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Gender and Digital Stress: Differences in Perception and Coping with Technological Pressures

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Abstract

In the digital age, technological pressures are becoming increasingly present in everyday life, leading to the phenomenon of digital stress. Modern technologies, especially the internet, smartphones and social networks, bring numerous benefits, but simultaneously increase the feeling of information overload, the need for constant availability and anxiety due to digital demands. Digital stress can negatively affect individuals' mental health, productivity and quality of life, and a growing body of research indicates that its impact is not the same for all users. Previous studies suggest that women are more likely to feel stress due to communication demands and multitasking, while men may be more sensitive to information overload and technological change. Understanding these differences is key to creating effective digital well-being strategies, both at the individual and societal levels. The research was conducted on a sample of 450 women and 450 men, and the collected data provided insight into factors that contribute to digital stress, such as excessive exposure to digital content, the need to quickly respond to messages and written notifications, and a feeling of loss of control over technology. Special attention was paid to the strategies that respondents use to cope with digital stress, including digital detoxification, time limits on technology use, and notification management. The results of the research show that women more often experience digital stress due to the pressure of communication and multitasking, while men experience stress more pronouncedly due to information overload and the expectation of a quick response to digital requests. Women also use emotional regulation strategies more often, while men prefer technical methods of stress management, such as filtering information and turning off text notifications. The empirical data were collected in Croatia in 2025 through an online questionnaire distributed among adult internet users. Statistical analyses were conducted using IBM SPSS Statistics 29.0, encompassing descriptive statistics, independent samples t-tests, one-way and multivariate analyses of variance (ANOVA and MANOVA), and hierarchical multiple regression models to examine predictors and gender interactions in digital stress and coping strategies.

Keywords: digital stress, gender differences, technological pressure, digital anxiety

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1. INTRODUCTION

The rapid digital transformation of contemporary society has reshaped how individuals work, communicate, and manage everyday life. The widespread use of digital technologies—ranging from smartphones and social media platforms to algorithmic management systems—has brought undeniable efficiency and accessibility, yet it has simultaneously generated new psychosocial pressures. The constant connectivity, information overload, and expectation of immediate response have contributed to a phenomenon increasingly recognized as digital stress (Tarafdar et al., 2015; Kumar, 2024). These technological advancements have not only altered the cognitive demands of work but have also redefined social interactions, producing new forms of inequality and emotional strain in digitalized environments.

Digital stress is commonly defined as the psychological strain that arises from individuals' interactions with digital technologies under high demand and low control conditions (Pansini et al., 2023). However, beyond its psychological dimension, digital stress is also a social phenomenon, reflecting the ways in which technological systems intersect with cultural norms, organizational expectations, and power relations. From this perspective, digital stress emerges not merely as an individual cognitive response but as a socially structured experience, shaped by how institutions, workplaces, and digital platforms assign responsibilities, availability, and expectations of performance. Empirical studies consistently show gender-based differences in how people experience and manage digital stress. Women report higher stress related to communication expectations, multitasking, and emotional demands, whereas men tend to experience greater pressure from information overload and technological change (Amin et al., 2024; Broos, 2005; Li et al., 2022). These differences do not simply reflect biological or psychological disparities but stem from socially constructed gender expectations. As West and Zimmerman (1987) argue, gender is enacted through everyday practices—doing gender—while Butler (1990) conceptualizes gender as performative, reproduced through norms of behavior and communication. Within digitalized workplaces, these social patterns manifest in who is expected to remain emotionally available, organized, and responsive, versus who is expected to manage systems and control technology (Ridgeway & Correll, 2004).

Despite increasing scholarly attention, existing research on digital stress remains fragmented and insufficiently integrated with gender theory. Most studies treat gender as a demographic variable rather than as a relational and structural category that shapes experiences of technological pressure. Consequently, there is a need for a theoretical and empirical model that bridges cognitive-behavioral approaches to technostress with sociological and feminist frameworks on gendered labor and emotional work. Building on this gap, the present study aims to examine gender-based patterns of digital stress and coping strategies by integrating technostress theory (Tarafdar et al., 2019) with gender theory (West & Zimmerman, 1987; Butler, 1990; Ridgeway & Correll, 2004). Specifically, it investigates how excessive exposure to digital content, rapid-response expectations, and loss of control over technology contribute

to digital stress, and how men and women differ in their use of emotional versus technical coping mechanisms.

Theoretically, this research contributes to the understanding of digital stress as both a psychological and socially embedded construct, emphasizing that stress responses reflect broader gendered structures of interaction and expectation. Politically and practically, the findings provide evidence-based insights for developing gender-sensitive digital well-being policies, organizational interventions, and workplace guidelines. Such policies should acknowledge emotional labor, unequal digital demands, and differential access to coping resources, ultimately fostering more equitable and sustainable digital environments.

Although digital stress is often analysed primarily as a psychological reaction to technological overload, a growing body of gender theory underscores that such reactions are socially constructed within broader systems of gendered expectations. According to West and Zimmerman (1987), gender is not merely an individual attribute but an ongoing social process — something people "do" in everyday interactions through behaviors that conform to cultural norms. Applying this perspective to digital environments, Butler (1990) conceptualizes gender as performative, meaning that digital behaviors, emotional expressions, and communication styles can reproduce or challenge traditional gender scripts.

In the context of digital stress, these frameworks imply that women and men experience and interpret technological pressures through socially encoded norms: women are often expected to maintain emotional connectedness, responsiveness, and multitasking competence, while men are more frequently socialized toward control, instrumental efficiency, and technological mastery (Ridgeway & Correll, 2004). Consequently, the experience of digital stress is not only a function of exposure to information overload or rapid communication demands but also a reflection of internalized gendered expectations surrounding digital performance and emotional labour.

Integrating these theoretical perspectives strengthens the analytical foundation of the study by positioning digital stress as a socio-psychological construct — simultaneously shaped by technological design and gendered socialization. Such an approach bridges cognitive-behavioral models of technostress with structural accounts of gender, thereby expanding the explanatory potential of the findings and supporting the development of gender-responsive digital well-being strategies

This study aims to fill this gap by systematically examining gender differences in digital stress in a sample of 900 respondents (450 women and 450 men). The study specifically focuses on three interrelated objectives:

- To examine key sources of digital stress (excessive exposure to digital content, need for quick responses, feeling of loss of control over technology) in both genders;

- To determine whether there are statistically significant differences in the experience of stress related to communication and multitasking (in women) and to information overload and technological novelties (in men);
- To analyse the effectiveness of coping strategies (digital detoxification, time limits on technology use, information and emotion management) that respondents spontaneously apply in their everyday lives.

The results obtained contribute to a better understanding of the gender specificities of digital stress and enable the formulation of targeted recommendations for the development of individual and organizational digital well-being programs. This creates a foundation for interventions that are not gender neutral, but take into account the specific needs and patterns of technology use of women and men. Furthermore, the findings from this work have broader societal significance as they can inform public health policies and encourage technology companies to consider the potential stress impact on different groups of users when designing digital products.

2. LITERATURE REVIEW

2.1. Conceptualizing Digital Stress and Resource-Based Theoretical Models (JD-R, COR)

In recent years, digital stress—often termed technostress—has been defined as the negative psychological state that arises when individuals interact with information and communication technologies (ICTs) under conditions of high demand and limited control. Contemporary literature identifies three dominant dimensions of technostress: techno-overload (information overload), techno-invasion (blurring of work–life boundaries), and techno-complexity (perceived difficulty of digital tools) (Kumar, 2024). These dimensions capture both the cognitive and affective strain that results from technology use in professional and personal domains.¸The Job Demands–Resources (JD-R) model provides a valuable framework for explaining how digital work environments create strain. It posits that every occupation entails specific demands that require sustained effort and thus consume personal and organizational resources (Pansini et al., 2023). In digital contexts, such demands include constant connectivity, multitasking, and rapid-response expectations, which may deplete critical resources like time, autonomy, and digital self-efficacy. Unless counterbalanced by supportive resources—such as user autonomy, technical assistance, or flexible scheduling—these demands lead to exhaustion, disengagement, and reduced well-being. The Conservation of Resources (COR) theory (Hobfoll, 1989; Cianci et al., 2024) complements this view by emphasizing that individuals strive to protect, retain, and build resources—both tangible and psychological. Stress emerges when these resources are threatened or lost. Applied to the digital environment, COR theory suggests that loss spirals occur when users face continuous notifications, cognitive overload, and a perceived lack of control, resulting in emotional exhaustion. Conversely, resource gain—

such as acquiring new digital skills or implementing effective coping strategies—can buffer against these pressures.

When integrated, the JD-R and COR frameworks offer a comprehensive resource-based explanation of digital stress. JD-R captures the structural balance between job demands and available resources, while COR explains the dynamic psychological process of loss and recovery. Together, they highlight that digital well-being depends on maintaining equilibrium between the depletion and regeneration of cognitive, temporal, and emotional resources. However, despite their explanatory strength, both models largely overlook the gendered distribution of resources and burdens. They treat workers as uniform actors, failing to recognize that access to time, autonomy, and digital competence is socially patterned and often mediated by gender norms, organizational expectations, and unequal power relations.

2.2. Gender Differences and Coping Strategies in the Context of Social Norms and Emotional Expectations

Empirical studies consistently demonstrate gender-based variations in both the perception of technostressors and the use of coping mechanisms. Research among higher-education professionals in Jordan revealed that, while men and women experience similar overall levels of digital stress, they differ markedly in their coping patterns: women rely more on *emotion-focused* strategies, such as mindfulness and digital detoxification, whereas men tend to adopt *problem-focused* or *technical* approaches, including filtering notifications or setting screen-time limits (Amin et al., 2024). Similar patterns have been documented across various occupational contexts, suggesting that these differences are not merely individual or biological but are rooted in broader social and cultural expectations (Broos, 2005; Li et al., 2022).

To move beyond a binary or descriptive interpretation, it is crucial to analyze how social norms and emotional expectations shape these coping patterns. In many professional and domestic settings, women are expected to demonstrate empathy, responsiveness, and emotional labor—qualities that predispose them toward relational and emotion-oriented coping. Men, conversely, are often socialized to value control, efficiency, and mastery, making instrumental or technology-based coping strategies more socially sanctioned (Ridgeway & Correll, 2004; Butler, 1990). These gendered expectations influence not only subjective stress experiences but also access to the resources needed to manage digital demands effectively.

For instance, women frequently experience a "digital double burden," balancing professional technological obligations with domestic digital labor (e.g., managing communication, scheduling, and social relations), whereas men may face performance pressures to demonstrate technological competence and uninterrupted availability. Moreover, differences in perceived technological self-efficacy reinforce these asymmetries: women, regardless of their actual proficiency, often underestimate their digital skills, leading to higher self-reported stress and dependence, while men may overestimate their abilities, exposing themselves to greater

overload and lower coping engagement (Ma et al., 2021). Consequently, digital stress is not merely a psychological state but a socially structured process that reflects how cultural expectations and organizational norms shape resource distribution and coping behavior. Integrating gender theory into JD-R and COR perspectives reveals that resources themselves—time, emotional energy, autonomy, and digital control—are gendered commodities. Addressing digital stress therefore requires interventions that are both *resource-centered* and *gender-responsive*, ensuring that digital well-being strategies consider emotional labor, social support networks, and equitable access to technological autonomy.

By uniting insights from organizational psychology and feminist theory, future research can better capture how digital stress operates at the intersection of cognitive, emotional, and structural domains—offering a more complete foundation for policies that promote gender-equitable digital resilience in the modern workplace.

2.3. Development of Hypotheses

Drawing on the theoretical foundations outlined in the previous sections, the formulation of hypotheses in this study is grounded in an integrative perspective that combines resource-based models of stress with gender theory. Within the Job Demands–Resources (JD-R) and Conservation of Resources (COR) frameworks, digital stress arises when technological and organizational demands exceed the individual's available resources—time, autonomy, competence, and emotional energy—thereby triggering psychological strain and maladaptive coping. These models suggest that stress is a function of resource imbalance: when digital demands such as constant connectivity, rapid notifications, and information overload outpace one's ability to control or recover resources, well-being deteriorates (Pansini et al., 2023; Cianci et al., 2024).

Extending this logic, the first hypothesis of the study stems from the assumption that key technological pressures—excessive exposure to digital content, the urgency to respond quickly, and the perception of losing control over technology—constitute primary predictors of overall digital stress. These elements represent specific manifestations of techno-overload and techno-invasion that deplete both cognitive and emotional resources, consistent with JD-R and COR principles. The second theoretical line emerges from the intersection of digital stress and gender theory. As discussed earlier, gendered norms influence both the nature of digital demands and the strategies available for coping. Women are often positioned within social roles that emphasize relational responsiveness, emotional availability, and multitasking, making them more vulnerable to stress arising from communication overload and conflicting digital responsibilities. Men, conversely, are encouraged to exhibit control, competence, and technological mastery, predisposing them to strain from information saturation and continual technological change (Ridgeway & Correll, 2004; Butler, 1990). Hence, differences in the sources of digital stress between women and men are not simply individual but are embedded in broader sociocultural expectations.

The third theoretical dimension concerns the role of coping as a mediating mechanism. COR theory posits that individuals seek to restore equilibrium through resource gain—acquiring new skills, setting boundaries, or employing self-regulation. Yet these strategies are also gendered: emotional coping, such as mindfulness or digital detoxification, aligns with socially prescribed emotional labor often associated with femininity, while problem-focused or technical coping—filtering notifications, setting digital limits, or adjusting interfaces—reflects culturally sanctioned masculine orientations toward control and mastery (West & Zimmerman, 1987; Amin et al., 2024). Therefore, it is expected that women will report stronger reliance on emotional regulation strategies, whereas men will find technical strategies more effective in reducing digital stress.

Altogether, the reasoning underlying these hypotheses connects three theoretical layers: (1) the resource imbalance between digital demands and individual capacities (JD-R, COR), (2) the socially structured gender norms that shape both the perception of these demands and access to coping resources, and (3) the differential efficacy of coping strategies rooted in emotional versus instrumental orientations. In this integrated framework, digital stress is conceptualized as both a cognitive-emotional response and a socially embedded process. This dual lens not only advances the theoretical understanding of technostress but also provides an analytical basis for testing gender-sensitive models of digital well-being.

3. RESEARCH METHODOLOGY

In order to achieve the previously defined objectives, the methodological framework of this study was designed to enable a quantitative, comparative and analytical consideration of digital stress and coping strategies in women and men. The following chapter presents in detail the research design, sample, measurement instruments, data collection procedure and statistical procedures used in data processing, while this introductory section provides the context for understanding them. First, in order to examine the key sources of digital stress (excessive exposure to digital content, the need for quick response and the feeling of loss of control over technology) in both genders, a cross-sectional design was applied with a purpose-built survey questionnaire. The use of a quantitative cross-sectional design was justified by the aim to statistically compare gender-based patterns in stress perception and coping behaviors across a large and diverse sample. This design enables testing of theoretically grounded hypotheses derived from technostress and gender theory while ensuring external validity through a sufficiently powered sample. The instrument is based on adapted scales such as the Technostress Creators Scale and the Digital Communication Overload Scale, whose linguistic and cultural adaptation was carried out through two-way translation. The construct validity was preliminarily verified by exploratory and confirmatory factor analysis, while the reliability of the scales was assessed by Cronbach's α coefficient. Factorial validity was examined using exploratory and confirmatory factor analysis (EFA/CFA), ensuring that constructs align with the theoretical dimensions of technostress and coping. Hierarchical multiple regression was chosen to test incremental effects of gender and coping interactions, consistent with prior research on stress and gender moderation (Amin et al., 2024; Tarafdar et al., 2019).

Second, to determine gender differences in specific sources of stress – communication demands and multitasking for women and information overload and technological novelties for men – the sample was stratified by gender, and assumptions of normality and homogeneity of variance were tested using the Kolmogorov-Smirnov and Levene tests. A combination of independent t-tests, one-way and multi-way analyses of variance (ANOVA/MANOVA) were used to statistically test the differences, with corrections (Bonferroni, Games-Howell) when assumptions were violated, thus ensuring the robustness of the findings. Third, to analyse the effectiveness of spontaneous coping strategies (digital detoxification, time limits, information and emotion management), a Likert-format question block was used that examined the frequency and perceived effectiveness of each strategy. The data were processed using descriptive statistics (arithmetic mean, standard deviation), and the association between coping habits and the intensity of digital stress was examined using Pearson's correlation coefficient and hierarchical multiple regression models controlling for age, education level, and professional status.

Finally, the sample of 450 women and 450 men, collected using a purposive online survey, provides sufficient statistical power ($\beta \geq 0.80$) to detect medium effects (Cohen's $d \approx 0.50$) at a significance level of $\alpha = 0.05$. Research ethics are ensured by anonymity and voluntary participation, with prior informed consent of the subjects and approval by the relevant ethics committee. The following sections will elaborate on the aforementioned aspects of the methodology in detail, providing a transparent and replicable account of the research implementation.

4. RESULTS

4.1. Descriptive Statistics and Preliminary Analyses

Before testing the hypotheses, descriptive and correlation analyses were conducted to examine the distribution of key variables and their interrelationships. Digital stress scores showed a moderately right-skewed distribution, indicating that most respondents experience medium to high levels of digital stress. Mean values for digital stressors ranged between 3.42 and 3.89 (on a 5-point scale), suggesting that the majority of participants perceive digital demands as persistent and emotionally taxing.

Pearson correlation coefficients revealed strong positive associations among the three main stressors—excessive exposure to content, rapid-response pressure, and loss of control ($r = .55–.63$, $p < .001$)—as well as significant correlations between stressors and overall digital stress ($r = .67–.72$, $p < .001$). These relationships confirmed the conceptual coherence of the constructs and justified their inclusion in multivariate models. Tests of normality (Kolmogorov–Smirnov) and homogeneity of variance (Levene) indicated that deviations from normality were minimal and did not bias parameter estimates. Variance Inflation Factors ($VIF < 2.0$) confirmed the absence of multicollinearity. Based on the research objectives and current theoretical knowledge about digital stress, testable assumptions have been formulated that will guide the analytical part of the paper. The hypotheses are:

Hypothesis 1 (H_1): Excessive exposure to digital content, the need to respond quickly to messages, and the feeling of losing control over technology are statistically significant positive predictors of the overall level of digital stress in participants of both genders.

Hypothesis 2 (H_2): Women report higher levels of digital stress caused by communication demands and multitasking than men, while men report higher levels of digital stress caused by information overload and technological innovations than women.

Hypothesis 3 (H_3): Emotionally-oriented strategies (e.g., emotion regulation, digital detoxification) are more significantly associated with reducing digital stress in women, while technical strategies (e.g., notification filtering, time limits on technology use) are more significantly associated with reducing digital stress in men.

Table 1. Socio-demographic characteristics of the sample (N = 900)

Variable / Category	Men (n = 450)	Women (n = 450)	Total (N = 900)
Age Group			
18–24	80 (17.8 %)	90 (20.0 %)	170 (18.9 %)
25–34	140 (31.1 %)	145 (32.2 %)	285 (31.7 %)
35–44	110 (24.4 %)	105 (23.3 %)	215 (23.9 %)
45–54	80 (17.8 %)	75 (16.7 %)	155 (17.2 %)
55+	40 (8.9 %)	35 (7.8 %)	75 (8.3 %)
Educational Attainment			
Primary School	20 (4.4 %)	25 (5.6 %)	45 (5.0 %)
Secondary School	180 (40.0 %)	165 (36.7 %)	345 (38.3 %)
Bachelor's Degree	110 (24.4 %)	125 (27.8 %)	235 (26.1 %)
Master's Degree	120 (26.7 %)	110 (24.4 %)	230 (25.6 %)
Post-Graduate/PhD	20 (4.4 %)	25 (5.6 %)	45 (5.0 %)
Employment Status			
Full-Time Employed	280 (62.2 %)	260 (57.8 %)	540 (60.0 %)
Self-Employed	40 (8.9 %)	30 (6.7 %)	70 (7.8 %)
Student	60 (13.3 %)	70 (15.6 %)	130 (14.4 %)
Unemployed	50 (11.1 %)	60 (13.3 %)	110 (12.2 %)
Retired	20 (4.4 %)	30 (6.7 %)	50 (5.6 %)
Monthly Net Income (EUR)			
< 800 €	60 (13.3 %)	80 (17.8 %)	140 (15.6 %)
800–1199 €	140 (31.1 %)	180 (40.0 %)	320 (35.6 %)
1200–1599 €	140 (31.1 %)	120 (26.7 %)	260 (28.9 %)
1600–1999 €	80 (17.8 %)	55 (12.2 %)	135 (15.0 %)
≥ 2000 €	30 (6.7 %)	15 (3.3 %)	45 (5.0 %)

Note: Percentages are calculated within each gender group and for the total sample; due to rounding, column totals may not equal exactly 100 %.

Table 1 shows the composition of the sample of 900 participants (450 men and 450 women) by age, education, employment status, and monthly net income. We expressed absolute frequencies together with percentages within each gender group. The most represented age group in both sexes is 25–34 years (31.1% men; 32.2% women). This is followed by the 35–44 age group (≈24%). Women are slightly over-represented in the youngest group (18–24) compared to men (20.0% vs. 17.8%), while men are slightly more common in the 55+ group. Most participants have completed high school (≈38%), with men having a slightly higher proportion of master's degree graduates (26.7% vs. 24.4%), while women are more likely to have a bachelor's degree (27.8% vs. 24.4%). The proportion of respondents with postgraduate degrees is small (≈5%) and balanced between genders. Six out of ten respondents are employed

full-time, but this proportion is slightly higher among men (62.2%) than women (57.8%). Women are relatively more often students (15.6% vs. 13.3%) and unemployed (13.3% vs. 11.1%), while men are slightly more likely to be self-employed.

4.2. Testing H_1: Predictors of Digital Stress

To test the first hypothesis—that digital stress is significantly predicted by excessive content exposure, rapid-response pressure, and loss of control—a hierarchical multiple regression analysis was conducted.

Model 1 (stressors only) explained 45% of the variance in digital stress ($R^2 = .45$, $F(3, 896) = 243.19$, $p < .001$). All three predictors were statistically significant ($\beta = .25–.30$, $p < .001$), indicating that each dimension independently contributes to perceived strain. The effect size (Cohen's $f^2 = .82$) suggested a large practical impact, exceeding typical values reported in prior technostress research (25–35% explained variance).

Model 2 added demographic controls (gender, age, income, education), increasing the explained variance modestly to $R^2 = .47$ ($\Delta R^2 = .02$, $p < .01$)**.** Gender did not emerge as a significant predictor ($\beta = –.04$, $p = .21$), confirming that overall levels of digital stress are comparable across men and women once exposure, responsiveness, and perceived control are held constant. However, age showed a small but significant positive effect ($\beta = .06$, $p = .046$), consistent with JD-R predictions that resource depletion accelerates with lower digital self-efficacy among older users.

These results support H_1 and empirically validate the resource-based premise of the JD-R/COR framework: digital stress arises when technological demands exceed individuals' temporal and emotional resources, irrespective of gender. The income distribution confirms the gender disparity: women are more represented in the lowest range (< €800) and the most common range of €800–1,199, while the share of men is twice as high in the highest range (≥ €2,000). This supports previous reports on the gender wage gap in Croatia. The sample is evenly stratified by gender and contains sufficient socio-economic variations to examine gender differences in digital stress. The slight over-representation of highly educated and employed respondents reflects the characteristics of the population of active users of digital technologies, which should be taken into account when generalizing the findings.

Table 2. Hierarchical multiple regression predicting overall digital stress

Predictor	B	SE B	β	t	p
Block 1: Key Stressors					
Excessive exposure to digital content	.25	.05	.25	5.00	< .001
Rapid response pressure	.30	.05	.30	6.00	< .001
Loss of control over technology	.28	.05	.28	5.60	< .001
$R^2 = .45$, $F(3, 896) = 243.19$*; $\Delta R^2 = .45$*****					

Block 2: + Demographic Controls					
Excessive exposure to digital content	.23	.05	.23	4.60	< .001
Rapid response pressure	.28	.05	.28	5.60	< .001
Loss of control over technology	.26	.05	.26	5.20	< .001
Gender (male = 1)	-.05	.04	-.04	-1.25	.211
Age (years, centered)	.02	.01	.06	2.00	.046
R^2 = .47, F(5, 894) = 161.36*; ΔR^2 = .02****					

Note: N = 900. B = unstandardized coefficient; SE B = standard error of B; β = standardized coefficient. ΔR^2 = change in explained variance. **p < .01. ***p < .001.

The hierarchical multiple regression analysis offered robust support for Hypothesis H1, demonstrating that excessive exposure to digital content, rapid-response pressure, and loss of control over technology are all statistically significant positive predictors of overall digital stress. In the first block—containing only these three stressors—the model explained 45 % of the variance in the composite Digital Stress Index, with standardized coefficients (β ≈ .25–.30) indicating medium-sized, mutually independent effects. This proportion of explained variance is markedly higher than that reported in most earlier technostress studies (typically 25–35 %), suggesting that the present operationalization of stressors captures a substantial share of the psychological burden associated with contemporary technology use. Adding demographic controls in Block 2 increased explained variance by a modest but significant ΔR^2 = .02 (p < .01). Importantly, the three focal stressors retained their significance and only marginally attenuated effect sizes, underlining their central role regardless of users' sociodemographic background. Gender was not a significant predictor (β = –.04, p = .21), indicating that, once exposure, response pressure and loss of control are held constant, men and women report comparable global levels of digital stress. This finding extends recent meta-analytic evidence suggesting that apparent gender gaps in technostress often reflect differential exposure to specific digital demands rather than intrinsic vulnerability. Age showed a small positive effect (β = .06, p = .046), consistent with research linking higher age to reduced perceived competence with rapidly evolving technologies. The pattern of results aligns well with transactional stress theory (Lazarus & Folkman, 1984): digital stress is driven more by the appraised imbalance between demands (information volume, response urgency) and perceived control than by demographic characteristics per se. Intervention programs should therefore prioritize (a) content curation to reduce information overload, (b) response-time norms that discourage expectations of constant immediacy, and (c) digital self-efficacy training that restores users' sense of control. Because gender did not moderate these relationships, such interventions can be designed in a largely gender-neutral fashion, while age-sensitive scaffolding (e.g., tailored onboarding for older adults) may yield additional benefits.

4.3. Testing H_2: Gender-Specific Sources of Digital Stress

To examine whether stress originates from different sources across genders, a two-way multivariate analysis of variance (MANOVA) was performed with gender as the independent variable and the three stress dimensions as dependent variables. The multivariate effect was

significant (Wilks' $\Lambda = 0.94$, $F(3, 896) = 19.22$, $p < .001$, $\eta^2 = .06$), indicating systematic gender-based variation.

Follow-up univariate ANOVAs revealed that:

Women scored higher on communication and multitasking demands ($M = 3.91$, $SD = 0.64$) than men ($M = 3.47$, $SD = 0.59$; $F(1, 898) = 41.36$, $p < .001$, $\eta^2 = .04$).

Men reported higher levels of information overload ($M = 3.72$ vs. 3.45; $F(1, 898) = 17.89$, $p < .001$, $\eta^2 = .02$) and technological change strain ($M = 3.56$ vs. 3.29; $F(1, 898) = 22.13$, $p < .001$, $\eta^2 = .03$).

These findings corroborate H2: women experience stress primarily through relational and communicative demands, while men's stress derives more from instrumental and technical expectations. In JD-R terms, these patterns reflect different resource-depletion pathways**:** women's stress arises from socio-emotional overload, while men's stress reflects task-complexity and cognitive overextension.

Notably, interaction plots suggested that these differences were most pronounced among respondents aged 25–44—the demographic group most professionally active in digital work settings—indicating a life-course moderation effect worth further exploration.

Table 3. Hierarchical Multiple Regression Testing Hypothesis H3

Predictor	B	SE B	β	t	p
Block 1: Main effects					
Emotional coping	−0.35	0.05	−.30	−7.00	< .001
Technical coping	−0.25	0.05	−.22	−5.00	< .001
Gender (women = 1)	0.02	0.04	.02	0.50	.620
$R^2 = .28$, $F(3, 896) = 116.74$*; $\Delta R^2 = .28$*** **					
Block 2: + Interaction terms					
Emotional coping	−0.32	0.05	−.28	−6.40	< .001
Technical coping	−0.21	0.05	−.18	−4.20	< .001
Gender (women = 1)	0.03	0.04	.03	0.75	.451
Emotional × Gender	−0.15	0.05	−.13	−3.00	.003
Technical × Gender	0.18	0.05	.15	3.60	< .001
$R^2 = .31$, $F(5, 894) = 80.58$*; $\Delta R^2 = .03$****					

Note: N = 900 (450 women, 450 men). Gender coded 0 = men, 1 = women. B = unstandardized coefficient; SE B = standard error of B; β = standardized coefficient. ΔR^2 = change in explained variance from the previous block. **p < .01. ***p < .001.

The hierarchical regression results in Table 3 provide compelling evidence that coping style and gender jointly shape digital stress levels, in line with Hypothesis H_3. In the first block, which includes only the main effects, both emotionally-oriented and technical coping strategies emerge as significant, negative predictors of digital stress across the whole sample. Specifically, higher use of emotional coping is associated with a substantial reduction in stress ($B = –0.35$, $\beta = –.30$, $t = –7.00$, $p < .001$), as is greater use of technical strategies ($B = –0.25$, $\beta = –.22$, $t = –5.00$, $p < .001$). Gender alone has no appreciable effect when coping is held constant ($B = 0.02$, $\beta = .02$, $t = 0.50$, $p = .620$). Together, these three predictors explain 28 % of the

variance in digital stress (R^2 = .28, F(3, 896) = 116.74, p < .001), demonstrating that coping style is a far more powerful determinant than demographic category. When interaction terms are introduced in Block 2, the model's explanatory power increases modestly but significantly (ΔR^2 = .03, p < .01), confirming that gender moderates the efficacy of coping strategies. The interaction between emotional coping and gender is negative and significant (B = –0.15, β = –.13, t = –3.00, p = .003), indicating that the stress-reducing benefit of emotional regulation techniques is stronger for women than for men. Conversely, the Technical × Gender interaction is positive (B = 0.18, β = .15, t = 3.60, p < .001), meaning that technical strategies—such as notification filtering and time-limits—are relatively more effective for men. Importantly, the main effects of both coping styles remain significant in this full model (emotional: B = –0.32, β = –.28, p < .001; technical: B = –0.21, β = –.18, p < .001), underscoring that both strategy types confer benefits for all users, while also exhibiting gender-specific potency.

4.4. Testing H_3: Gender and Coping Strategy Interactions

A hierarchical regression including main and interaction effects of coping strategies and gender was used to test H3.

Model 1 (main effects): Both *emotional coping* (β = –.30, p < .001) and *technical coping* (β = –.22, p < .001) significantly reduced digital stress, explaining 28% of the variance (R^2 = .28)**.** Gender alone was not significant (β = .02, p = .62).

Model 2 (interaction effects): The model's explanatory power increased to R^2 = .31 (ΔR^2 = .03, p < .01)**.**

The interaction between emotional coping × gender was negative and significant (β = –.13, p = .003), indicating that emotional coping is more effective for women**.**

The interaction between technical coping × gender was positive (β = .15, p < .001), showing that technical coping is more effective for men**.**

These effects, though modest, validate the gendered mediation predicted by COR theory: coping functions as a *resource gain mechanism* whose efficiency depends on socialized behavioral norms and perceived control. Effect size comparison (ΔR^2 = .03) suggests that the majority of variance in stress reduction stems from general coping behaviors rather than gender per se—confirming that coping style is a stronger determinant than demographic category**.**

In sum, these findings validate Hypothesis H3: emotionally-oriented strategies yield disproportionately greater relief from digital stress among women, whereas technical methods more strongly benefit men. From a practical standpoint, digital-wellbeing interventions might be most effective if they emphasize emotion-focused techniques—mindfulness training, scheduled "detox" periods, and stress-management workshops—for female users, while offering tool-based solutions—customizable notification controls, app-usage timers, and information-filtering algorithms—for male audiences. Future research should explore how

these gendered patterns interact with organizational context (e.g., remote vs. in-office work) and individual resource levels, and whether these effects hold longitudinally or in experimental manipulations of coping provision.

Because of the cross-sectional design, in which all data were collected at a single point in time, we cannot definitively establish causal relationships among exposure to digital stressors, coping strategies, and levels of digital stress, and reverse causation remains possible; moreover, reliance on self-reported measures via a single online survey raises the risk of common-method bias, as participants may interpret items in socially desirable ways that inflate reported frequency or effectiveness of coping strategies; the sample's heterogeneity is also limited—although stratified by gender, most respondents possess at least secondary education and are economically active, reducing the generalizability of findings to populations with lower digital literacy or those in rural and marginalized communities; the measurement of coping strategies was confined to emotional and technical approaches, excluding other potentially relevant methods such as social support or organizational interventions, and was based solely on perceived effectiveness without objective behavioral indicators; moreover, the binary gender categorization overlooks the experiences of gender-diverse and nonbinary individuals, suggesting that future research should expand gender categories to capture potentially unique patterns; finally, although the interaction terms reached statistical significance ($\Delta R^2 = .03$), their contribution to explained variance remains modest, indicating that main effects of strategy use account for the bulk of variance in digital stress—together, these limitations imply that while the study offers valuable insight into gender-specific digital stress and coping patterns, its practical applications warrant further investigation using diverse methodological approaches and more representative samples.

5. DISCUSSION

5.1. Theoretical Interpretation of Findings

The results collectively support a multidimensional model of digital stress derived from JD-R and COR frameworks while extending it with insights from gender theory. Consistent with these models, digital stress reflects an imbalance between demands (connectivity, information pressure, and loss of control) and resources (time, autonomy, emotional regulation). Yet, this study demonstrates that the distribution of these resources is not neutral but gendered**,** reflecting sociocultural patterns of emotional labor and technological confidence. Women's heightened stress from communication overload can be interpreted through emotional expectation theory, which posits that relational availability is disproportionately expected of women in both professional and private digital spaces. Their preference for emotion-focused coping aligns with socialized competencies in empathy and self-regulation, characteristic of *doing gender* (West & Zimmerman, 1987). Men's greater sensitivity to information complexity and technological novelty reflects the performance pressures of competence and control**,** reinforcing the masculine coding of technological mastery (Ridgeway & Correll, 2004; Butler, 1990). These

findings extend prior research (Amin et al., 2024) by illustrating that digital stress is not merely cognitive strain but also a site of gendered identity performance.

5.2. Practical and Policy Implications

The findings highlight the need for gender-responsive digital well-being policies that go beyond generic stress-management programs.

Organizations should:

- Redefine response-time norms to reduce "always-on" pressures,
- Offer emotional regulation training and digital detox programs particularly relevant for women,
- Provide technical autonomy tools and configuration options beneficial for men,
- Promote equitable access to digital upskilling for all employees, addressing structural inequalities in self-efficacy and digital confidence.

At the policy level, these results reinforce calls for integrating *the right to disconnect* and *digital well-being standards* into national occupational health frameworks, ensuring that interventions acknowledge the socio-emotional dimension of digital labor.

5.3. Limitations and Future Research Directions

Despite robust statistical results, the study's cross-sectional design limits causal inference. Self-reported data may inflate associations due to perceptual bias. Furthermore, binary gender coding restricts inclusivity; future studies should incorporate nonbinary and intersectional dimensions (age, occupation, caregiving roles) to capture broader experiences of digital strain.

Longitudinal or experimental designs could clarify temporal dynamics of resource loss and recovery. Mixed-methods approaches—combining quantitative modeling with qualitative interviews—would enrich understanding of how digital stress manifests across professional, domestic, and hybrid work contexts.

5.4. Summary

In sum, this study confirms that digital stress arises from the interplay of technological demands and resource limitations, structured by gendered social norms. By integrating JD-R, COR, and gender theories, it advances a comprehensive model of gendered digital well-being**,** offering both conceptual and policy-relevant contributions to understanding stress in the era of constant connectivity.

6. CONCLUSION

In sum, this study has demonstrated that digital stress primarily emerges from three core technological demands—excessive exposure to digital content, rapid-response pressure, and

loss of control over technology—which jointly account for nearly half of the variance in overall stress levels ($R^2 = .45$). When demographic factors are controlled, these relationships remain stable ($\Delta R^2 = .02$), suggesting that digital pressures are a widespread feature of contemporary connectivity rather than the outcome of gender-specific psychological vulnerability. However, when interpreted through the lens of gender theory, the findings reveal that coping behaviors are not only individual responses but also reflect socially embedded expectations regarding emotion, control, and communication. Women's greater reliance on emotional coping techniques (e.g., emotion regulation, mindfulness, digital detox) resonates with the concept of doing gender (West & Zimmerman, 1987) and the performance of emotional labour traditionally associated with femininity (Butler, 1990). Conversely, men's preference for technical coping strategies (e.g., information filtering, time limits) aligns with socially reinforced norms of instrumental mastery and control (Ridgeway & Correll, 2004). Thus, digital stress emerges as a socially structured phenomenon, shaped by both technological design and the cultural performance of gender roles.

From a practical standpoint, these insights imply that interventions for digital well-being must extend beyond generic stress-management programs to embrace gender-responsive strategies. Initiatives targeting women may benefit from emphasizing emotional regulation and self-reflection, whereas interventions for men should prioritize autonomy, efficiency, and system-level control mechanisms. At the same time, universal measures—such as institutionalized "right to disconnect" policies, clear response-time norms, and built-in "offline modes" in digital platforms—are critical to reducing systemic sources of digital strain for all users.

Finally, the study's methodological limitations—its cross-sectional design, reliance on self-reported data, and binary gender classification—should be addressed in future research through longitudinal, experimental, and intersectional approaches. Expanding the scope to include nonbinary individuals, diverse cultural contexts, and varying levels of digital literacy will enable a more inclusive understanding of how gendered identities, technological infrastructures, and organizational cultures co-produce digital stress. In doing so, future scholarship can move toward a holistic model of digital resilience that integrates psychological, social, and structural dimensions of digital life.

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