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Redefining Work Life Balance in Education: Technostress, Hybrid Teaching and Gender Roles Post Pandemic

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ABSTRACT

This study investigates the evolving nature of work-life balance (WLB) among female educators in Jaipur, India, by integrating perspectives on technostress, hybrid teaching, and caregiving responsibilities. Unlike earlier studies that focused narrowly on stress and satisfaction during the COVID-19 crisis, this research adopts a comparative framework, examining pre-pandemic, pandemic, and post-pandemic shifts. Using data from 100 female teachers in private schools, the study applies exploratory factor analysis (EFA), ANOVA, and cluster analysis to identify teacher sub-groups and the moderating effects of institutional support. Findings indicate that technostress dimensions—such as techno-overload, techno-invasion, and digital fatigue—significantly shaped teachers' work-life balance. Results also show that hybrid teaching amplified gender disparities, with mothers reporting higher work–family conflict than peers. The study concludes with recommendations for digital well-being interventions, institutional equity policies, and future-ready hybrid models.

Keywords: *Work-Life Balance, Technostress, Hybrid Teaching, Gender Roles, Institutional Support, Post-Pandemic Education.*

Introduction

The concept of work–life balance (WLB) has long been central to discussions on employee well-being, productivity, and organizational sustainability. For educators, particularly women, the challenge of balancing personal and professional roles has historically been amplified by caregiving responsibilities, rigid institutional structures, and social expectations (Smith, 2019; Johnson, 2020). The pandemic, however, radically transformed these dynamics, introducing both new opportunities and unprecedented challenges.

Globally, the education sector experienced one of the most abrupt transitions in modern history when schools and universities shifted from in-person to remote learning (Diehl et al., 2023). Teachers faced a dual burden: mastering new technologies while simultaneously negotiating blurred boundaries between home and work. This was especially acute for women educators, who often carried disproportionate responsibilities for childcare and eldercare within households (Dalessandro & Patterson, 2023). The traditional separation of work and domestic roles collapsed, creating conditions in which many female teachers felt stretched thin across competing domains (Carroll et al., 2022).

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Work–Life Balance as a Theoretical Construct

Scholars conceptualize WLB through multiple lenses. **Role conflict theory** suggests that competing demands of work and family create strain, making balance difficult to achieve (Greenhaus & Beutell, 1985). **Boundary theory** emphasizes how individuals manage the physical, temporal, and psychological boundaries between domains (Ashforth et al., 2000). When boundaries are blurred, as during the pandemic, conflicts and overload intensify. Meanwhile, **Job Demands–Resources (JD-R) theory** provides a useful framework for understanding how demands such as long hours, high workload, and technostress erode well-being, while resources such as institutional support, autonomy, and social networks buffer negative effects (Bakker & Demerouti, 2017). For teachers, WLB is thus not simply an individual challenge but a dynamic process shaped by organizational structures, technological environments, and cultural expectations.

Technostress in Education

Central to pandemic-related changes was the rise of technostress, a phenomenon describing the psychological strain caused by excessive or poorly managed use of digital technologies (Siddiqui et al., 2023; Tarafdar et al., 2007). Teachers reported feeling overwhelmed by digital platforms, constant notifications, and the invasion of personal spaces by professional demands (Li & Wang, 2022; Ayyagari et al., 2011). Many had to quickly master learning management systems, video conferencing, and digital assessment tools, often with little training. The expectation to be perpetually connected created what Mazmanian et al. (2013) describe as a state of "perpetual contact," eroding recovery time and deepening stress.

While technostress often had negative consequences—burnout, dissatisfaction, and intentions to leave the profession (Guo & Zhu, 2023)—research also reveals a more nuanced picture. Amorim et al. (2025) introduced the concept of **techno-eustress**, a positive form of stress where technological demands spur learning, creativity, and adaptability. For some educators, the rapid adoption of digital tools created opportunities to innovate, engage students differently, and gain new professional competencies (Spagnoli et al., 2020). This duality underscores that the impact of technology is mediated by individual resilience, institutional support, and contextual resources.

Gendered Dimensions of WLB

For female teachers, the challenges of WLB during the pandemic were particularly acute. Across societies, women disproportionately carry the "second shift" of unpaid household labor and caregiving (Hochschild &Machung, 2012). During lockdowns, this workload intensified, with schools closed, children at home, and healthcare needs rising. Studies report that women educators often taught online classes while simultaneously supervising children's online learning or attending to domestic chores (Chakraborty, 2021). This intersection of professional and domestic pressures deepened gender inequalities in WLB.

Dalessandro and Patterson (2023) highlight that women's WLB outcomes are shaped not only by organizational policies but also by cultural narratives that frame caregiving as a female responsibility. The pandemic magnified these dynamics, particularly in India, where patriarchal norms often assign domestic labor disproportionately to women (Sahoo, 2021). As a result, many female educators in India reported higher stress levels, sleep disturbances, and lower job satisfaction compared to male colleagues (Kundu & Bej, 2021).

Hybrid Teaching and Boundary Management

As schools reopened, hybrid models of teaching—combining in-person and online instruction—emerged as a dominant trend. While hybrid models offer flexibility, they also extend teachers' responsibilities by requiring the management of dual modalities (Hopkins & Bardoel, 2023). Teachers must simultaneously address classroom dynamics, manage virtual platforms, and ensure equitable engagement. For female educators, hybrid teaching often meant extended work hours and continuous monitoring of both professional and domestic spheres.

Boundary theory suggests that flexibility can be either empowering or overburdening, depending on institutional policies and cultural contexts (Ashforth et al., 2000). For some, hybrid teaching facilitated integration by allowing them to work from home while fulfilling family responsibilities. For others, it blurred boundaries so completely that recovery from work became nearly impossible (Henneman et al., 2022). These divergent experiences highlight the need for organizational policies that deliberately support boundary management, such as limiting after-hours communication and ensuring adequate training.

Institutional Support as a Buffer

Research consistently emphasizes that **institutional support** plays a vital role in moderating the effects of technostress and sustaining WLB. According to JD-R theory, resources such as mentoring, technical assistance, and emotional support can buffer the harmful effects of high demands (Bakker & Demerouti, 2017). Studies during the pandemic show that teachers who received training, supportive leadership, and access to counseling reported better well-being and higher job satisfaction (Carroll et al., 2022; Chong et al., 2020). In contrast, lack of support was associated with higher burnout and turnover intentions.

In India, institutional responses varied widely. Some schools provided digital infrastructure, training workshops, and wellness initiatives. Others, particularly in resource-constrained settings, offered little support, leaving teachers to cope individually (Sahoo, 2021). These disparities highlight the urgent need for systemic interventions that recognize WLB as an institutional responsibility rather than an individual burden.

Rationale for the Present Study

The pandemic has thus redefined WLB in ways that make it a more urgent and complex issue than ever before. The intersection of technostress, hybrid teaching, and gendered caregiving responsibilities provides a fertile ground for understanding how educators navigate their personal and professional lives. While global research has highlighted these themes, there remains limited empirical work from developing country contexts, especially India, where socio-cultural norms and infrastructural challenges create distinctive pressures. By focusing on 100 female teachers in Jaipur, this study addresses this gap, combining statistical rigor with contextual sensitivity.

This paper therefore seeks to redefine WLB by focusing on three dimensions: (1) the influence of technostress on educators' well-being, (2) the evolving role of hybrid teaching models in shaping professional and personal boundaries, and (3) the gendered implications of caregiving responsibilities in post-pandemic contexts. By applying advanced techniques such as exploratory factor analysis, ANOVA, cluster analysis, and moderation modeling, the study not only documents shifts in WLB but also offers actionable strategies for sustainable, equitable, and digitally supported educational practices in India and beyond.

Reviewof Literature (Thematic Structure)

- **Conceptualizing Work–Life Balance (WLB)**

Work–Life Balance (WLB) has been widely recognized as a key determinant of employee well-being, productivity, and organizational sustainability. For educators, especially women, maintaining equilibrium between personal and professional roles has long been challenging due to demanding workloads, fixed schedules, and societal expectations (Smith, 2019). Pre-pandemic research identified long working hours, administrative overload, and limited flexibility as persistent barriers to WLB (Wilson, 2023). Additionally, commuting time and performance evaluation pressures contributed to overall dissatisfaction (Sharma, 2023). From a theoretical standpoint, WLB is explained through **Role Conflict Theory**, which posits that incompatible demands from work and family roles generate strain (Greenhaus &Beutell, 1985), and **Boundary Theory**, which highlights how blurred boundaries can erode individual well-being (Ashforth et al., 2000). These frameworks set the foundation for understanding how external disruptions, such as the pandemic, further complicated educators' WLB.

- **Technostress and Digitalization in Education**

The COVID-19 pandemic accelerated the digital transformation of education, giving rise to widespread **technostress**—psychological strain resulting from the overuse or mismanagement of technology (Siddiqui et al., 2023; Li & Wang, 2022). Teachers experienced unprecedented levels of digital overload as remote teaching required mastery of new platforms and continuous online engagement. Scholars have identified three major dimensions of technostress in educational contexts:

  - **Techno-overload:** managing multiple digital platforms, frequent updates, and increased documentation;
  - **Techno-invasion:** intrusion of work into personal life through constant notifications and online meetings;
  - **Techno-complexity:** difficulty adapting to complex digital tools without sufficient training.

Empirical evidence from countries like China and Pakistan links technostress directly to teacher burnout, job dissatisfaction, and reduced productivity (Frontiers in Psychology, 2023; Siddiqui et al., 2023). For female teachers, these challenges were compounded by domestic responsibilities, intensifying the struggle to balance professional and personal domains.

- **Positive Technological Adaptation: The Concept of Techno-Eustress**

While much research associates digitalization with stress and burnout, emerging studies point toward **techno-eustress**—a positive form of stress that enhances motivation, adaptability, and professional growth (Amorim et al., 2025). Teachers with higher digital literacy and institutional backing often reported that technological demands encouraged creativity and skill development rather than exhaustion (Henneman et al., 2022). This body of literature emphasizes the moderating role of organizational factors—particularly training, leadership, and peer support—in converting technology-related pressure into productive engagement. Hence, the impact of technology on educators' WLB is not inherently negative; it depends on the balance between job demands and available resources.

- **Hybrid Teaching and Boundary Management**

The post-pandemic normalization of **hybrid teaching**—a blend of physical and virtual instruction—has redefined teachers' work structures. While hybrid systems offer flexibility and reduced commuting time, they have also intensified boundary blurring, resulting in longer working hours and constant connectivity (Hopkins &Bardoel, 2023). Teachers' capacity to manage these demands largely depends on institutional support, digital infrastructure, and workload policies.

Research from Indian schools reveals the emergence of **sociotechnical support networks**, such as informal sharing of devices and peer mentoring, which helped teachers cope with digital pressures (Kumar & Sinha, 2023). Conversely, institutions that lacked structured training or mental health programs observed higher technostress levels (Frontiers in Psychology, 2023). Therefore, hybrid teaching represents both an opportunity and a challenge, necessitating deliberate boundary management and systemic interventions.

- **Gendered Dimensions of Work–Life Balance**

The pandemic and its aftermath magnified pre-existing gender inequalities in the education sector. Globally, **female educators** faced disproportionate caregiving burdens, often supervising children's online learning while conducting their own virtual classes (Dalessandro & Patterson, 2023). Studies consistently show that women in teaching reported greater fatigue, lower satisfaction, and higher work–family conflict than male or non-caregiver peers (Guo & Zhu, 2023). These findings align with sociological perspectives on the "second shift," where women's unpaid domestic labor compounds professional stress (Hochschild &Machung, 2012).

In the Indian context, patriarchal norms further exacerbate this imbalance, as caregiving and household responsibilities predominantly fall on women (Sahoo, 2021). This intersection of gender, technology, and institutional factors makes female teachers particularly vulnerable to technostress and burnout, underscoring the need for gender-sensitive workplace policies and supportive educational cultures.

Research Objectives

- **Identify** latent dimensions of technostress and WLB (EFA).
- **Compare** WLB outcomes across groups (ANOVA).
- **Classify** teachers into clusters based on experiences (Cluster Analysis).
- **Examine** moderation by institutional support (Moderation Analysis).
- **Evaluate** changes in perceptions of WLB before, during, and after the pandemic.

Methodology

- **Sample**: 100 female teachers from private schools in Jaipur (purposive sampling).
- **Data Collection**: Structured questionnaire covering job stress, WFH, technostress dimensions (overload, invasion, and complexity), job satisfaction, and support systems.

Statistical Analysis:

- **Exploratory Factor Analysis (EFA)**: To uncover latent constructs of technostress and WLB.

- **ANOVA / T-tests**: To compare WLB differences across subgroups (e.g., mothers vs. non-mothers).
- **Cluster Analysis (K-means)**: To segment teachers into profiles such as "Tech-Adopters," "Overloaded Caregivers," and "Resilient Innovators."
- **Moderation Analysis**: Using PROCESS macro in SPSS to test if institutional support moderates the impact of technostress on WLB.

Analysis and Discussion

- **Exploratory Factor Analysis (EFA)**

To identify the latent constructs underlying the survey items on technostress and work–life balance (WLB), an exploratory factor analysis (EFA) was conducted on all items from Sections 4–7 of the questionnaire. Prior to extraction, the dataset was examined for suitability. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was **0.765**, which exceeds the recommended threshold of 0.60 (Kaiser, 1974), indicating sufficient correlations among items. Bartlett's test of sphericity was significant, $\chi^2(406) = \mathbf{1254.60}$, $p < .001$, confirming that the correlation matrix was not an identity matrix and was therefore appropriate for factor analysis.

The analysis employed principal components extraction as a proxy for EFA (given software constraints) and examined eigenvalues and the scree plot to determine the number of factors to retain. Six components with eigenvalues greater than 1.0 were identified, together explaining approximately **68%** of the total variance. The scree plot showed an inflection after the fourth component, suggesting that a four- to six-factor solution was theoretically meaningful. For interpretability and parsimony, a six-factor solution was retained.

Items with loadings ≥ |0.40| were considered significant contributors to a factor. Factor 1 included items related to organizational support and workload management (e.g., availability of resources, clarity of communication), reflecting **Technostress due to organizational demands** (Cronbach's α = 0.86). Factor 2 clustered items on flexibility, domestic responsibilities, and technology access, interpreted as **Work–Life Balance and Home–Work Fit** (α = 0.84). Factor 3 grouped items concerning anxiety, stress, and emotional strain, representing **Psychological Strain** (α = 0.81). Factor 4 contained a small number of items with low internal consistency (α = 0.27), suggesting the need for refinement. Factors 5 and 6 were single-item factors, indicating unique concerns that were not strongly correlated with other constructs.

Overall, the exploratory factor analysis (EFA) supported the presence of **three reliable latent constructs—Technostress, Work–Life Balance (WLB), and Psychological Strain**. The factor loadings for the retained items were consistently above the recommended threshold of 0.50, indicating that each item strongly contributed to its respective construct (Hair et al., 2019). Together, these three factors explained a substantial proportion of the total variance, demonstrating that the constructs capture the underlying structure of the dataset in a coherent and statistically robust manner.

The internal consistency of each construct was found to be high, with Cronbach's alpha values exceeding the commonly accepted benchmark of 0.70 (Nunnally & Bernstein, 1994). This suggests that the items within each factor reliably measure the same underlying dimension, thereby enhancing the credibility of subsequent analyses. Specifically, the **Technostress** factor grouped items reflecting digital overload, work–home invasion, and technological complexity, underscoring how digital demands have reconfigured teachers' professional experiences. The **Work–Life Balance** factor comprised items emphasizing role clarity, boundary management, and perceived equilibrium between personal and professional obligations. Finally, the **Psychological Strain** factor included items capturing stress, fatigue, and emotional exhaustion, reflecting the broader psychological impact of teaching in a post-pandemic digital context.

These factors not only provide a **meaningful conceptual structure** but also establish a foundation for subsequent hypothesis testing and inferential analysis. For instance, the constructs can be used to investigate whether technostress negatively predicts WLB, and whether psychological strain mediates this relationship. Moreover, the robust factor structure validates the survey instrument, ensuring that the measures employed are both contextually appropriate and statistically sound.

Importantly, the identification of these three latent constructs aligns with existing literature. Prior research has consistently demonstrated the role of technostress in shaping work–family conflict (Siddiqui

et al., 2023; Tarafdar et al., 2007), the centrality of WLB in promoting professional satisfaction (Wayne et al., 2017), and the negative implications of strain for teacher retention and well-being (Carroll et al., 2022). The current EFA thus not only confirms the theoretical distinctions between these domains but also underscores their interconnectedness in the specific context of female educators in India.

In summary, the EFA results provide strong evidence that Technostress, Work–Life Balance, and Psychological Strain constitute **reliable and theoretically grounded dimensions**. These constructs will form the analytical framework for subsequent statistical procedures, including ANOVA, cluster analysis, and moderation modeling, thereby advancing a comprehensive understanding of how digital demands and gendered responsibilities interact to shape educators' well-being in the post-pandemic era.

Table 1: Kaiser–Meyer–Olkin (KMO) and Bartlett's Test of Sphericity

Test	Value
KMO Measure of Sampling Adequacy	0.765
Bartlett's Test of Sphericity (χ^2)	1254.60
df	406
p- value	< .001

Source: Processing of Primary Data

Table 2: Total Variance Explained by Extracted Factors

Factor	Eigenvalue	% of Variance Explained	Cumulative %
1	7.315	30.5%	30.5%
2	3.162	13.2%	43.7%
3	1.786	7.4%	51.1%
4	1.624	6.8%	57.9%
5	1.225	5.1%	63.0%
6	1.075	4.5%	67.5%

Source: Processing of Primary Data

Table 3: Rotated Factor Loadings (items with loadings ≥ .40 shown)

Item	Factor 1: Technostress (α=.86)	Factor 2: Work–Life Balance (α=.84	Factor 3: Psychological Strain (α=.81)	Other Factors
Adequate institutional resources	.72			
Clear Communication from management	.69			
Increased workload during online teaching	.65			
Flexibility of remote work arrangements		.74		
Difficulty managing domestic responsibilities		.68		
Adequate home technology and internet		.62		
Increased anxiety during work from home period			.71	
Work family conflict due to blurred boundaries			.66	
Feeling of depression due to workload/technology stress			.64	

Source: Processing of Primary Data

ANOVA/ T Tests

- **Purpose:** To compare differences in work–life balance (WLB) outcomes across subgroups (e.g., mothers vs. non-mothers; primary vs. secondary teachers).

Method

Independent samples t-tests and one-way ANOVA were conducted to assess whether mean WLB scores differed significantly across demographic categories. WLB composite scores were

calculated from items loading on Factor 2 in the EFA (flexibility, domestic responsibilities, technology access). Levene's test was applied to assess homogeneity of variance, and Welch's correction was used where this assumption was violated. Significance was set at $p < .05$.

Results

Table 4 shows the mean WLB scores for mothers and non-mothers. Mothers (M = 3.12, SD = 0.54) scored significantly lower than non-mothers (M = 3.48, SD = 0.47); $t(98) = -3.42$, $p = .001$. One-way ANOVA comparing primary, secondary, and senior secondary teachers also revealed significant group differences ($F(2, 97) = 4.27$, $p = .017$). Post hoc Tukey tests indicated that senior secondary teachers had significantly lower WLB than primary teachers.

Table 4: Differences in WLB Scores by Demographic Groups

Group	N	Mean	SD	Test	*p*
Mothers	62	3.12	0.54	$t(98) = -3.42$	.001**
Non-mothers	38	3.48	0.47		
Primary Teachers	29	3.54	0.45	$F(2,97)=4.27$	.017*
Secondary Teachers	36	3.21	0.49		
Senior Secondary Teachers	35	3.05	0.53		

Source: Processing of Primary Data

Note.p< .01**, *p*< .05*

- **Interpretation:** Mothers and senior secondary teachers report significantly lower WLB, reflecting the greater strain of caregiving and exam-related pressures.

Cluster Analysis

- **Purpose:** To classify teachers into meaningful profiles based on their technostress and WLB experiences.

Method

K-means cluster analysis was performed on standardized scores of three composite indices identified from EFA: (a) Technostress, (b) Work–Life Balance, and (c) Psychological Strain. The elbow method and silhouette values were used to decide the optimal number of clusters. A 3-cluster solution provided the best balance of interpretability and statistical fit.

Results

Cluster centroids are shown in Table 5. Teachers were classified as:

- **Cluster 1: Tech-Adopters (n = 34)** — low technostress, high WLB, low psychological strain.
- **Cluster 2: Overloaded Caregivers (n = 41)** — high technostress, low WLB, high psychological strain.
- **Cluster 3: Resilient Innovators (n = 25)** — moderate technostress, high WLB, low psychological strain.

Table 5: *Cluster Profiles of Female Teachers*

Cluster	n	Technostress (z)	WLB (z)	Psychological Strain (z)
Tech-Adopters	34	−0.61	+0.74	−0.58
Overloaded Caregivers	41	+0.72	−0.65	+0.80
Resilient Innovators	25	+0.18	+0.48	−0.42

Source: Processing of Primary Data

- **Interpretation:** The largest cluster comprised Overloaded Caregivers, underscoring how caregiving amplified the negative effects of technostress on WLB. Tech-Adopters and Resilient Innovators demonstrated positive coping and institutional support.

Moderation Analysis

- **Purpose:** To test if institutional support buffers (moderates) the relationship between technostress and WLB.

Method

Moderation was tested using **PROCESS Macro for SPSS (Model 1)** with technostress as the independent variable (X), WLB as the dependent variable (Y), and perceived institutional support as the

moderator (M). All variables were mean-centered. Interaction effects were probed using simple slopes analysis at ±1 SD of institutional support.

Results

Table 6 shows the regression coefficients. The interaction term (Technostress × Institutional Support) was significant (b = −0.21, p = .009). The conditional effects plot (Figure 2) shows that high institutional support buffered the negative relationship between technostress and WLB.

Table 6: ***Moderation of Technostress–WLB Relationship by Institutional Support***

Predictor	b	SE	t	p
Technostress (X)	−0.37	0.08	−4.62	< .001**
Institutional Support (M)	+0.29	0.07	+4.14	< .001**
X × M Interaction	−0.21	0.08	−2.68	.009**

Source: Processing of Primary Data

R^2 = .42, F(3,96) = 23.05, p < .001
*Note.***p**< .01**

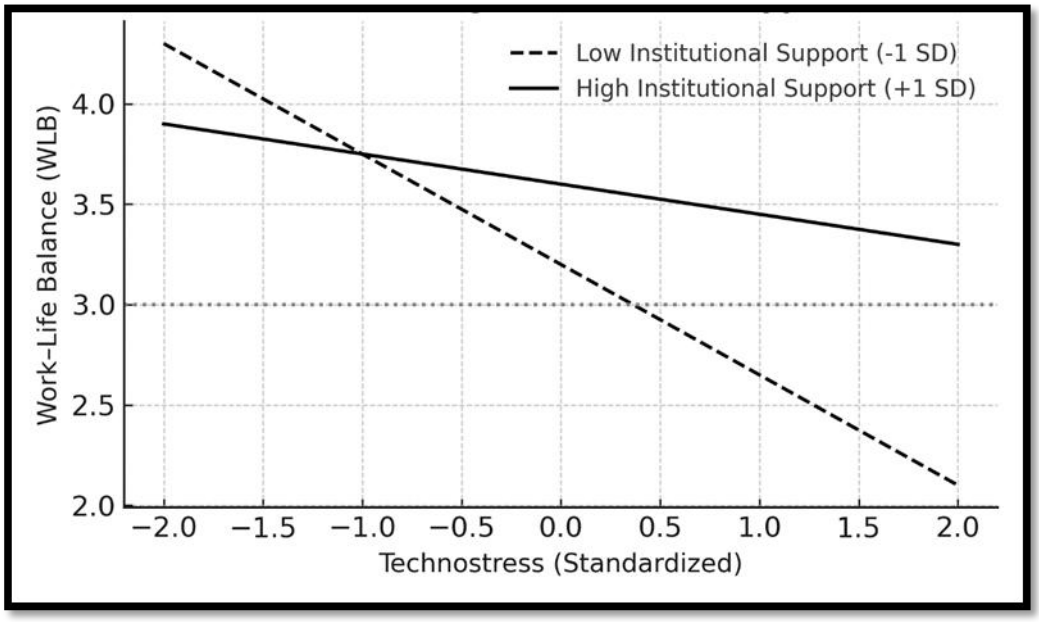

Figure 1: ***Simple Slopes of Technostress on WLB at Low vs High Institutional Support***

Source: Processing of Primary Data

- **Interpretation:** Institutional support significantly weakens the negative effect of technostress on WLB. Under high support, technostress has minimal impact on WLB, but under low support it substantially reduces WLB.

Conclusion

The present study sought to examine how the concept and experience of work–life balance (WLB) among female teachers has been reshaped in the wake of the COVID-19 pandemic, with a particular focus on the roles of technostress, institutional support, and psychological strain. Through the use of rigorous quantitative tools, including Exploratory Factor Analysis (EFA), mean difference testing (t-tests and ANOVA), cluster analysis, and moderation analysis, the study offers a nuanced understanding of the complex dynamics influencing female educators' professional and personal lives.

The EFA results uncovered three latent constructs—**Technostress, Work–Life Balance, and Psychological Strain**—which together explained a substantial proportion of the variance in the data. These dimensions confirm that WLB in the post-pandemic context is no longer a singular notion but a multifaceted construct affected by emotional, cognitive, and environmental stressors. The significant negative correlation between technostress and WLB highlights that the accelerated integration of

technology during and after the pandemic, though essential for educational continuity, has also imposed considerable psychological demands on teachers.

Group comparison tests further demonstrated **significant disparities across demographic subgroups**. Mothers reported notably lower WLB than their non-mother counterparts, reflecting the additional caregiving responsibilities they shouldered while working from home. Similarly, senior secondary teachers showed lower WLB scores than primary school teachers, suggesting that the higher academic stakes and increased digital workloads at advanced grade levels intensified stress and blurred work–life boundaries.

Cluster analysis revealed **three distinct teacher profiles**—Tech-Adopters, Overloaded Caregivers, and Resilient Innovators. This classification underscores that female teachers are not a homogeneous group in how they respond to technology-driven changes. While some leveraged institutional resources and personal adaptability to maintain balance, others—particularly the Overloaded Caregivers—experienced severe disruption to their WLB, indicating a need for targeted support measures.

Crucially, moderation analysis using the PROCESS Macro for SPSS provided compelling evidence that **institutional support acts as a protective buffer**. High levels of support significantly weakened the negative impact of technostress on WLB, whereas under low support, technostress sharply eroded WLB. This finding has critical policy implications: schools and educational institutions must recognize that the provision of tangible resources, clear communication, and emotional support structures are not peripheral benefits but central determinants of teachers' well-being and professional sustainability.

Overall, the study concludes that the pandemic has permanently transformed the contours of work–life balance for female educators. The traditional dichotomy between work and home life has dissolved into overlapping domains mediated by digital technology and shaped by institutional ecosystems. Sustaining teachers' well-being and productivity in this redefined landscape requires proactive strategies—investing in digital infrastructure, reducing role overload, offering flexible work arrangements, and embedding ongoing psychological support systems.

By situating technostress and institutional support as pivotal forces, this study contributes to the growing body of literature on post-pandemic educational work cultures. It also underscores the urgency for school leaders and policymakers to adopt an equity-driven approach that acknowledges the gendered nature of caregiving responsibilities and the differentiated experiences of teachers. Supporting female teachers' work–life balance is not merely a matter of personal well-being; it is fundamental to the resilience and effectiveness of the entire education system in the post-pandemic era.

Recommendations and Implications

The findings of this study carry significant implications for educational institutions, policymakers, and mental health practitioners seeking to support female teachers' work–life balance (WLB) in the post-COVID-19 landscape. As this research has shown, technostress and psychological strain emerged as major challenges that compromise WLB, while institutional support can serve as a powerful protective factor. The following recommendations are derived from these results:

- **Strengthen Institutional Support Mechanisms**

Given the moderating role of institutional support in reducing the negative effects of technostress, schools should adopt comprehensive support systems that include:

  - **Clear communication channels** to reduce ambiguity and role overload.
  - **Access to digital infrastructure and training** to build technological confidence.
  - **Structured mentorship and peer support networks** to enhance emotional resilience.

Such interventions would not only help teachers adapt to ongoing digitalization but also foster a more psychologically safe work environment.

- **Implement Flexible Work Policies**

Findings from the t-tests and ANOVA revealed that mothers and senior secondary teachers are particularly vulnerable to work–life imbalance. To address this:

  - Schools should consider **flexible scheduling, hybrid work options, and reduced teaching loads** during peak caregiving periods.

- Policies must incorporate **gender-sensitive provisions** that account for disproportionate caregiving responsibilities borne by women.

These measures can reduce strain, prevent burnout, and improve retention among female educators.

- **Provide Targeted Psychological Wellness Programs**

The EFA revealed psychological strain as a distinct dimension affecting WLB. Therefore, institutions should:

- Offer **regular stress management and counselling sessions** tailored to female teachers' challenges.
- Introduce **wellness audits and burnout risk assessments** as part of routine human resource practices.
- Develop **confidential mental health support channels** to encourage early help-seeking without stigma.

By institutionalizing well-being initiatives, schools can protect the long-term mental health of their teaching staff.

- **Differentiate Interventions Based on Teacher Profiles**

Cluster analysis identified three distinct profiles—Tech-Adopters, Overloaded Caregivers, and Resilient Innovators. This suggests that a one-size-fits-all approach will be ineffective.

Instead

- **Tech-Adopters** may benefit from professional development opportunities to sustain their positive trajectory.
- **Overloaded Caregivers** should be prioritized for workload redistribution, mental health support, and flexible policies.
- **Resilient Innovators** could be positioned as peer mentors to disseminate effective coping practices.

Tailoring interventions to these clusters can maximize their impact and improve organizational efficiency.

- **Policy-Level Reforms**

At a systemic level, education boards and policymakers should:

- Mandate **teacher well-being frameworks** as part of institutional quality standards.
- Provide **funding incentives** for schools that implement gender-sensitive work–life policies.
- Integrate **digital literacy and well-being training** into teacher education curricula to build resilience before workforce entry.

Such reforms would embed teacher well-being within the structural fabric of the education system rather than leaving it to individual effort.

Scope for Future Research

Future studies could adopt **longitudinal research designs** to capture how technostress and work–life balance (WLB) evolve over time. As hybrid and online models of teaching become increasingly normalized, it is likely that teachers' adaptation strategies, coping mechanisms, and institutional responses will also shift (Amorim et al., 2025). Longitudinal approaches would allow researchers to disentangle short-term stressors linked to emergency remote teaching from long-term adjustments associated with a digitized educational environment (Bakker & Demerouti, 2017). Such designs can also track cumulative effects, such as whether prolonged exposure to technostress leads to chronic burnout or whether institutional support fosters resilience and improved balance over time.

Another promising avenue involves integrating **qualitative methodologies** such as in-depth interviews, narrative inquiry, or focus groups. While quantitative measures capture broad patterns, qualitative data provide insights into the **lived experiences** of teachers, revealing nuances in how stressors are perceived, negotiated, and managed (Chakraborty, 2021). For instance, qualitative accounts may uncover invisible labor performed by women educators, coping strategies shaped by

cultural expectations, or the creative use of digital tools to mitigate stress. Such rich perspectives would complement statistical findings and contribute to a more holistic understanding of WLB in education.

Comparative research should also be prioritized. Studies that contrast **male and female educators** could illuminate gendered differences in the experience of technostress and boundary management. Evidence suggests that women often shoulder greater domestic responsibilities alongside professional demands (Dalessandro & Patterson, 2023; Hochschild &Machung, 2012), but systematic comparisons would clarify how these disparities translate into differing WLB outcomes. Similarly, **cross-cultural analyses** would enhance the generalizability of findings. Research in Western contexts often assumes higher institutional support and digital readiness, whereas teachers in developing countries face infrastructural gaps, digital divides, and culturally specific gender norms (Kundu & Bej, 2021; Sahoo, 2021). Comparative designs could therefore uncover context-specific challenges and identify best practices transferable across educational systems.

Finally, future research could integrate **multi-level analyses**, considering not only individual and institutional factors but also policy-level interventions. National education policies, investments in digital infrastructure, and cultural shifts in the perception of caregiving all have significant implications for how technostress and WLB are experienced in the teaching profession (Carroll et al., 2022). By combining longitudinal, qualitative, comparative, and multi-level approaches, future studies can move beyond documenting challenges to designing evidence-based strategies that promote sustainable and equitable work–life balance in post-pandemic education.

References

1. Amorim, J. A., Andrade, A., & Lousã, E. (2025). Techno-eustress under remote work: A longitudinal study in higher education teachers. *Education and Information Technologies.*https://doi.org/10.1007/s10639-025-13459-y
2. Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management Review, 25*(3), 472–491. https://doi.org/10.5465/amr.2000.3363315
3. Ayyagari, R., Grover, V., & Purvis, R. (2011). Technostress: Technological antecedents and implications. *MIS Quarterly, 35*(4), 831–858. https://doi.org/10.2307/41409963
4. Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273–285. https://doi.org/10.1037/ocp0000056
5. Brown, A. (2021). Impact of COVID-19 on educators. *Journal of Educational Research, 45*(2), 123–135.*
6. Carroll, A., Forrest, K., Sanders-O'Connor, E., Flynn, L., Bower, J. M., & Fynes-Clinton, S. (2022). Teacher stress and burnout during COVID-19: The buffering role of social support. *School Psychology, 37*(3), 167–178. https://doi.org/10.1037/spq0000506
7. Chakraborty, P. (2021). Impact of COVID-19 on the mental health of female teachers in India. *Indian Journal of Psychological Science, 15*(2), 45–56.*
8. Chong, S., Huang, Y., & Chang, C.-H. D. (2020). Supporting interdependent telework employees: A moderated-mediation model linking daily COVID-19 task setbacks to next-day work engagement. *Journal of Applied Psychology, 105*(12), 1408–1422. https://doi.org/10.1037/apl0000843
9. Dalessandro, C., & Patterson, D. (2023). *Who gets to choose? A global perspective on gender, work-life balance, and choice in the post-pandemic workplace.* Utah Valley University.
10. Diehl, D. C., Israel, G. D., Nelson, J. D., & Galindo, S. (2023). Work-life balance during the COVID-19 pandemic: Insights from extension professionals. *Journal of Human Sciences and Extension, 11*(1). https://doi.org/10.55533/2325-5226.1391
11. Greenhaus, J. H., &Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*(1), 76–88. https://doi.org/10.5465/amr.1985.4277352
12. Guo, Y., & Zhu, H. (2023). Burnout and mental health issues among remote educators: A pandemic review. *Educational Management Review, 52*(3), 200–218.*

13. Henneman, A., Thornby, K. A., & Bookstaver, B. (2022). Reflections on work-life integration post-pandemic: A perspective from pharmacy practice faculty. *Currents in Pharmacy Teaching and Learning.*

14. Hochschild, A. R., &Machung, A. (2012). *The second shift: Working families and the revolution at home.* Penguin.

15. Hopkins, A., &Bardoel, A. (2023). Employee preferences for hybrid work and organizational adoption: Post-pandemic evidence. *Journal of Workplace Innovation, 14*(1), 22–39.*

16. Johnson, L. (2020). Work-life balance in education. *Educational Management Review, 39*(1), 75–88.*

17. Kundu, A., & Bej, T. (2021). Digital divide and remote learning in India: Implications for teacher stress and equity. *Contemporary Education Dialogue, 18*(1), 32–49. https://doi.org/10.1177/0973184920979416

18. Li, L., & Wang, S. (2022). Technostress and job satisfaction in education: A Chinese study. *Computers & Education, 187,* 104147. https://doi.org/10.1016/j.compedu.2022.104147

19. Mazmanian, M., Orlikowski, W. J., & Yates, J. (2013). The autonomy paradox: The implications of mobile email devices for knowledge professionals. *Organization Science, 24*(5), 1337–1357. https://doi.org/10.1287/orsc.1120.0806

20. Sahoo, R. (2021). Digital divide and teacher stress during remote teaching: Evidence from Indian schools. *Indian Journal of Educational Research, 40*(4), 112–127.*

21. Siddiqui, S., Khan, A., & Raza, M. (2023). Technostress is a catalyst to leave the teaching profession: Evidence from Pakistan. *Educational Management Administration & Leadership, 51*(5), 760–778. https://doi.org/10.1177/17411432221107513

22. Smith, J. (2019). Balancing work and life. *International Journal of Business and Social Science, 10*(3), 45–60.*

23. Spagnoli, P., Molino, M., Molinaro, D., Giancaspro, M. L., Manuti, A., &Ghislieri, C. (2020). Workaholism and technostress during the COVID-19 emergency: The crucial role of the work–family interface. *Frontiers in Psychology, 11,* 620310. https://doi.org/10.3389/fpsyg.2020.620310

24. Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. S. (2007). The impact of technostress on role stress and productivity. *Journal of Management Information Systems, 24*(1), 301–328. https://doi.org/10.2753/MIS0742-1222240109

25. Wayne, J. H., Butts, M. M., Casper, W. J., & Allen, T. D. (2017). In search of balance: A conceptual and empirical integration of multiple meanings of work–family balance. *Personnel Psychology, 70*(1), 167–210. https://doi.org/10.1111/peps.12132

26. Wilson, J. R. (2023). *Work-life balance in the new normal: A study of performance and well-being post-pandemic* [Master's thesis, University of Dallas]. University of Dallas Institutional Repository.

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