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Research Article

# Digital Boundary-Setting, Work-Life Balance, and Technostress Among Public High School Teachers

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**Abstract.** Digital technologies now allow public school teachers' work to intrude on personal time long after the instructional day ends, a pattern whose consequences for teacher well-being remain understudied in the Philippine setting. This descriptive-correlational study examined the levels of digital boundary management practices (digital boundary-setting), work-life balance, and technostress among 35 public high school teachers from Grades 7 to 10 at a public secondary school in Isabela, Philippines, and tested whether the three constructs were related. Using total population sampling, all eligible teachers took part in the dependable and verified five-point Likert questionnaire, which was then analyzed using descriptive statistics and Pearson's r with an alpha level of .05. Results showed that digital boundary management practices ($M$ = 3.40, $SD$ = 0.43), work-life balance ($M$ = 3.15, $SD$ = 0.47), and technostress ($M$ = 3.02, $SD$ = 0.42) were all at a moderate level. The key finding was that digital boundary management practices were not significantly related to work-life balance, $r(33) = .27$, $p = .120$, or to technostress, $r(33) = -.06$, $p = .756$, whereas work-life balance and technostress were significantly and negatively correlated, $r(33) = -.40$, $p = .017$. The results show that it may not be enough for teachers to have personal boundary setting, as there may be factors at work contributing to their overall work-life balance and technostress. School-level governance measures, rather than individual effort alone, may be needed to protect teacher well-being in increasingly digitalized educational environments.

**Keywords:** *Digital boundary management; Philippines; Public high school teachers; Technostress; Work-life balance.*

The widespread adoption of digitally mediated instruction in Philippine schools, accelerated by the COVID-19 pandemic and sustained through blended learning and technology-enhanced instruction, appears to have changed how teachers experience the line between work and personal life. Teachers increasingly carry laptops and mobile phones beyond the classroom, extending work-related tasks into evenings and weekends and producing what has been described as "boundary blurring." In response, many teachers rely on digital boundary management practices—deliberate strategies such as muting after-hours notifications, using separate devices or accounts for schoolwork, and negotiating turnaround-time expectations — to regulate when and how work-related technology enters personal time. This research also frames managing digital situations more simply as digital boundary management, the way teachers separate study time from free time while using devices.

Two consequences of this blurring have drawn research attention: technostress and diminished work-life balance. Technostress, the strain that results from an inability to cope with information and communication technology demands, has been documented among teachers in a range of settings, including Turkey (Efilti & Çoklar, 2019), Chile (Estrada-Muñoz et al., 2021), Pakistan (Shaukat et al., 2022), Peru (Estrada-Araoz et al., 2023), Sweden (Willermark et al., 2023), and higher education more broadly (Khlaif et al., 2023; Truța et al., 2023). Chou and Chou (2021) showed that technostress is not a single, uniform experience but reflects distinct dimensions—techno-

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overload, techno-invasion, and techno-complexity—that affect teachers unequally, while Camacho and Barrios (2022) linked the shift to teleworking with technology-specific increases in stress that were separate from workload itself. These patterns are consistent with the job demands-resources model, which frames technostress as arising when technological job demands exceed the personal and organizational resources available to cope with them (Chou & Chou, 2021; Truța et al., 2023); within this framework, digital boundary management may be understood as a personal resource that may help to buffer technological demands.

A parallel body of work links boundary management directly to work-life balance. Grounded in boundary theory, which holds that individuals differ in how they prefer to segment or integrate work and personal domains, Mellner et al. (2021) showed that work-life conflict stems less from any particular level of segmentation than from the mismatch between a person's preferred and actual boundary arrangement, and Adisa et al. (2022) found that employees who actively managed their work-nonwork boundaries during the pandemic reported better work-life balance than those whose boundaries were dictated by organizational demands. In the Philippine setting specifically, Aquino et al. (2023) found that secondary teacher-parents struggle to reconcile Department of Education reporting requirements, remedial-class duties, and constant digital communication (chat groups, online portals) with family responsibilities, intensifying work-family conflict—though their phenomenological approach did not quantify the relationship between boundary management and its outcomes.

While the job demands-resources model and boundary theory focus mainly on what each teacher does to manage demands and set boundaries, person-environment fit theory attends to the institution. In this framework, the individual's effort does not operate in isolation from the institutions in which teachers work. Person-environment fit theory suggests that well-being depends jointly on individual coping strategies and the surrounding environment (Hascher et al., 2021; Godfrey & Muñoz-Chereau, 2024; Mulyana et al., 2025). Hascher et al. (2021) advanced an integrative model asserting that the well-being of a teacher can only be understood when taking into account both personal resources and circumstances in which he or she works, which indicates that the own efforts of the teacher to maintain some boundaries may be undermined or facilitated by the culture of communication at the school where he or she works. Organizational resilience has also been defined as the condition that contributes to the development of the school's organization (Cotos, 2021). In their research, Godfrey and Muñoz-Chereau (2024) arrived at the conclusion that organizational resilience in the school can be accounted for by the development of transparent policies, involvement of stakeholders, and adequate allocation of resources, which was supported by Mulyana et al. (2025).

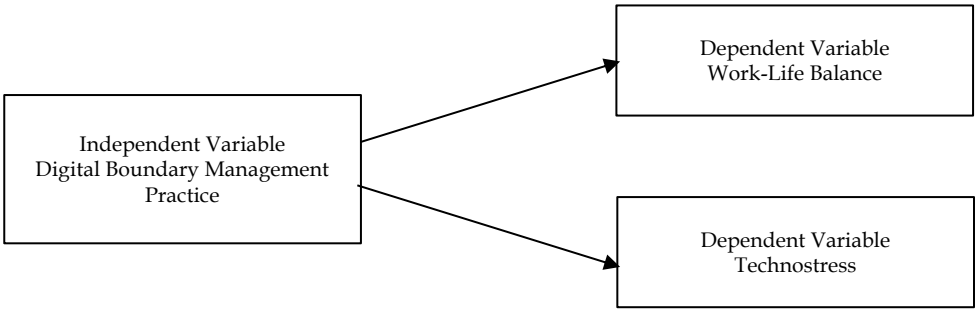



**Figure 1.** *Research paradigm showing the hypothesized relationships among digital boundary management practices (independent variable), work-life balance, and technostress (dependent variables).*

Taken together, this literature suggests that digital boundary management, work-life balance, and technostress are theoretically interconnected, and that their relationship may depend on organizational and individual factors. However, Philippine research that quantitatively tests the joint relationship among these three constructs remains scarce; the most directly relevant local study, Aquino et al. (2023), is qualitative and does not measure the strength of the relationships involved. In particular, the question remains open as to whether or not teachers indicate stronger digital boundary management practices and better work-life balance and less technostress in the context

of public school in the Philippines, or whether these results are more related to school conditions that are not under the control of individuals. Using a public high school in Isabela, Philippines, as the research setting, the present study examined the levels of digital boundary management practices, work-life balance, and technostress among teachers, and tested whether digital boundary management is significantly related to work-life balance and to technostress, and whether work-life balance and technostress are related to each other (Figure 1). Beyond addressing this empirical gap, the findings are intended to give teachers, school heads, and division officials locally grounded evidence for developing digital-wellness policies, communication-hour guidelines, and workload-management strategies, and to provide future researchers with a quantitative reference point for further work on boundary management and teacher well-being in the Filipino public education system.

## Methodology

### Research Design

This study used a descriptive-correlational research design, appropriate for describing the levels of digital boundary management practices, work-life balance, and technostress among respondents and for testing whether statistically significant relationships existed among these variables without manipulating them (Bhandari, 2021). The descriptive component described the respondents' profile and the levels of the study variables, while the correlational component tested the relationships among digital boundary management practices, work-life balance, and technostress.

### Participants and Sampling Technique

The study was conducted at a public high school in Isabela, Philippines, under the Department of Education, using teachers from Grades 7 to 10 as respondents. Because the eligible population was small and finite, total population sampling was used: all teachers who held a regular or provisional item, carried at least one class load, and used a personal or school-issued digital device for instructional or administrative purposes were included ($N$ = 35).

### Data Gathering Procedure

After the graduate school approved the research proposal and the researcher obtained a Department of Education research permit and school-head endorsement, the researcher personally distributed printed questionnaires to all eligible teacher-respondents. Respondents completed the questionnaire at their convenience to avoid interfering with class schedules, and the researcher retrieved and checked each completed copy for completeness before encoding the data. Data were gathered over 20 weeks, from July 2025 to November 2025.

### Data Analysis Procedure

Descriptive statistics—frequency, percentage, weighted mean, and standard deviation—were used to summarize the demographic profile and the levels of the three study variables. Pearson's $r$ was used to test the relationships between digital boundary management practices and work-life balance, between digital boundary management practices and technostress, and between work-life balance and technostress, with significance evaluated at $\alpha$ = .05. Before conducting correlation analyses, Pearson's r assumptions were assessed. The linearity was indicated by the values of scatterplots and the relevant values of a test for a quadratic term for each variable pair; it was shown that there was no considerable linearity violation (all ps > .10). The normality was checked with Shapiro-Wilk test, as well as skewness and kurtosis values; the digital boundary management practices scores (W = .97, p = .468) and work-life balance scores (W = .97, p = .475) did not differ significantly from normality, while the technostress scores did (W = .93, p = .034), although their values of skewness (0.59) and kurtosis (-0.53) were acceptable (±2). The outliers were checked using boxplots and standardized z-scores, and no outliers were found (the largest $|z|$ = 2.44). Since the violation of normality was minimal, the Pearson's r approach was retained, although the Spearman's rank-order coefficient was also calculated to check the robustness of results.

### Ethical Considerations

Participation was voluntary and preceded by informed consent describing the study's purpose, procedures, and the respondents' right to withdraw at any time. No personal identifiers were collected; respondents were identified only by codes (R01–R35), and data were stored in password-protected files. Because the study relied solely on self-reported, non-sensitive information and allowed respondents to skip uncomfortable items, it posed minimal risk. The study was conducted in accordance with the Data Privacy Act of 2012 (Republic Act No. 10173) and was reviewed and approved by the graduate school's ethics process and the relevant Department of Education division research committee prior to data collection.

## Results and Discussion

### Demographic Profile of the Respondents

**Table 1.** *Demographic Profile of the Respondents (N = 35)*

| Variable | Category | Frequency (*f*) or Mean (*M*) | Percentage (%) or Standard Deviation (*SD*) |
|---|---|---|---|
| Sex | Female | 21 | 60.0 |
| | Male | 14 | 40.0 |
| Civil Status | Married | 22 | 62.9 |
| | Single | 9 | 25.7 |
| | Widowed/Separated | 4 | 11.4 |
| Primary Device | Smartphone only | 16 | 45.7 |
| | Personal laptop/PC | 14 | 40.0 |
| | School-issued device | 5 | 14.3 |
| Age (years) | Mean and standard deviation | 40.54 | [SD] |
| Teaching experience (years) | Mean and standard deviation | 16.77 | [SD] |

*Note.* f = frequency; % = percentage of respondents (N = 35); M = mean; SD = standard deviation.

According to Table 1, females made up the majority of respondents; most were married and used personal devices such as smartphones or laptops instead of school-issued devices (85.7%). The respondents' mean age was 40.54 years, with a mean teaching experience of 16.77 years. The results indicate that the respondents were a mature and experienced group of teachers.

### Level of Digital Boundary Management Practices, Work-Life Balance, and Technostress

**Table 2.** *Mean, Standard Deviation, and Descriptive Level of the Study Variables (N = 35)*

| Variable | Mean (*M*) | Standard Deviation (*SD*) | Descriptive Level |
|---|---|---|---|
| Digital Boundary Management Practices | 3.40 | 0.43 | Moderate |
| Work-Life Balance | 3.15 | 0.47 | Moderate |
| Technostress | 3.02 | 0.42 | Moderate |

*Note. M* = mean; *SD* = standard deviation. Descriptive levels: very high (4.21–5.00), high (3.41–4.20), moderate (2.61–3.40), low (1.81–2.60), very low (1.00–1.80).

As shown in Table 2, three variables scored average scores in terms of severity, among which digital boundary management practices scored the highest and technostress the lowest, indicating an average degree of boundary-setting behavior, a work-life balance that was neither strongly protected nor severely compromised, and a noticeable but not intense level of technostress. This finding supports Shaukat et al. (2022), who reported moderate levels of technostress in relation to work-family conflict and life satisfaction among teacher educators, and Truța et al. (2023), who found moderate levels of technostress among academics.

**Table 3.** *Frequency Distribution of Descriptive Levels per Variable (N = 35)*

| Descriptive Level | Digital Boundary Management Practices, *f* (%) | Work-Life Balance, *f* (%) | Technostress, *f* (%) |
|---|---|---|---|
| Very High | 3 (8.6) | 0 (0.0) | 0 (0.0) |
| High | 14 (40.0) | 9 (25.7) | 7 (20.0) |
| Moderate | 18 (51.4) | 21 (60.0) | 20 (57.1) |
| Low | 0 (0.0) | 5 (14.3) | 8 (22.9) |
| Very Low | 0 (0.0) | 0 (0.0) | 0 (0.0) |

*Note. f* = frequency; % = percentage of respondents (*N* = 35).

According to Table 3, nearly half of participants (48.6%) reported significant to very significant digital boundary management practices; however, most reported moderate or low levels of work-life balance. This indicates that strong personal boundary-setting does not lead to similar levels of work-life balance. This aligns with Godfrey and Muñoz-Chereau (2024) and Mulyana et al. (2025), who argue that the impact of personal boundary-setting may be limited by organizational context.

### Relationship Between Digital Boundary Management Practices and Work-Life Balance

The relationship between digital boundary management practices and work-life balance is positive but not significant ($r(33) = .27$, $p = .120$). This indicates a weak correlation that cannot be separated from random chance at an alpha of .05. However, this contrasts with the findings of Mellner et al. (2021) and Adisa et al. (2022), which found that the two constructs were significantly related to work-life outcomes. The absence of a statistically

significant finding in this research suggests that elements beyond digital boundary management practices at the school level need to be explored, including individual boundary-setting actions (e.g., workloads, governance norms, or family responsibilities reviewed by Aquino et al., 2023). However, other domains related to work-life balance may be more closely connected to work-life balance than those related to digital boundary management practices, even if the present research does not provide proof of this theory. Originally, the small sample size (N=35) may have limited the research's ability to detect a small correlation.

**Table 4.** *Correlation Between Digital Boundary Management Practices and Work-Life Balance*

| Variables Correlated | Pearson's *r* | *p* | Interpretation |
|---|---|---|---|
| Digital Boundary Management × Work-Life Balance | .27 | .120 | Not significant (weak positive) |

*Note.* $N = 35$; $r$ = Pearson's correlation coefficient; $p$ = probability value; significance evaluated at $\alpha = .05$.

### Relationship Between Digital Boundary Management Practices and Technostress

**Table 5.** *Correlation Between Digital Boundary Management Practices and Technostress*

| Variables Correlated | Pearson's *r* | *p* | Interpretation |
|---|---|---|---|
| Digital Boundary Management × Technostress | -.06 | .756 | Not significant (negligible) |

*Note.* $N = 35$; $r$ = Pearson's correlation coefficient; $p$ = probability value; significance evaluated at $\alpha = .05$.

Digital border management practices showed a small, statistically insignificant association with technostress, r(33) = -.06, p = .756. This contradicts expectations in the technostress literature that using border management methods can lessen techno-invasion and, consequently, reduce technostress. (Chou & Chou, 2021; Estrada-Araoz et al., 2023). Digital border management practices showed a small, statistically insignificant association with technostress, r(33) = -.06, p = .756. This contradicts expectations in the technostress literature that using border management methods can lessen techno-invasion and, consequently, diminish technostress.

### Relationship Between Work-Life Balance and Technostress

**Table 6.** *Correlation Between Work-Life Balance and Technostress*

| Variables Correlated | Pearson's *r* | *p* | Interpretation |
|---|---|---|---|
| Work-Life Balance × Technostress | -.40 | .017 | Significant (moderate negative) |

*Note.* $N = 35$; $r$ = Pearson's correlation coefficient; $p$ = probability value; significance evaluated at $\alpha = .05$.

Unlike the two relationships above, work-life balance and technostress were significantly and moderately negatively correlated, $r(33) = -.40$, $p = .017$ (Table 6), indicating that lower work-life balance was associated with higher technostress, and vice versa. This finding is consistent with Shaukat et al. (2022), who reported a positive relationship between technostress and work-family conflict, and with Estrada-Araoz et al. (2023), who found that teachers with higher technostress reported lower psychological well-being. Together, these findings suggest a close link between work-life balance and technostress, shaped by how technology is used in the workplace. However, the correlational design precludes conclusions about the direction or experiential causes of the relationship between the two concepts. Furthermore, the findings support school-level interventions that address both concepts rather than relying solely on individual boundary management. (Godfrey & Muñoz-Chereau, 2024; Mulyana et al., 2025).

## Conclusion

The findings of this study, which takes place in a Philippine public school context where previous studies are lacking, provide quantitative evidence that individual digital boundary management practices of teachers are not related to work-life balance nor technostress, while work-life balance and technostress share a significant negative correlation. Moreover, these findings suggest that although teachers' individual digital boundary management practices exist, they do not ensure positive work-life balance or reduce technostress. These two phenomena appear to be negatively correlated and driven by school-level conditions that individual teachers cannot influence.

For practice and policy, these findings suggest that school leaders and division offices should not rely solely on the teachers' individual approaches in boundary management to protect their well-being. Clear protocols for communication after working hours, fair allocation of digital tasks, and organizational resilience initiatives such as clear policy-making and stakeholder involvement (Godfrey & Muñoz-Chereau, 2024; Mulyana et al., 2025) may

better protect teachers against technostress and promote work-life balance than individual approaches. Because work-life balance and technostress were significantly and negatively correlated in this study, future research and interventions may treat them as related concepts. Due to the restriction of this study to one school, a small sample size (N = 35) as well as the use of self-reported cross-sectional correlational data, future research could include different schools from the same district to increase the sample size and enable multilevel analysis; adopt longitudinal methodology or qualitative interviews, like volunteers who participated in the study of Aquino and others (2023) to find out how educators deal with digital boundaries over time; as well as examine variables of organizational resilience as mediating variables, which were not possible to analyze in this research based on the results of Hascher et al. (2021), Godfrey and Munoz-Chereau (2024).

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