



The Digital Burden in Higher Education: An Exploratory Assessment of Technostress Indicators Among Faculty Members in Algeria

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Abstract

This empirical study explores the dimensions of technostress among university faculty members. It specifically examines the primary technostress indicators experienced by professors and investigates whether these indicators significantly vary according to gender, academic rank, years of experience, and administrative responsibility. The study was conducted in March 2026 at the Faculty of Human and Social Sciences, Ibn Khaldoun University of Tiaret, this research employed a quantitative cross-sectional design. Data were collected from a randomly selected sample of 69 permanent university professors. The findings revealed high levels of technostress across the evaluated indicators, led by professional technology dependence, usage intensity, information overload, and communication overload. Regarding demographic and professional differences, female professors exhibited significantly higher levels in continuous digital interruptions compared to males. Furthermore, full professors reported significantly higher pressure regarding constant connectivity compared to assistant professors. Concerning professional experience, significant differences emerged, favoring professors with 8 or more years of experience in constant connectivity pressure, whereas those with fewer than 8 years of experience scored higher in task-switching. Finally, professors holding administrative responsibilities demonstrated significantly higher technostress levels in professional technology dependence, role boundary blurring, and continuous digital interruptions.

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1. Introduction

The university environment stands among the sectors most profoundly transformed by digital advancements, particularly with the widespread integration of digital tools across teaching, administration, and scientific research. Educational platforms, software applications, and digital communication channels have become fundamental instruments for university professors, facilitating lecture preparation, student mentoring, research execution, and administrative coordination. Although these technologies offer significant operational advantages in enhancing performance and connectivity, they concurrently generate mounting psychological and professional pressures, culminating in a phenomenon known as technostress.

Technostress refers to a state of psychological, cognitive, and physical strain resulting from the continuous use of digital technologies, accompanied by an incessant influx of information, messages, and electronic notifications, alongside the demands of persistent technological engagement. Furthermore, it is associated with the pressure of perpetual availability on digital platforms, the difficulty of detaching professional life from personal domains, and the multiplicity of technology-driven tasks. These factors directly compromise an individual's psychological well-being and impair both professional and social functioning.

Within this context, university professors find themselves compelled to adapt to a perpetually evolving digital educational ecosystem, necessitating the continuous acquisition of technical skills and the management of overwhelming volumes of information and software applications. This dynamic frequently induces mental fatigue, tension, and psychological exhaustion, particularly when compounded by the inherent professional pressures of teaching, scientific research, and pedagogical supervision. Consequently, scholarly interest has increasingly focused on examining the interplay between mental health and technostress among faculty members, as they represent one of the professional demographics most vulnerable to the pressures of digital transformation within higher education.

Moreover, the digital evolution experienced by the modern university accelerated by the expansion of e-learning and digital platforms has fundamentally reshaped the nature of academic labor and According to Djeradi and Amour (2026) have altered the traditional concepts and foundations that characterized work for long centuries. This shift has transitioned from the physical to the immaterial, the realistic to the virtual, paper and tangible tools to virtual platforms and digital media. The professor's role is no longer confined to delivering knowledge within physical classrooms; rather, it demands the management of digital content, continuous interaction via electronic media, and the oversight of remote academic activities. This paradigm shift has introduced novel challenges associated with extended working hours, the difficulty of disconnecting from the professional sphere, and escalating technical demands, ultimately culminating in the accumulation of psychological distress and heightened levels of technostress.

2. Problem Statement

Modern academic environments are characterized by high-demand professional settings, where faculty members navigate complex roles encompassing teaching, scientific research, mentoring, and administrative duties (Tarafdar et al., 2007). This multifaceted responsibility requires sustained cognitive and emotional engagement, often creating fertile ground for occupational stress when professional demands outweigh psychological resources (Ragu-Nathan et al., 2008).

With the rapid acceleration of digital transformation in higher education, these professional pressures have expanded beyond traditional workloads into the realm of digital connectivity. University professors are increasingly expected to manage virtual learning platforms, engage in remote instruction, maintain continuous professional communication, and constantly update their technical competencies. While digital integration offers operational flexibility, it simultaneously blurs the boundaries between professional and personal life, introducing novel psychological challenges (Saeed et al., 2022).

Primary among these emergent challenges is technostress a state of psychological and physiological strain resulting from the mandatory and continuous use of digital technologies (Agogo & Hess, 2018). Contemporary literature underscores that technostress significantly impairs professional well-being and general performance, manifesting as cognitive overload, constant connectivity pressure, and diminished job satisfaction (Yang et al., 2025; Sandra, 2024). Although international and regional studies (e.g., Al-Hindawi, 2024; Patra & Bansal, 2025) have documented the adverse impacts of digital strain on academic staff, significant research gaps remain.

Specifically, while prior research has largely examined technostress in relation to general job burnout, there is a distinct lack of exploratory assessments focusing comprehensively on the specific multidimensional structure of technostress among university professors, particularly within the Algerian higher education context. Consequently, this study addresses this empirical gap by exploring the underlying dimensions of technostress among faculty members. Accordingly, the core research problem is guided by the following central question:

What are the primary indicators of technostress experienced by university professors, and do these indicators significantly vary according to gender, academic rank, years of experience, and administrative responsibility?

3. Hypothesis

- *H1: University professors experience significant levels of technostress across multiple core indicators within the contemporary digital academic environment.*
- *H2: There are statistically significant differences in the perceived levels of technostress indicators among university professors based on (Gender, Grade, Experience and Administrative responsibility)*

4. Theoretical background

4.1. Definition of Technostress:

The concept of technostress did not originate in organizational psychology but in clinical psychology. Brod (1984) first described it as a modern disease of adaptation, caused by an individual's inability to cope with new computer technologies in a healthy way. This early framing was essentially clinical, treating technostress as a syndrome afflicting people who could not keep pace with the machines around them.

Technostress represents a deeply human experience a modern psychological and physiological phenomenon that unfolds when individuals attempt to navigate the relentless and pervasive integration of information and communication technologies (ICTs) into their daily and professional lives. Rather than viewing technology merely as an external tool, modern organizational research frames technostress through a transactional lens, where digital demands constantly interact with an individual's coping resources and emotional resilience (El Kiassi & Jahidi, 2023). When the omnipresence of digital connectivity blurs the sacred boundaries between work and personal life, or when system complexities and high-velocity updates outpace human cognitive capacity, workers frequently experience profound emotional exhaustion, fatigue, and distress (Rademaker et al., 2025). Ultimately, this human-centric view highlights that behind every digital interface lies a person whose well-being, psychological safety, and intrinsic motivation depend heavily on balanced workloads, supportive leadership, and conscious organizational boundaries.

4.2. Technostress in the Digital Academic Environment:

Higher education has become one of the most fertile grounds for technostress research, largely because the COVID-19 pandemic forced a sudden, sustained reliance on digital tools across nearly every level of the education system. Nang, Maat, and Mahmud (2022), in a systematic review of teacher technostress during the pandemic, documented how educators were required to adopt coping mechanisms with little preparation time. In Jordan, Akour et al. (2020) found in a large cross-sectional study that the shift to emergency distance teaching affected the psychological status of university instructors, with a majority reporting that the boundary between work and personal time had been eroded by round-the-clock contact from students. Faculty in particular have been shown to carry a disproportionate share of this burden. Khlaif et al. (2023) found that remote learning during the crisis period elevated technostress levels among academics, and Boyer-Davis and Berry (2022) documented how faculty technostress evolved over the course of the pandemic, though they also found that adaptation over time was associated with reduced technostress and lower computer anxiety. In Spain, Rey-Merchán and López-Arquillos (2022) framed technostress among teachers as an occupational risk tied to sustained ICT use, and in Pakistan, Shaukat, Bendixen, and Ayub (2022) linked technostress among teacher educators working remotely to work-family conflict and reduced life satisfaction.

Taken together, this body of evidence suggests that technostress in higher education is neither a marginal nor a fading concern: it is a structural feature of how digital tools have reshaped academic work, still visible well beyond the acute phase of the pandemic that first exposed it. What varies across studies is not whether faculty experience technostress

4.3. Negative Outcomes of Technostress:

The consequences of technostress are now fairly well mapped, and they operate at both the individual and organizational level. At the individual level, the most consistently reported outcome is emotional exhaustion: higher levels of perceived technostress are associated with increased emotional exhaustion (Wirth et al., 2024), a depletion of psychological resources often theorized

through the Job Demands–Resources model, in which unmanaged techno-stressors act as job demands that erode wellbeing unless offset by adequate resources such as technical support, training, or supportive leadership (Bakker & Demerouti, 2017).

At the organizational level, the downstream effects are broader still. Technostress has been linked to psychological strain and burnout, lower job satisfaction, reduced organizational commitment, decreased productivity and job performance, increased turnover intentions, and sickness absence tied to strain-related health impacts (Ly & Ly, 2024; Yao & Wang., 2023; Yang et al., 2025). Recent studies of teaching staff confirm this pattern empirically: structural equation modeling among STEM teachers showed that technostress creators significantly increased burnout and negatively affected both organizational commitment and work performance (Zhang et al., 2025).

Turnover itself appears to be less a discrete event than the endpoint of a longer disengagement process: technostress has been shown to drive turnover intention indirectly, first by increasing burnout and eroding work-life balance (Sharma & Tiwari, 2023). Constant digital connectivity compounds this further the difficulty of psychologically detaching from work due to mobile connectivity has been linked to guilt, anxiety, and sustained strain, and ultimately to exhaustion, dissatisfaction, and turnover intentions (Sharma et al., 2025). Not every outcome is uniformly negative, however; a few studies note that moderate techno-overload can, under certain conditions, be appraised as a challenge rather than a hindrance (Wang & Yao, 2023), which is part of why the field has shifted toward the distress/eustress distinction rather than treating technostress as an unambiguous harm.

5. Methodology:

This empirical study was conducted in March 2026 at the Faculty of Human and Social Sciences, Ibn Khaldoun University of Tiaret, which served as the research field. Utilizing a quantitative cross-sectional design, data were collected from a randomly selected sample of 69 permanent university professors across various departments, out of a total population of 191 professors, representing a sampling percentage of 36%. Technostress was measured using the 11-item scale developed by Ben Mohamed (2025), which is designed to capture diverse manifestations of psychological and mental strain arising from technology usage, such as daily digital information overload, immediate response expectations, social expectations for virtual presence, and simultaneous digital multitasking. Participants indicated their degree of agreement using a 5-point Likert scale, and the internal consistency reliability yielded a Cronbach's alpha of 0.896.

Table 1. Socio-Demographic Characteristics of the sample

Characteristics	n	%
Sex		
Male	48	69.6
Female	21	30.4
Grade		
Assistant Professor	11	15.9
Lecturer (B)	18	26.1
Lecturer (A)	30	43.5
Professor	10	14.5
Experience		
<8	20	29
8 to 11	20	29
12 to 15	29	42
Administrative responsibility		
With administrative responsibility	28	40.6
Without administrative responsibility	41	59.4

Note. N = 69. n = Frequency; % = Percentage.

Table 1 presents the socio-demographic characteristics of the participating university professors N = 69. Regarding sex, the majority of the sample are male (n= 48, 69.6%), while female professors account for 30.4% (n = 21). Concerning academic grade, the largest group consists of Lecturer (A) at 43.5% (n = 30), followed by Lecturer (B) at 26.1% (n = 18), Assistant Professor at 15.9% (n = 11), and Professors representing 14.5% (n = 10). Professional experience is relatively balanced, with 42% (n = 29) having 12 to 15 years of experience, and 29% (n = 20) falling into each of the other categories (<8 years and 8 to 11 years). Finally, concerning administrative responsibilities, more than half of the participants do not hold an administrative position (n = 41, 59.4%), whereas 40.6% (n = 28) have administrative responsibilities.

In summary, the sample exhibits a diverse professional and demographic profile across academic ranks, experience levels, and administrative responsibilities, alongside a notable gender distribution. This structural heterogeneity provided a robust basis for conducting comparative analyses across subgroups.

6. Results:

6.1. H1: University professors experience significant levels of technostress across multiple core indicators within the contemporary digital academic environment.

Table 2. Descriptive Statistics for Technostress Dimensions and Indicators

Indicators (Items)	Mean	SD
1. Professional Technology Dependence	4.04**	.91
2. Usage Intensity	3.69**	1.04
3. Information Overload	3.85**	.97
4. Communication Overload	3.89**	.97
5. Role Boundary Blurring	3.47**	.99
6. Constant Connectivity Pressure	3.40**	1.07
7. Notification-Induced Distraction	3.73**	1.02
8. Task-Switching	3.52**	.94
9. Continuous Digital Interruptions	3.30**	.95
10. Fear of Missing Out	3.21	1.16
11. Excessive Digital Multitasking	3.23	1.04
Technostress	4.22**	.63

Note: Indicators were extracted from the original items of Ben Mohamed (2025), where the mean is statistically significant (one-sample t-test, test value = 3, 5-point Likert scale)

The descriptive results presented in Table 5.1 indicate that university professors report elevated levels of technostress across the majority of the indicators examined, with an overall mean score of 4.22 (SD = .63), suggesting a generally high degree of perceived digital strain within the sample. Among the individual indicators, Professional Technology Dependence (M = 4.04, SD = .91) and Communication Overload (M = 3.89, SD = .97) emerged as the most pronounced sources of technostress, followed closely by Information Overload (M = 3.85, SD = .97) and Notification-Induced Distraction (M = 3.73, SD = 1.02). These findings are consistent with the demands of contemporary academic practice, in which faculty members are increasingly required to maintain continuous engagement with digital communication platforms, learning management systems as Moodle, and administrative portals beyond conventional working hours such as progress. The comparatively lower, though still notable, means recorded for Fear of Missing Out (M = 3.21, SD = 1.16) and Excessive Digital Multitasking (M = 3.23, SD = 1.04) suggest that while these dimensions are present within the professoriate's experience, they constitute a less dominant component of the overall technostress construct than dependence- and overload-related indicators. Taken together, these results provide empirical support for H1, confirming that technostress manifests as a multidimensional phenomenon among university professors, driven primarily by sustained reliance on digital tools and the volume of information and communication such tools generate.

6.2. H2: *There are statistically significant differences in the perceived levels of technostress indicators among university professors based on (Gender, Grade, Experience and Administrative responsibility).*

6.2.1. Gender differences:

Table 3. Independent Samples T-Test Results for Gender Differences in Technostress Dimensions and Indicators

Indicators (Items)	Male		Female		T(69)
	M	SD	M	SD	
1. Professional Technology Dependence	4.00	.82	4.14	1.10	-.59
2. Usage Intensity	3.72	.98	3.61	1.20	.36
3. Information Overload	3.85	.89	3.85	1.15	.01
4. Communication Overload	3.91	.89	3.85	1.15	.23
5. Role Boundary Blurring	3.39	.98	3.66	1.01	-1.04
6. Constant Connectivity Pressure	3.37	1.06	3.47	1.12	-.35
7. Notification-Induced Distraction	3.75	.97	3.71	1.14	.13
8. Task-Switching	3.52	.89	3.52	1.07	-.01
9. Continuous Digital Interruptions	3.12	.95	3.71	.84	** -2.43
10. Fear of Missing Out	3.16	1.17	3.33	1.15	-.54
11. Excessive Digital Multitasking	3.18	1.06	3.33	1.01	-.53
Technostress	3.54	.55	3.65	.79	.50

Independent samples t-tests revealed no statistically significant difference between male and female professors in overall technostress, $t(69) = .50$, $p > .05$, indicating that gender does not constitute a primary differentiating factor for the construct as a whole. At the level of individual indicators, the pattern was largely consistent with this finding, with the exception of Continuous Digital Interruptions, for which a statistically significant difference emerged, $t(69) = -2.43$, $p < .05$, favoring higher scores among female professors ($M = 3.71$, $SD = .84$) relative to their male counterparts ($M = 3.12$, $SD = .95$). This isolated difference may be attributable to the disproportionate interplay between professional and domestic responsibilities frequently reported among women in academia, which can result in more frequent fragmentation of work-related digital engagement. No other indicators approached statistical significance, suggesting that the experience of technostress is largely comparable across genders within this sample, with the notable exception of interruption-related strain.

6.2.2. Grade differences:

Table 4. One-Way ANOVA Results for Academic Rank Differences in Technostress Dimensions and Indicators

Indicators (Items)	Assistant Professor		Lecturer (A)		Lecturer (B)		Professor		F(69)
	M	SD	M	SD	M	SD	M	SD	
1. Professional Technology Dependence	4.27 ^a	.90	3.83 ^a	1.04	4.10 ^a	.88	4.00 ^a	.81	.58
2. Usage Intensity	3.54 ^a	1.12	3.61 ^a	1.09	3.76 ^a	.93	3.80 ^a	1.31	.18
3. Information Overload	3.72 ^a	1.27	3.83	0.78	3.90 ^a	.95	3.9 ^a	1.10	.09
4. Communication Overload	3.63 ^a	1.02	3.83 ^a	.98	3.90 ^a	.95	4.30 ^a	.94	.85
5. Role Boundary Blurring	3.54 ^a	.68	3.22 ^a	1.11	3.56 ^a	1.10	3.60 ^a	.69	.53
6. Constant Connectivity Pressure	2.81^{ab}	1.32	3.50 ^{bc}	1.04	3.33 ^{bc}	1.06	4.10^c	.31	*2.77
7. Notification-Induced Distraction	3.54 ^a	1.36	3.72 ^a	.89	3.70 ^a	1.05	4.10 ^a	.73	.55
8. Task-Switching	3.81 ^a	.75	3.50 ^a	.98	3.30 ^a	.98	3.9 ^a	.87	1.46
9. Continuous Digital Interruptions	3.45 ^a	.93	3.11 ^a	1.02	3.26 ^a	1.01	3.6 ^a	.69	.65
10. Fear of Missing Out	2.27 ^a	1.10	3.00 ^a	1.02	3.53 ^a	1.25	3.20 ^a	1.03	1.65

11.Excessive Digital Multitasking	2.81 ^a	1.16	3.11 ^a	.90	3.33 ^a	1.09	3.60 ^a	.96	1.17
Technostress	3.44 ^a	0.63	3.48 ^a	0.62	3.60 ^a	0.70	3.82 ^a	.36	.83

Note: N =69. Means in the same row that do not share a common superscript letter (a, b, c) differ significantly at $p < .05$ based on Tukey's Significant Difference (HSD) post-hoc test following a significant one-way ANOVA.

One-way analysis of variance across academic grade categories (Assistant Professor, Lecturer A, Lecturer B, and Professor) yielded no statistically significant difference in overall technostress, $F(69) = .83$, $p > .05$, indicating that academic rank alone does not substantially differentiate professors' global experience of technostress. However, a statistically significant effect emerged specifically for Constant Connectivity Pressure, $F(69) = 2.77$, $p < .05$. A Tukey post hoc test was conducted to identify the source of this difference; the compact letter groupings indicate that Professors ($M = 4.10$, $SD = .31$, letter c) reported significantly higher connectivity pressure than Assistant Professors ($M = 2.81$, $SD = 1.32$, letters ab), as the two groups share no common letter. Lecturer A ($M = 3.50$, $SD = 1.04$, letters bc) and Lecturer B ($M = 3.33$, $SD = 1.06$, letters bc) did not differ significantly from either Assistant Professors or Professors, occupying an intermediate position that shares a letter with both extremes. This pattern is consistent with the expanded institutional responsibilities typically associated with senior academic rank, including supervisory duties, committee membership, and broader administrative accountability, which appear to distinguish full professors from their most junior colleagues specifically, without producing significant separation among the intermediate ranks. No other indicators reached statistical significance, suggesting that while academic grade shapes the degree of connectivity-related pressure at the extremes of the rank hierarchy, it does not extend uniformly across the remaining dimensions of technostress.

6.2.3. Experience differences:

Table 5. One-Way ANOVA Results for Experience Level Differences in Technostress Dimensions and Indicators

Indicators (Items)	<8		8 to 11		12 to 15		F(69)
	M	SD	M	SD	M	SD	
1. Professional Technology Dependence	4.05 ^a	1.005	4.15 ^a	.87	3.96 ^a	.86	.23
2. Usage Intensity	3.50 ^a	1.00	4.00 ^a	.85	3.62 ^a	1.17	1.27
3. Information Overload	3.75 ^a	1.06	4.20 ^a	.69	3.69 ^a	1.03	1.83
4. Communication Overload	3.90 ^a	.85	4.15 ^a	.47	3.72 ^a	1.16	1.14
5. Role Boundary Blurring	3.40 ^a	.99	3.85 ^a	.98	3.27 ^a	.95	2.12
6. Constant Connectivity Pressure	2.90^a	1.07	3.75^b	1.11	3.51 ^{ab}	.94	*3.65
7. Notification-Induced Distraction	3.75 ^a	1.01	4.05 ^a	.82	3.51 ^a	1.12	1.63
8. Task-Switching	3.90^a	.78	3.70 ^{ab}	.73	3.13^b	1.05	**4.79
9. Continuous Digital Interruptions	3.40 ^a	.99	3.60 ^a	.94	3.03 ^a	.90	2.27
10. Fear of Missing Out	3.30 ^a	1.26	3.15 ^a	1.13	3.20 ^a	1.14	.08
11. Excessive Digital Multitasking	3.20 ^a	1.05	3.30 ^a	1.12	3.20 ^a	1.01	.05
Technostress	3.55 ^a	.59	3.80 ^a	.58	3.44 ^a	.66	2.04

Note: N =69. Means in the same row that do not share a common superscript letter (a, b, c) differ significantly at $p < .05$ based on Tukey's Significant Difference (HSD) post-hoc test following a significant one-way ANOVA.

Analysis of variance by years of professional experience showed no statistically significant difference in overall technostress across the three experience bands, $F(69) = 2.04$, $p > .05$. At the indicator level, however, two dimensions reached statistical significance: Constant Connectivity Pressure, $F(69) = 3.65$, $p < .05$, and Task-Switching, $F(69) = 4.79$, $p < .05$. Tukey post hoc comparisons were conducted for both indicators to localize the source of these effects. For Constant Connectivity Pressure, the compact letter groupings show that professors with 8 to 11 years of experience ($M = 3.75$, $SD = 1.11$, letter b) reported significantly higher pressure than those with fewer than 8 years of experience ($M = 2.90$, $SD = 1.07$, letter a), the two groups sharing no common letter. The 12-to-15-year group ($M = 3.51$, $SD = .94$, letters ab) did not differ significantly from either the least or the most experienced band, occupying an intermediate position between them. For Task-Switching, the pattern was reversed in direction: professors with fewer than 8 years of experience ($M = 3.90$, $SD = .78$, letter a) reported significantly higher task-switching demands than those with 12 to 15 years of experience ($M = 3.13$, $SD = 1.05$, letter b), while the 8-to-11-year group ($M = 3.70$, $SD = .73$, letters ab) did not differ significantly from either extreme. Taken together, these results indicate that mid-career professors (8 to 11 years) experience the sharpest rise in connectivity-related pressure relative to their least experienced peers, while task-switching demands appear to be highest early in the career and ease significantly only once professors reach 12 to 15 years of experience. This pattern is consistent with a career stage in which faculty are simultaneously absorbing expanding coordination, teaching, and research obligations while lacking the institutional standing to decline additional digital demands, a burden that appears to be gradually offset as professors accumulate greater seniority and, presumably, more control over their workload.

6.2.2. Administrative responsibility differences:

Table 5. One-Way ANOVA Results for Administrative responsibility Differences in Technostress Dimensions and Indicators

Indicators (Items)	With administrative responsibility		Without administrative responsibility		<i>t</i> (69)
	M	SD	M	SD	
1. Professional Technology Dependence	4.32	.72	3.85	.98	*2.14
2. Usage Intensity	3.92	1.08	3.53	1.00	1.54
3. Information Overload	3.96	1.07	3.78	.90	.76
4. Communication Overload	4.10	.91	3.75	.99	1.48
5. Role Boundary Blurring	3.85	.97	3.22	.93	**2.73
6. Constant Connectivity Pressure	3.60	1.10	3.26	1.04	1.29
7. Notification-Induced Distraction	3.78	1.06	3.70	1.00	.31
8. Task-Switching	3.64	.98	3.43	.92	.87
9. Continuous Digital Interruptions	3.64	.95	3.07	.90	**2.51
10. Fear of Missing Out	3.53	1.13	3.00	1.14	1.91
11. Excessive Digital Multitasking	3.53	1.03	3.02	1.01	2.04
Technostress	3.81	.63	3.42	.59	**2.60

Note: $N = 69$. Means in the same row that do not share a common superscript letter (a, b, c) differ significantly at $p < .05$ based on Tukey's Significant Difference (HSD) post-hoc test following a significant one-way ANOVA.

Independent samples *t*-tests indicated that professors holding administrative responsibilities reported significantly higher overall technostress than those without such responsibilities, $t(69) =$

2.60, $p < .05$ ($M = 3.81$, $SD = .63$ versus $M = 3.42$, $SD = .59$). This overall effect was accompanied by statistically significant differences across three specific indicators: Professional Technology Dependence, $t(69) = 2.14$, $p < .05$; Role Boundary Blurring, $t(69) = 2.73$, $p < .05$; and Continuous Digital Interruptions, $t(69) = 2.51$, $p < .05$. In each case, professors with administrative duties reported higher mean scores than their peers without such duties. These findings suggest that the added responsibility of managing institutional processes, personnel, and digital administrative platforms substantially intensifies professors' reliance on technology while simultaneously eroding the boundary between professional and personal time. The convergence of elevated dependence, boundary blurring, and interruption frequency among administratively active professors' points to administrative role as a meaningful structural determinant of technostress, distinct from and additive to the effects of academic rank or years of experience.

7. Discussion

The results show how technostress plays out among university professors today. Overall, professors are dealing with a real and fairly high level of digital strain, which confirms our first hypothesis. The biggest culprits are their growing dependence on technology to do their jobs and the constant flow of emails and messages that follow them well past office hours. Interestingly, worries like fear of missing out or juggling too many digital tasks at once are still present, but they don't weigh as heavily as the day-to-day burden of simply staying connected and responding to communication. These findings echo what Domínguez Torres et al. (2021) observed among faculty: overload, constant work intensity, and the sense of technology invading personal time were the main drivers of technostress, while so-called "inhibitors" didn't seem to offer much real protection. Their study also pointed to a darker side of this pattern, that pushing work into after-hours time doesn't just add stress, it wears people down physically, showing up as poor sleep, headaches, and even back and stomach problems, though things like supportive management and better digital training did seem to soften the blow. On a more encouraging note, Boyer-Davis and Berry (2022) found that when professors were given the chance to adapt and build familiarity with the tools they use, their anxiety around technology and their overall technostress actually went down, suggesting that some of this burden isn't fixed and can genuinely be eased over time.

When we look at gender, the overall picture is pretty similar for men and women, so gender on its own doesn't seem to be a major factor. The one exception worth noting is that women reported significantly more digital interruptions than men. This likely reflects how professional and personal responsibilities, especially at home, tend to overlap more for women, making it harder to stay focused without being pulled away. This lines up with what other researchers have found as well. Rodríguez-Vásquez et al. (2021) also found that female faculty experienced notably higher technostress than their male colleagues, and that this stress was closely tied to conflict between work and family life. Casacchia et al. (2021) went a step further, showing that women were more likely to experience disrupted sleep, low energy, and even depressive symptoms as a result of navigating the technical, teaching-related, and emotional demands of distance education. Together, these studies suggest that the interruption gap we found isn't an isolated result. It fits into a broader,

fairly consistent pattern where women tend to carry a heavier and more personal toll from digital work demands.

Academic rank technostress doesn't differ much across ranks, but one thing stands out. Full professors feel significantly more pressure to stay constantly connected than assistant professors do. This makes sense when you think about it, since climbing the academic ladder usually comes with more supervisory duties, more administrative responsibilities, and generally more people expecting a quick response, all of which keep senior professors tethered to their devices.

Experience adds another layer to this picture. Professors with eight to eleven years of experience feel the pressure to stay connected more than those just starting out with fewer than eight years. At the same time, younger professors report struggling more with constantly switching between tasks compared to their more seasoned colleagues with twelve to fifteen years behind them. In other words, mid-career professors seem to be hit hardest by the need to always be reachable, while the challenge of jumping between tasks is more of an early-career struggle that tends to ease as professors gain more experience and, presumably, more control over how they manage their time.

Finally, administrative responsibility turns out to be one of the strongest factors shaping technostress. Professors who take on administrative duties report noticeably higher overall technostress than those who don't, along with a stronger dependence on technology, more blurring between work and personal life, and more frequent interruptions. This suggests that administrative work isn't just an extra task layered on top of everything else, it fundamentally changes how professors experience technology, mainly by breaking down the boundary that once separated their work time from their personal time.

References:

- Ben Mohamed, I. (2025). The impact of technostress on workers' job performance and key coping strategies: A case study of the Skikda port enterprise [أثر الإجهاد الرقمي على الأداء الوظيفي للعمال وأهم استراتيجيات مواجهته: دراسة حالة المؤسسة المينائية سكيكدة]. *Afak Li Ulum Al-Idarah Wal-Iqtisad [AFAQ for Management and Economics Sciences Journal]*, 9(1), 224–239.
- Boyer-Davis, S., & Berry, K. (2022). Technostress Creators in Higher Education During the Covid-19 Pandemic: A Comparison of Faculty Perceptions and Experiences. *Journal of Higher Education Theory and Practice*, 22(10). <https://doi.org/10.33423/jhetp.v22i10.5383>
- Brod, C. (1984). *Technostress: The human cost of the computer revolution*. Addison-Wesley.
- Djeradi, S & ,Amour, K. (2026). Remote work and the reshaping of professional interactions: A sociological approach. [العمل عن بعد وإعادة تشكيل التفاعلات المهنية: مقاربة سوسيولوجية]. *Errostomya Journal* , 30–24 ,(1)7
- Domínguez-Torres, L., Rodríguez-Vásquez, D. J., Totolhua-Reyes, B. A., & Rojas-Solís, J. L. (2021). Tecnoestrés en docentes de educación media superior en el contexto de confinamiento por COVID-19: Un estudio exploratorio. *Dilemas Contemporáneos Educación Política Y Valores*. <https://doi.org/10.46377/dilemas.v9i.2950>
- EL KIASI, J., & JAHIDI, R. (2023). Technostress: A Concept Analysis. *International Journal of Accounting, Finance, Auditing, Management and Economics*, 4(3-1), 154–169. Consulté à l'adresse <https://ijafame.org/index.php/ijafame/article/view/927>
- Khlaif, Z.N., Khalili, F., Affouneh, S. et al. How remote leaning during crisis affect technostress levels experienced by academicians. *Educ Inf Technol* 28, 11075–11100 (2023). <https://doi.org/10.1007/s10639-023-11651-6>
- Nang, A. F. M., Maat, S. M., & Mahmud, M. S. (2022). Teacher technostress and coping mechanisms during Covid-19 pandemic: A systematic review. *Pegem Journal of Education and Instruction*, 12(2), 200–212. <https://doi.org/10.47750/pegegog.12.02.20>
- Rademaker, T., Klingenberg, I. & Süß, S. Leadership and technostress: a systematic literature review. *Manag Rev Q* 75, 429–494 (2025). <https://doi.org/10.1007/s11301-023-00385-x>
- Rodríguez-Vásquez, D. J., et al. (2021). Tecnoestrés: Un análisis descriptivo en docentes universitarios durante la contingencia sanitaria por COVID-19. *Enseñanza E Investigación En Psicología*, 3(2), 214–226. <https://doi.org/10.62364/z4a57g95>
- Sandra Carlotto, M. (2024). Testing the indirect effects of personality traits on the relationship between work overload and technostress. *Analise Psicologica*, 42(1), 35–44. https://www.researchgate.net/publication/386330173_Testing_the_indirect_effects_of_personality_traits_on_the_relationship_between_work_overload_and_technostress
- T. S. Ragu-Nathan, et all, (2008) The Consequences of Technostress for End Users in Organizations: Conceptual Development and Empirical Validation. *Information Systems Research* 19(4):417-433. <https://doi.org/10.1287/isre.1070.0165>
- Tarafdar, M., Tu, et al. (2007). The Impact of Technostress on Role Stress and Productivity. *Journal of Management Information Systems*, 24(1), 301–328. <https://doi-org.www.sndll.arn.dz/10.2753/MIS0742-1222240109>
- Yang, D., Liu, J., Wang, H., Chen, P., Wang, C., & Metwally, A. H. S. (2025). Technostress among teachers: A systematic literature review and future research agenda. *Computers in Human Behavior*, 168, 108619. <https://doi.org/10.1016/j.chb.2025.108619>
- Saeed, I., Xigen, W., Ahmad, A., Dukhaykh, S., & Khan, I. (2025). Technostress and academicians performance: from the perspective of technology acceptance. *Technology Analysis & Strategic Management*, 1–16. <https://doi-org.www.sndll.arn.dz/10.1080/09537325.2025.2572046>
- Agogo, D., & Hess, T. J. (2018). “How does tech make you feel?” a review and examination of negative affective responses to technology use. *European Journal of Information Systems*, 27(5), 570–599. <https://doi-org.www.sndll.arn.dz/10.1080/0960085X.2018.1435230>

- Al-Hindawi, I. N. (2024). Digital stress and its relationship to burnout among faculty members in light of some demographic variables [الإجهاد الرقمي وعلاقته بالاحتراق المهني لدى أعضاء هيئة التدريس في ضوء بعض المتغيرات الديموغرافية]. *Journal of Education, Faculty of Education, Sohag University*, (117), Part 2.
- Patra, K. C & Bansal, S. (2025). Assessing the impact of technostress on the well-being of academic staff in higher education. *Journal of Informatics Education and Research*. (1) 5, <https://doi.org/10.52783/jier.v5i1.2305>
- Akour, A., et al. (2020). The Impact of the COVID-19 Pandemic and Emergency Distance Teaching on the Psychological Status of University Teachers: A Cross-Sectional Study in Jordan. *The American journal of tropical medicine and hygiene*, 103(6), 2391–2399. <https://doi.org/10.4269/ajtmh.20-0877>
- Rey-Merchán, M. d. C., & López-Arquillos, A. (2021). Management of Technostress in Teachers as Occupational Risk in the Context of COVID-19. *Medical Sciences Forum*, 4(1), 5. <https://doi.org/10.3390/ECERPH-3-08999>
- Shaukat, S., Bendixen, L. D., & Ayub, N. (2022). The impact of technostress on teacher educators' work-family conflict and life satisfaction while working remotely during COVID-19 in Pakistan. *Education Sciences*, 12(9), 1–11. <https://doi.org/10.3390/educsci12090616>
- Wirth, T., Kräfft, J., Marquardt, B., Harth, V., & Mache, S. (2024). Indicators of technostress, their association with burnout and the moderating role of support offers among nurses in German hospitals: a cross-sectional study. *BMJ open*, 14(7), e085705. <https://doi.org/10.1136/bmjopen-2024-085705>
- Bakker, A. B., & Demerouti, E. (2017). Job Demands-Resources Theory: Taking Stock and Looking Forward. *Journal of Occupational Health Psychology*, 22, 273-285. <https://doi.org/10.1037/ocp0000056>
- Ly, B., & Ly, R. (2024). Technostress in times of change: unveiling the impact of leadership styles in Cambodia's public organizations in the wake of COVID-19. *Cogent Business & Management*, 11(1). <https://doi-org.www.sndll.arn.dz/10.1080/23311975.2024.2331645>
- Wang Z, Zhang L, Wang X, Liu L and Lv C (2023) Navigating Technostress in primary schools: a study on teacher experiences, school support, and health. *Front. Psychol.* 14:1267767. [doi: 10.3389/fpsyg.2023.1267767](https://doi.org/10.3389/fpsyg.2023.1267767)
- Wu C, Zhang W, Hu L and Li M (2026) Research on middle school teachers' technostress empowered by artificial intelligence. *Front. Artif. Intell.* 8:1732088. [doi: 10.3389/frai.2025.1732088](https://doi.org/10.3389/frai.2025.1732088)
- Sharma, I., & Tiwari, V. (2023). Modeling the Impact of Techno-Stress and Burnout on Employees' Work-Life Balance and Turnover Intention: A Job Demands-Resources Theory Perspective. *Global Business and Organizational Excellence*, 43, 121-134.
- Sharma, I., et al. (2024). Examining the nexus between technostress and turnover intention: the moderating influence of PsyCap in Indian information management contexts. *Journal of Enterprise Information Management*, 38(2), 450–473. <https://doi.org/10.1108/jeim-08-2023-0434>
- Yao, N., Wang, Q. (2023). Technostress from Smartphone Use and Its Impact on University Students' Sleep Quality and Academic Performance. *Asia-Pacific Edu Res* 32, 317–326 (2023). <https://doi.org/10.1007/s40299-022-00654-5>
- Casacchia, M., et al. (2021). Distance education during COVID 19: an Italian survey on the university teachers' perspectives and their emotional conditions. *BMC medical education*, 21(1), 335. <https://doi.org/10.1186/s12909-021-02780-y>