance

In light of the rising complexity of workplace demands and the changing nature of employment, work-life balance is the subject of increasing interest. Work/life balance refers to the ability of an employee to manage their work (career and ambitions) and personal life (health and family) in such a manner as to obtain satisfaction and to give an overall sense of well-being (Zaitouni et al., 2024). Today's work environment has various influencing factors such as workload, expectations from the organization, technological advancement, job flexibility, coping mechanisms, etc. which affect work-life balance. With improved accessibility and communication, digital technology integration has restructured traditional work; however, it has also caused challenges as work extends beyond formal office hours (Thareja, 2025). Having a constant connection via emails, mobile apps and online platforms can remove the boundaries between work and personal life, increasing the risk of work intrusion and lowering psychological detachment (Pathak & Bhayani, 2025). In tech-heavy sectors like banking, employees need to be constantly re-taught to adapt to digital systems and online (web) services as well as performance pressure, thereby increasing work stress and personal time management (Shah et al., 2025). Women employees face additional complexity, as they often have to juggle their work role with family and social roles (Shah et al., 2025). Hence, work-life balance is an essential aspect of their well-being. Having a proper and balanced work life and personal life can help increase job satisfaction, emotional stability and the effectiveness of an individual in the workplace (Aledeinat, 2021). On the contrary, having imbalance can and causes stress, fatigue, decreased motivation levels and reduced quality of life among professionals or individuals engaged in various professional fields. As such, work-life balance appears to adjust and change due to the needs of each.

2.3. Mental Well-Being

Mental wellbeing has become an essential component of worker health in environments facing successive pressures, such as mounting demands, technological disruption and competitive intensity (Dragano & Lunau, 2020). Mental health refers to a person's emotional state and ability to deal with life stress, worry about others, remain happy and positive, be contented with their lot and bounce back quickly from setbacks or illness. In an organizational context, mental well-being is not merely the lack of mental health problems (Sommovigo et al., 2023). Moreover, it refers to the capability of the employee to feel satisfaction as well as a sense of emotional stability and control at work and in life (Consiglio et al., 2023). The mental health of employees has changed significantly due to the rapid adoption of digital technologies as the way of working and the way we communicate with each other has become more dependent on technology (Farmanesh, 2025). While advancements in technology can help you become more efficient and flexible, an over-reliance on technology may lead to information overload, availability expectation, fatigue and inability to switch off (Mendiratta, 2024). The stress created by technology can hurt employees' emotional well-being and their capacity to juggle multiple roles (Asensio-martínez et al., 2023). Employees in the banking sector have to interact directly with various digital systems, online portals and customer related technologies, which may make them feel more stressed. Thus, the need for maintaining good mental health becomes paramount. Due to balancing the workplace with their responsibilities at home, women employees may experience additional psychological demands (Omerović et al., 2025).

Organizational assistance, a supportive leadership style, flexible work practices and effective stress management tools enhance the mental well-being of employees (Teknologi et al., 2023). A positive mental state increases one's productivity and job satisfaction, adaptability and overall quality of working life. Poor mental well-being results in stress and fatigues, disengagement and difficulty achieving work-life balance.

3. METHODOLOGY

3.1. Research Context

The methodology adopted in this study provides a systematic framework to understand the influence of digital workplace pressures on women employees and offers empirical insights into managing techno-stress and improving employee well-being in the banking sector.

3.2. Objectives and Hypothesis of the Study

1. To examine the role of technology in shaping the work-life balance of women employees in banking in Bengaluru.

Null Hypothesis (H_0): There is no significant impact of the extracted techno-stress factors on work-life balance among women employees in the banking sector.

Alternative Hypothesis (H_1): There is a significant impact of the extracted techno-stress factors on work-life balance among women employees in the banking sector.

2. To analyse the mediating role of mental well-being in the relationship between techno-stress and work-life balance among women employees in the banking sector.

Null Hypothesis (H_0): Mental well-being does not significantly mediate the relationship between techno-stress and work-life balance among women employees in the banking sector.

Alternative Hypothesis (H_1): Mental well-being significantly mediates the relationship between techno-stress and work-life balance among women employees in the banking sector.

3.3. Research design

The current research was undertaken using **descriptive and analytical** research design to evaluate techno-stress, work-life balance and mental well-being among women employees of the banking sector. A study was conducted on women employees of some banks of Bengaluru. The study inquired into how technology-induced stress disturbs the capacity of employees to balance work and personal life and whether mental well-being mediates this relationship.

3.4. Methods of Data Collection in Research.

The structured questionnaire collected primary data from 240 women employees which was basis of study. The questionnaire regarding variables in the study was prepared concerning techno-stress, work-life balance and mental well-being. A five-point Likert scale from strongly disagree to strongly agree was used to measure the responses. A variety of banking employees were chosen from different categories in order to get different perspectives of technology usage and workplace experience.

3.5. Data analysis

The gathered data were analysed using different statistical methods. To assess internal consistency of measurement scales, Cronbach's Alpha test was performed. Factor analysis was

done to find out the important dimension of techno-stress impacting employees. Multiple regression analysis was used to observed the effect techno stress dimension on work-life balance and to establish strength of relationship of variables. Moreover, the aim of employing Sobel mediation test was to assess the mediating role of mental well-being on techno-stress.

4. Analysis and interpretation of data.

This section explains the analysis and interpretation of data collected from various women employees working in the banking sector in Bengaluru City on issues of techno-stress, mental well-being and work-life balance. The aim of the study is to examine the effect of technology on work-life balance which is techno-stress and to study the mediating role of mental well-being.

Data collected from 240 respondents through structured questionnaire were analysed by employing descriptive and inferential statistics. Demographic variables were analysed using percentages and Crosstab. The scale's reliability was assessed through the Cronbach's Alpha test. Further, to identify the main dimensions of techno-stress and work-life balance, Factor Analysis was applied. Thereafter, Multiple Regression Analysis was applied to assess the effect of these factors on work-life balance. In the end, regression analysis using Sobel Test assessed whether mental well-being mediates relationship. In the following sections, the analysis findings are presented and interpreted accordingly.

Table no 4.1: Cross-Tabulation of Marital Status, Number of Dependents across different Age Groups

Age Group			Number of Dependents				Total
			Below two	More than five	None	Two to five	
20-30 years	Marital Status	Divorced	1	1	1	4	7
		Married	14	5	11	22	52
		Single	8	3	3	8	22
		Widowed	0	0	1	1	2
	Total		23	9	16	35	83
31-40 years	Marital Status	Divorced	2	0	0	0	2
		Married	11	4	10	23	48
		Single	14	2	2	15	33
		Widowed	2	0	2	2	6
	Total		29	6	14	40	89
41-50 years	Marital Status	Divorced	2	0	1	0	3
		Married	9	4	4	15	32
		Single	8	3	3	6	20
		Widowed	2	0	0	0	2
	Total		21	7	8	21	57
51+ years	Marital Status	Divorced	0	2	0	0	2
		Married	2	0	3	3	8
		Single	1	0	0	0	1
	Total		3	2	3	3	11
Total	Marital Status	Divorced	5	3	2	4	14
		Married	36	13	28	63	140
		Single	31	8	8	29	76

	Widowed	4	0	3	3	10
Total		76	24	41	99	240

Interpretation:

The table describes the respondents' distribution by marital status, number of dependents and age groups. Among 240 respondents, the majority belonged to the age group of 31-40 years (89 respondents) followed by 20-30 years (83 respondents). The highest count of 140 respondents were married while single respondents were 76 in number. Most married respondents in the 20-30 years age group had 2 to 5 dependents (22 respondents). Similarly, in the age group of 31-40 years, married respondents were the highest with 48 respondents and a large number had 2-5 dependents. Married respondents led with 32 respondents in the age group of 41-50 years. The result shows that most of the women employees of the banking sector are married and they take care of family responsibilities as well. Majority of the respondents have reported having two to five dependents (99 respondents); this shows a large family commitment of women banking professionals.

Table no 4.2: Cross- tabulation between Experience and Designation

		Designation				Total
		Clerical Staff	Executive/ Leadership	Mid-level Manager	Senior Manager	
Experience	Less than 5 years	46	3	43	8	100
	5-10 years	36	2	37	8	83
	11-15 years	14	0	10	3	27
	More than 15 years	12	1	13	4	30
Total		108	6	103	23	240

Interpretation:

Table shows the distribution of respondents based on experience and designation in the banking industry. Of the 240 respondents, the highest number was those with less than 5 years of experience (100 respondents) and then the 5-10 years (83 respondents). Of the respondents, 30 were having more than 15 years of experience thus forming the least category. Clerical Staffs formed the largest group with 108 respondents, followed by Mid-level Managers with 103 respondents, in terms of designation. Among the respondents, 23 were Senior Managers and only 6 were Executive/Leadership type. The analysis also shows that most respondents having less than five years' experience were mainly found in Clerical Staff positions (46 respondents) and Mid-level Manager (43 respondents). In the same way, the responses with experience belonging to 5-10 years were also majorly based on Clerical Staff and Mid-level Manager categories. The study found that a majority of women employees in the banking sector are at the operational and middle management levels and they have lower work experience.

Table no 4.3: Reliability Analysis of the Study Variables

Variables	Number of Items	Cronbach's Alpha
Techno-stress	14	0.842
Mental Well-Being	13	0.871

Work-Life Balance	10	0.834
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Interpretation:

The reliability analysis was conducted using Cronbach's Alpha to examine the internal consistency of the study variables. The Techno-stress construct consisting of 14 items recorded a Cronbach's Alpha value of 0.842, indicating a high level of reliability. Similarly, the Mental Well-Being construct with 13 items showed a Cronbach's Alpha value of 0.871, reflecting strong internal consistency among the scale items. Further, the Work-Life Balance construct comprising 10 items reported a Cronbach's Alpha value of 0.834, which also indicates good reliability. Since all the Cronbach's Alpha values are above the acceptable threshold level of 0.70, the selected scale items are considered reliable and suitable for further statistical analysis.

Objective 1: To examine the role of technology in shaping the work-life balance of women employees in banking in Bengaluru.

To achieve the first objective of the study, factor analysis and multiple regression analysis were carried out to identify the major dimensions of Techno-stress and to examine their impact on work-life balance among women employees in the banking sector. Before conducting factor analysis, the suitability of the data was tested using KMO and Bartlett's Test of Sphericity. The results obtained are presented in the following tables.

Table no 4.4: Technology impact on Work-life (Techno stress)

Item No.	Statement	N	Min	Max	Mean	Std. Deviation
1. Technology and Connectivity						
T1	Regular engagement with work-related emails/messages beyond office hours	240	1	5	4.24	0.918
T2	Constant digital connectivity reduces personal time	240	1	5	4.04	0.912
T3	Mobile connectivity makes it difficult to disconnect from work	240	1	5	3.86	0.953
T4	Difficulty in maintaining boundaries between work and personal life	240	1	5	3.73	1.022
T5	Remote access creates a feeling of being perpetually engaged	240	1	5	4.09	1.006
2. Technology and Stress						
T6	Constant notifications increase stress levels	240	1	5	4.11	0.924
T7	Pressure to remain online beyond office hours causes stress	240	1	5	3.87	0.975
T8	Digital saturation reduces relaxation and personal time	240	1	5	3.89	0.937
T9	Inability to disconnect from technology leads to burnout	240	1	5	3.89	0.985
T10	Managing multiple digital platforms causes mental exhaustion	240	1	5	3.80	1.030
3. Technology and Boundaries						
T11	Difficulty in separating work and personal responsibilities due to	240	1	5	4.09	0.958

	technology					
T12	Frequently checking work-related messages during personal time	240	1	5	4.33	0.767
T13	Technological convergence affects family interactions	240	1	5	4.01	0.892
T14	Technology blurs professional and personal boundaries	240	1	5	4.05	0.942

Interpretation:

Descriptive statistics show that the mean values of all Techno-stress variables are above the average level. It suggests that women employees of banking sectors overall agree that something related to technology stresses their work-life balance. According to the statistics the item “Often checking work-related messages during personal time” has the highest mean score of 4.33 and subsequently, “Regularly dealing with work-related emails/messages after office hours” with the mean score of 4.24. This shows that respondents are constantly connected to the internet.

Likewise, the average values of stress, burnout, mental exhaustion and blurring of work-life boundaries were also rather high. It means that excessive involvement with technology leads to higher stress and difficulty in balancing work and personal life. The respondents gave opinions that were fairly similar according to the standard deviation value which ranged between 0.767 and 1.030. The study highlights that techno-stress among women employees of the banking sector is mainly due to technology and continuous digital exposure.

Table no 4.5: Work life Balance

Item No.	Statement	N	Min	Max	Mean	Std. Deviation
W1	Occupational role significantly influences work-life balance	240	1	5	4.20	0.781
W2	Work-related stress affects productivity and well-being	240	1	5	4.09	0.919
W3	Family support helps in balancing professional and personal life	240	1	5	3.98	0.928
W4	Technology blurs the boundary between professional and personal life	240	1	5	3.88	1.080
W5	Flexible commuting alternatives improve work-life integration	240	1	5	4.27	0.901
W6	Organizational policies support work-life balance	240	1	5	4.02	0.910
W7	Supervisor support helps maintain work-life balance	240	1	5	4.13	0.923
W8	Flexible work arrangements enhance work-life integration	240	1	5	3.93	0.979
W9	Supportive workplace culture aids work-life balance	240	1	5	3.95	1.050
W10	Work-life balance improves overall well-being	240	1	5	3.93	1.039

Interpretation

The descriptive statistics indicate that the respondents generally agree that various organizational, personal and technological factors significantly influence their work-life balance. Among the variables, “Flexible commuting alternatives improve work-life integration” (Mean = 4.27) recorded the highest mean score, followed by “Occupational role significantly influences work-life balance” (Mean = 4.20). This indicates that flexibility and work demands play an important role in shaping the work-life balance of women employees in the banking sector.

Further, variables related to work stress, organizational support, supervisor support and workplace culture also reported relatively high mean scores above 3.90, suggesting that supportive organizational practices contribute positively towards maintaining work-life balance. The standard deviation values ranged from 0.781 to 1.080, indicating moderate variation in respondents’ opinions. The findings reveal that both organizational support and flexible work practices are important in improving the work-life balance of women banking employees.

A. Factor Analysis:

Table no 4.6: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.866
Bartlett's Test of Sphericity	Approx. Chi-Square	824.341
	Df	91
	Sig.	.000

Interpretation

The KMO value of 0.866 indicates a high level of sampling adequacy for factor analysis. Further, Bartlett’s Test of Sphericity was found to be significant ($p < 0.001$), showing that the variables are sufficiently correlated for factor extraction. Hence, the data are suitable for conducting factor analysis.

Table no 4.7: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.625	33.035	33.035	4.625	33.035	33.035	2.550	18.215	18.215
2	1.232	8.802	41.836	1.232	8.802	41.836	2.393	17.093	35.309
3	1.133	8.095	49.931	1.133	8.095	49.931	2.047	14.623	49.931
4	.970	6.929	56.861						
5	.889	6.349	63.210						
6	.756	5.397	68.607						
7	.711	5.076	73.683						
8	.678	4.842	78.525						
9	.622	4.444	82.969						
10	.562	4.015	86.984						
11	.532	3.802	90.787						
12	.498	3.554	94.341						
13	.427	3.048	97.389						
14	.365	2.611	100.000						

Extraction Method: Principal Component Analysis.

Interpretation

The factor analysis extracted three major components with Eigenvalues greater than one. Together, the three extracted components explained 49.931% of the total variance in Techno-stress variables. The first component explained 18.215% of variance, followed by the second component with 17.093% and the third component with 14.623% variance. The findings indicate that the extracted factors sufficiently represent the major dimensions of Techno-stress among women banking employees.

Table no 4.8: Component Matrix and Communalities

	Component			Communalities	
	1	2	3	Initial	Extraction
T1	.456	.232	.221	1.000	.311
T2	.583	.307	.459	1.000	.645
T3	.630	.203	-.170	1.000	.468
T4	.587	.026	-.347	1.000	.465
T5	.522	.122	-.234	1.000	.342
T6	.551	-.537	-.293	1.000	.678
T7	.678	-.384	-.073	1.000	.612
T8	.610	-.255	-.103	1.000	.447
T9	.640	.264	-.250	1.000	.542
T10	.577	.385	-.320	1.000	.584
T11	.514	.364	.242	1.000	.456
T12	.466	-.342	.330	1.000	.442
T13	.605	-.133	.314	1.000	.483
T14	.580	-.205	.370	1.000	.516

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Interpretation

The communalities values indicate the extent to which each variable contributes to the extracted factors. Most of the variables recorded extraction values above 0.40, indicating acceptable representation within the factor structure. Variables such as “Constant notifications increase stress levels” (0.678), “Pressure to remain online beyond office hours causes stress” (0.612) and “Constant digital connectivity reduces personal time” (0.645) showed comparatively higher communalities, indicating stronger contributions towards the extracted factors.

Table no 4.9: Rotated Component Matrix^a

		Component		
		1	2	3
T1	Regular engagement with work -related emails/messages beyond office hours	.240	.092	.495
T2	Constant digital connectivity reduces personal time	.194	.120	.770
T3	Mobile connectivity makes it difficult to disconnect from work	.594	.195	.277
T4	Difficulty in maintaining boundaries between work and personal life	.609	.303	.047

T5	Remote access creates a feeling of being perpetually engaged	.534	.194	.140
T6	Constant notifications increase stress levels	.320	.740	-.167
T7	Pressure to remain online beyond office hours causes stress	.319	.703	.127
T8	Digital saturation reduces relaxation and personal time	.349	.557	.125
T9	Inability to disconnect from technology leads to burnout	.678	.147	.247
T10	Managing multiple digital platforms causes mental exhaustion	.734	.007	.213
T11	Difficulty in separating work and personal responsibilities due to technology	.317	.020	.596
T12	Frequently checking work-related messages during personal time	-.062	.568	.340
T13	Technological convergence affects family interactions	.122	.480	.487
T14	Technology blurs professional and personal boundaries	.040	.527	.487
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 10 iterations.				

Interpretation

The rotated component matrix extracted three major factors representing the dimensions of Techno-stress among women employees in the banking sector. For interpretation, only variables with factor loadings above the cut-off value of 0.60 were considered significant and retained under the respective factors.

The first factor, named “**Digital Exhaustion and Boundary Conflict**,” includes variables such as Challenges in maintaining work-life boundaries (T4), burnout due to inability to disconnect from technology (T9) and mental exhaustion arising from managing multiple digital platforms (T10). Among these variables, T10 recorded the highest factor loading of 0.734, indicating its strong contribution to the factor.

The second factor, labelled “**Technology-Induced Stress**,” consists of variables related to stress caused by constant notifications (T6) and pressure to remain online beyond office hours (T7). These variables recorded high factor loadings of 0.740 and 0.703 respectively, showing that continuous technological engagement significantly contributes to stress among women banking employees.

The third factor, termed “**Continuous Connectivity and Work Intrusion**,” includes the variable related to constant digital connectivity reducing personal time (T2), which recorded a strong factor loading of 0.770. This indicates that excessive digital connectivity intrudes into employees’ personal life and affects their work–life balance.

The findings reveal that digital exhaustion, technology-induced stress and continuous connectivity are the major dimensions contributing to Techno-stress among women employees in the banking sector.

B. Multiple Regression Analysis

Null Hypothesis (H₀): There is no significant impact of the extracted Techno-stress factors on work–life balance among women employees in the banking sector.

Alternative Hypothesis (H₁): There is a significant impact of the extracted Techno-stress factors on work–life balance among women employees in the banking sector.

Table no 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
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1	.749 ^a	.561	.556	.40324
a. Predictors: (Constant), Continuous Connectivity and Work Intrusion, Technology-Induced Stress, Digital Exhaustion and Boundary Conflict				

Interpretation

As shown by the model summary table, the extracted Techno-stress factors and work-life balance have significant relationship among women employees in the banking sector. The correlation coefficient (R) value at 0.749 indicates a strong positive relationship between independent variables and work-life balance. The R Square score of 0.561 indicates that the extracted Techno-stress factors: Digital Exhaustion and Boundary Conflict, Technology-Induced Stress and Continuous Connectivity and Work Intrusion explain 56.1% of the variation in work-life balance. In addition, the Adjusted R Square value of 0.556 indicates that the regression model has good explanatory power. The standard error of estimate value of 0.40324 is statistically an acceptable error prediction of the model.

Table no 4.11: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.062	3	16.354	100.579	.000 ^b
	Residual	38.374	236	.163		
	Total	87.436	239			
a. Dependent Variable: WLB						
b. Predictors: (Constant), Continuous Connectivity and Work Intrusion, Technology-Induced Stress, Digital Exhaustion and Boundary Conflict						

Interpretation

The ANOVA table assesses the significance of the overall regression model. As the F value is calculated as 100.579 with a significance value of 0.000, it means that the regression model is significant at 1% level. This confirms that extracted Techno-stress factors together significantly influence work-life balance among women employees of the banking sector. As a result, the null hypothesis that states no significant effect of the extracted Techno-stress factors on work-life balance is rejected and the alternative hypothesis is accepted.

Table no 4.12: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.040	.026		155.212	.000
	Digital Exhaustion and Boundary Conflict	.252	.026	.416	9.650	.000
	Technology-Induced Stress	.238	.026	.394	9.127	.000
	Continuous Connectivity and Work Intrusion	.292	.026	.483	11.194	.000
a. Dependent Variable: WLB						

Interpretation

The coefficient table illustrates how each one extracted Techno-stress factor contributes towards work-life balance. The factor, "Continuous Connectivity and Work Intrusion," recorded the highest standardized beta coefficient ($\beta = 0.483$; $p < 0.001$) indicating it is the

most influencing factor on work-life balance of women banking employees. Digital Exhaustion and Boundary Conflict ($\beta = 0.416$; $p < 0.001$) and Technology Induced Stress ($\beta = 0.394$; $p < 0.001$) showed significantly positive impacts on work life balance as well. With all predictors exhibiting significance values of less than 0.01, it has been confirmed that these three extracted Techno-stress factors are strong predictors of work-life balance. The research reveals that constant digital connection, work invading personal life, mental fatigue and stress related to technology significantly impact the work-life balance of women employees of the banking sector.

Objective 2: To analyse the mediating role of mental well-being in the relationship between Techno-stress and work-life balance among women employees in the banking sector.

To achieve the second objective of the study, regression-based mediation analysis was carried out to examine the mediating role of mental well-being in the relationship between Techno-stress and work-life balance among women employees in the banking sector. For this purpose, descriptive statistics, regression analysis and Sobel Test were applied to determine whether mental well-being significantly mediates the relationship between Techno-stress and work-life balance. The results obtained from the analysis are presented in the following tables.

Table no 4.13: Work life Balance

Item No.	Statement	N	Min	Max	Mean	Std. Deviation
M1	Work-life imbalance creates stress and anxiety	240	1	5	3.80	0.993
M2	Balancing professional and personal responsibilities affects emotional well-being	240	1	5	4.02	0.989
M3	Lack of personal time affects relaxation and recovery	240	1	5	4.01	1.037
M4	Continuous work demands cause emotional fatigue	240	1	5	3.81	1.025
M5	Work-life imbalance negatively affects overall mental health	240	1	5	3.87	1.008
M6	Work-life imbalance reduces sleep duration	240	1	5	3.78	1.038
M7	Sleep disturbances reduce daytime productivity	240	1	5	3.73	1.094
M8	Lack of adequate rest causes continuous fatigue	240	1	5	3.84	1.010
M9	Lack of restorative rest affects physical and mental energy	240	1	5	4.07	1.006
M10	Difficulty in finding time for relaxation and self-care	240	1	5	3.91	0.917
M11	Lack of personal time affects emotional well-being	240	1	5	3.88	0.948
M12	Lack of leisure time affects stress recovery	240	1	5	3.84	0.952
M13	Inadequate self-care negatively affects overall well-being	240	1	5	4.25	0.916

Interpretation

The descriptive statistics indicate that the respondents generally agree that work-life imbalance and technological stress significantly affect their mental well-being. Among the variables, “Inadequate self-care negatively affects overall well-being” (Mean = 4.25) recorded the highest mean score, followed by “Lack of restorative rest affects physical and mental energy” (Mean = 4.07). This indicates that insufficient rest and self-care are major concerns among women employees in the banking sector.

Further, variables related to emotional fatigue, stress, sleep disturbances and lack of personal time also recorded relatively high mean values above 3.70, suggesting that work-related pressure negatively influences the psychological and emotional well-being of respondents. The standard deviation values ranged from 0.916 to 1.094, indicating moderate variation in respondents’ opinions. Overall, the findings reveal that mental stress, fatigue and insufficient self-care considerably affect the mental well-being of women banking employees.

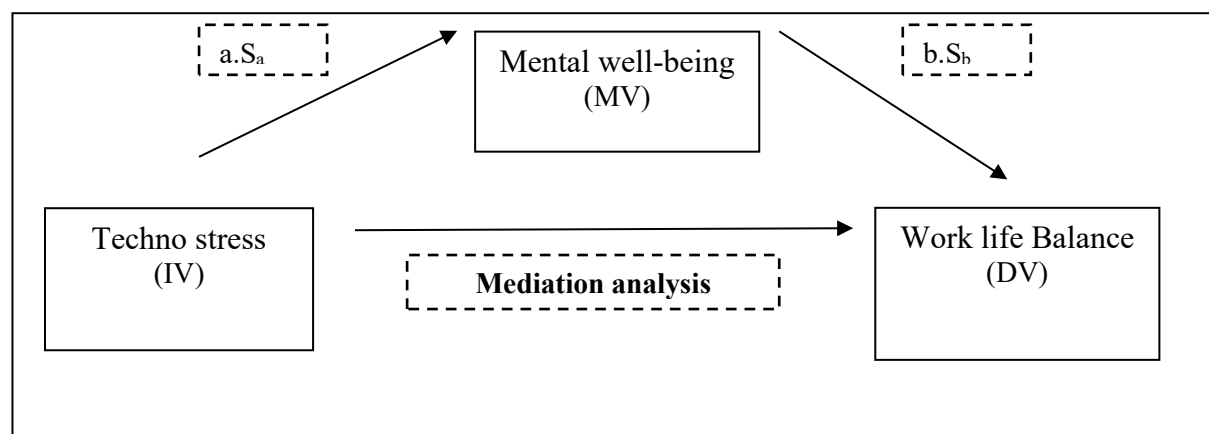
A. Hypothesis for Mediation Analysis

Null Hypothesis (H_0): Mental well-being does not significantly mediate the relationship between Techno-stress and work-life balance among women employees in the banking sector.

Alternative Hypothesis (H_1): Mental well-being significantly mediates the relationship between Techno-stress and work-life balance among women employees in the banking sector.

Mediation is a simple linear regression extension that adds one or more variables to the regression equation. Mediating factors define how an intervention produces its result. Mediating variables are described as “the method by which X [independent variable] impacts Y [dependent variable]” (Hayes 2013:7). Researchers think that the independent variable (X) influences the mediator (M), who in turn influences the dependent variable (Y) in mediation analysis. In other words, it is assumed that the link between the independent and dependent variables is indirect.

In this study, the researcher examined the mediating variable as mental well-being, the dependent variable as Work life Balance and the independent variable as Techno stress.



The Sobel Test:

Sobel (1982) suggested this basic test statistic. The Sobel test is used to investigate the

hypothesis that the connection between the independent (X) and dependent (Y) variables is mediated / impacted by a third variable (Y), implying that X and Y have an indirect relationship. In other words, the Sobel test determines if including a mediator (M) in the regression analysis lowers the influence of the independent variable (X) on the dependent variable (Y) significantly (Preacher 2020). After accounting for the mediator, the hypothesis that there is no statistically significant difference between the total effect and the direct effect is tested; if a significant test statistic is obtained, entire or partial mediation may be supported (Allen 2017). As evidence for a proof of objective, conducting Sobel's test for this study which consists of three steps,

Step 1: A simple linear regression analysis for the effect of the independent variable (Techno stress) on the mediator (Mental well-being). This step computes both unstandardized regression coefficient (a) and the standard error of "a" (S_a)

Table no 4.14: Coefficients from Regression analysis(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.202	.179		1.128	.260
	Techno stress	.927	.044	.805	20.907	.000

a. Dependent Variable: Mental well-being

Interpretation:

Above table display the SPSS regression output. These tables display the unstandardized and standardized regression coefficients, standard errors, the t and p values and the 95% confidence interval for each analysis. And also shows that the independent variable (Techno stress) is a significant predictor of the mediating variable (Mental well-being). ($t = 20.907$, $p < .01$). ($a = 0.927$ and $S_a = 0.044$)

Step 2: A multiple linear regression analysis for the effect of the independent (Techno stress) and mediating (Mental well-being) variables on the dependent variable (Work life Balance). This step computes both unstandardized regression coefficient (b) and the standard error of b (S_b).

Table no 4.15: Coefficients from Regression analysis(b)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.657	.181		3.631	.000
	Techno stress	.406	.075	.364	5.396	.000
	Mental well-being	.450	.065	.464	6.880	.000

a. Dependent Variable: Work life Balance

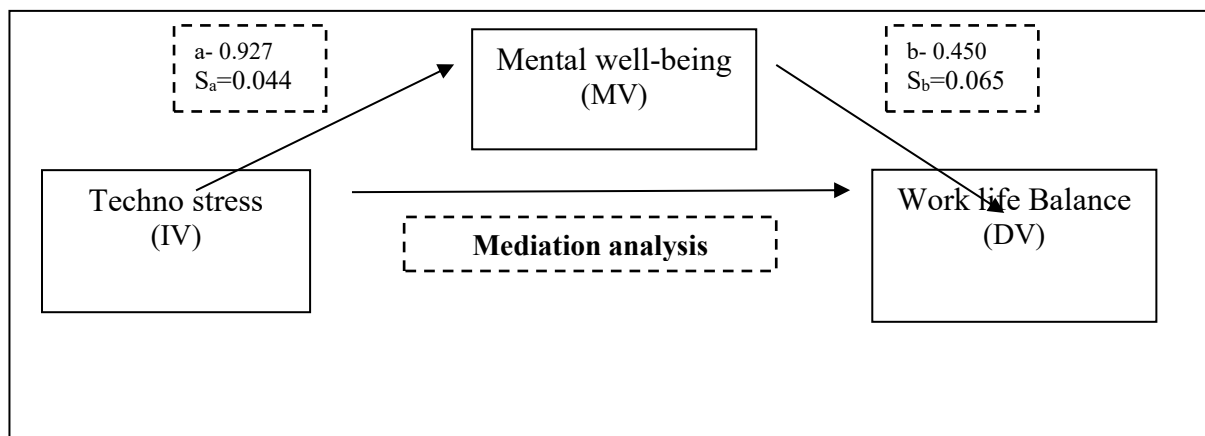
Interpretation:

Above table display the SPSS regression output. These tables display the unstandardized and standardized regression coefficients, standard errors, the t and p values and the 95% confidence interval for each analysis. And also shows that the independent variable (Techno stress) and mediating variable (Mental well-being) is a significant predictor of the dependent

variable (Work life Balance) ($t = 6.880$, $p < .01$). ($b = 0.450$ and $S_b = 0.065$)

Step 3: After confirming the two conditions for mediation are established, examining if the mediating variable is a statistically significant using the Sobel test (using the Z formula). Required both “a” and “b” unstandardized regression coefficients and their standard errors (S_a and S_b , respectively) to be substituted in formula to get Z value of Sobel’s test and formula is

$$\text{Z value for Sobel test} = \text{z-value} = \frac{a \cdot b}{\sqrt{b^2 \cdot s_a^2 + a^2 \cdot s_b^2}}$$



Though there is a formula to compute Z value for Sobel test it can be computed using online Sobel test calculator and screenshot of it are kept below.

Input:		Test statistic:	Std. Error:	p-value:
a	0.927	Sobel test: 6.57708045	0.0634248	0
b	0.450	Aroian test: 6.57040385	0.06348925	0
s _a	0.044	Goodman test: 6.58377744	0.06336028	0
s _b	0.065	Reset all Calculate		

The Sobel test was conducted to examine the mediating role of mental well-being in the relationship between Techno stress and Work life Balance. The results indicate that the computed Z value is 6.577, which is greater than the critical value of ± 1.96 at the 5% level of significance. This confirms that the indirect effect is statistically significant. Therefore, mental well-being significantly mediates the relationship between Techno stress and Work life Balance. Since Techno stress remains significant even after including mental well-being, it indicates the presence of partial mediation. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted.

5. Conclusions

The results of the research indicate that techno-stress significantly impacts the work-life balance of women employees, particularly in the banking sector, due to their constant connectivity and reliance on digital technology. The results show that the dimensions of digital exhaustion and boundary conflict, technology-induced stress as well as continuous

connectivity and work intrusion hamper the employees' ability to effectively manage work and personal life. Being continuously connected through work means always being available for work related activities especially through digital means. This outlook was viewed as a major contributor to work-life imbalance. The research confirmed that mental well-being significantly mediates the relationship between techno-stress and work-life balance. In other words, the psychological capacity of the employees affects their balance of work and life in the techno-environment. Banking organizations need to devise ways to build a healthy digital work environment through appropriate technology usage policies, encouraging reasonable demarcation of work and personal life and providing adequate support of systems to their employees. The demands of technology can be optimally managed through digital wellness training, stress management programs, counselling support, flexible work practices and supportive leadership initiatives for women employees. By dealing with techno-stress and promoting mental well-being, banks can enhance the satisfaction, productivity and organizational commitment of their employees while adopting sustainable practices.

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