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Personality as determinants of cyberslacking behaviors among IT professionals: Moderating role of perceived technostress and self-regulation

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ABSTRACT. Questo studio mira a esaminare in che modo i tratti della personalità influenzano i comportamenti di cyberslacking tra i professionisti IT e come l'autoregolazione e lo stress tecnologico moderano queste relazioni. È stato utilizzato un disegno trasversale, raccogliendo dati da 450 professionisti IT di età compresa tra i 25 e i 54 anni attraverso un campionamento mirato. Le misure includevano le sottoscale coscienziosità e nevrosi del Big Five Inventory, il Technostress Creators Inventory, la Self-Regulation Scale e la Social Cyberloafing Scale. I risultati hanno indicato che la coscienziosità e l'autocontrollo predicono negativamente i comportamenti di cyberslacking, mentre il nevroticismo e lo stress tecnologico percepito predicono positivamente tali comportamenti. L'autocontrollo rafforza la relazione tra coscienziosità e cyberslacking, fungendo da cuscinetto tra nevroticismo e cyberslacking. Inoltre, lo stress tecnologico percepito rafforza la relazione tra nevroticismo e cyberslacking, mentre agisce da antagonista tra coscienziosità e cyberslacking.

SUMMARY. Cyberslacking, a challenge to productivity in digital workplaces, has grown as work and leisure boundaries blur. This study aims to examine how personality traits influence cyberslacking behaviors among IT professionals, and how self-regulation and technostress moderate these relationships. A cross-sectional design was used, collecting data from 450 IT professionals aged 25-54 through purposive sampling. Measures included Conscientiousness and Neuroticism subscales from the Big Five Inventory, Technostress Creators Inventory, Self-Regulation Scale, and Social Cyberloafing Scale. Moderation analysis tested the role of self-regulation and technostress in moderating personality traits' effects on cyberslacking. Findings revealed that conscientiousness and self-regulation negatively predicted cyberslacking, whereas neuroticism and perceived technostress were positive predictors. Self-regulation acted as a buffer for neuroticism's impact on cyberslacking and strengthened conscientiousness's influence. Perceived technostress intensified neuroticism's effect on cyberslacking while weakening the influence of conscientiousness. MANOVA analysis indicated that with longer tenure, managerial employees showed higher conscientiousness and self-regulation but lower technostress and cyberslacking, whereas technical employees of both genders experienced increased technostress and cyberslacking alongside reduced self-regulation. These findings highlight the importance of understanding personality and stressor dynamics in mitigating cyberslacking in IT workplaces.

Keywords: *Personality traits, Cyberslacking behaviors, Self-regulation, Perceived technostress, Digital revolution*

INTRODUCTION

Digitalization is critical for the economic growth of emerging economies through the effective use of information and communication technologies (ICT) (Jamil, 2021). While ICT provides substantial benefits, such as real-time connectivity and efficient decision-making (Onunka, Orikpete & Daraojimba, 2023), it also presents challenges, including increased stress, reduced work-life balance, and potential security risks. The impact of digitalization on employee well-being is particularly evident in fast-paced industries like software, which are crucial to both national and global economies (Khalil & Taj, 2021). High demands and standards in these environments can affect employee well-being, while integrating technologies like generative AI has intensified role-related stress (Kaya et al., 2024). As technology pressures increase, employees may experience strain on both tangible and intangible resources, sometimes resulting in deviant behaviors like technostress and data theft (Abdullah & Al-Abrrow, 2023).

The growing integration of technology in the workplace has also expanded opportunities for counterproductive work behavior (CWB). In high-demand fields like software, understanding the interaction of personal traits and psychological resources is essential for comprehending these behaviors. This line of research can reveal root causes of behaviors impacting productivity (Ahmad & Begum, 2020). One such behavior, cyberslacking has emerged as a significant concern. Terms like cyberloafing, cyberslacking, and personal web usage are often used interchangeably to describe non-work-related computing at work (Lim & Teo, 2024). Cyberslacking has been conceptualized from two contrasting perspectives within organizational and cyberpsychology literature. On one hand, it is viewed as a counterproductive or deviant behavior that undermines employee performance, organizational norms, and information security (Askew et al., 2014). As a counterproductive behavior, cyberslacking refers to using the internet or technology during work for non-work-related activities that divert attention and reduce productivity. Excessive cyberslacking can lead to financial costs, decreased worker efficiency, network security risks, legal liabilities, and can cause mental strain and emotional detachment from work. It is often viewed negatively by organizations because it wastes work time and resources. Cyberslacking can also lead to network bandwidth issues and heightened security vulnerabilities, thereby impacting organizational efficiency and security (Batabyal & Bhal, 2020).

On the other hand, emerging research has recognized cyberslacking as a coping strategy that allows employees to temporarily detach from work demands, restore mental resources, and alleviate perceived stress (Koay et al., 2017). It can facilitate psychological withdrawal that is restorative rather than harmful. The present study integrates these perspectives by proposing that the function of cyberslacking is contingent upon individual personality traits and aims to understand these behaviors to improve employee well-being and organizational performance.

Theoretical basis of the present study

Employees' involvement in cyberslacking behaviors can be explained by neutralization theory (Sykes & Matza, 1957), which posits that individuals rationalize deviant actions by convincing themselves that their behavior is excusable, thereby reducing guilt. According to this theory, individuals employ cognitive techniques to reconcile their internal contradictions, allowing them to engage in ethically questionable actions without experiencing significant guilt or self-condemnation. Initially focused on delinquency, neutralization theory has since been applied to various forms of workplace deviance, including cyberslacking and misuse of personal computers (Zhou & Zhang, 2022). Employees use techniques like denying responsibility, minimizing harm, or appealing to higher loyalties to justify their deviant actions (Sarfraz, Khawaja, & Um-E-Farwah, 2023). These neutralization techniques enable employees to engage in cyberslacking behavior (Batabyal & Bhal, 2020).

Employee attitudes toward work are influenced by perceptions of the work environment, which shape their thoughts and behaviors (Abdullah & Al-Abrrow, 2023). Certain personal attributes may increase the likelihood of using neutralization techniques that help reduce dissonance between actions and moral beliefs. For example, individuals might justify their actions by denying responsibility, minimizing harm, or condemning others, thereby creating a mental buffer that facilitates deviant behaviors (Moore, 2015). Environmental factors, including both risks and protective elements, further impact the interplay between personality, cognition, and behavior. By neutralizing guilt, individuals maintain a morally positive self-image while acting contrary to ethical standards, temporarily suspending

moral constraints and enabling behaviors like cyberslacking and other workplace misconduct.

Literature and hypotheses development

Neuroticism and cyberslacking behaviors. Neuroticism, characterized by emotional instability and a tendency to perceive situations as threatening, is recognized as a key determinant of cyberslacking behaviors. It influences individuals' responses to workplace stress and technology use. Neurotic traits can lead to maladaptive coping mechanisms, as individuals high in neuroticism may avoid ethical considerations and struggle with stress management, especially in high-pressure, tech-driven environments where they have autonomy over their work time (Montag, Sindermann, Becker & Panksepp, 2020). For employees high in neuroticism, cyberslacking may represent a maladaptive coping mechanism, a way to escape or regulate negative affect. While some evidence, such as Szostek and Wysocki (2022), suggests that neuroticism may not directly influence certain forms of workplace deviance, it is often considered a motivating factor for cyberslacking behaviors (Venkatesh, Davis & Zhu, 2023). Abro and colleagues (Abro, Ali & Khan, 2021) further suggest that the negative emotions and anxiety associated with neuroticism can drive individuals to seek immediate gratification through online activities. This form of escapism temporarily alleviates discomfort but can lead to counterproductive behaviors (Sheikh, Aghaz & Mohammadi, 2019). Research indicates that neurotic individuals are more likely to engage in non-work-related online activities, supporting a positive relationship between neuroticism and cyberslacking (Gaiseanu, 2021).

H1: Neuroticism positively predicts cyberslacking behaviors among IT professionals.

Conscientiousness and cyberslacking behaviors. Conscientiousness, a personality trait linked to reliability and adherence to organizational goals, acts as a safeguard against counterproductive behaviors such as cyberslacking (Mammadov, 2021). Conscientious employees are well-suited to manage the demands of a digital workplace, balancing multiple tasks while resisting non-work-related online activities. This trait promotes responsibility and commitment to work goals, thereby reducing the likelihood of cyberslacking (Varghese & Barber, 2017). The self-control inherent in conscientious individuals helps them remain focused and avoid deviant workplace behaviors (Sutin, Stephan, Luchetti & Terracciano, 2021).

Research generally finds a negative correlation between conscientiousness and deviant behaviors, indicating that disciplined and reliable individuals are less inclined toward such activities (Özcan & Koç, 2023). Individuals high in conscientiousness who typically adhere to organizational norms and self-discipline, are less likely to engage in cyberslacking for recovery purposes; when they do, such behavior reflects deviation from their normative work ethic, aligning more with counterproductive or deviant tendencies. Conscientiousness is a key predictor of positive work behavior in remote or distributed environments, where this trait helps individuals refrain from cyberslacking and maintain productivity (Varghese & Barber, 2017). Supporting this, Sheikh et al. (2019) found that organized and responsible individuals are less likely to engage in non-work-related activities online during work hours. Marumpe and Maphosa (2023) also reported that conscientiousness reduced cyberslacking among students, reinforcing its protective role against deviant technology use.

H2: Conscientiousness negatively predicts cyberslacking behaviors among IT professionals.

Perceived technostress as moderator. In an era where constant connectivity is expected and technology grows increasingly complex, the risk of technostress rises. Technostress refers to any negative impact on attitudes, beliefs, behaviors, or physiology resulting from technology use, either directly or indirectly (Marchiori, Mainardes & Rodrigues, 2018). It has become more prevalent in the digital age due to the cognitive and social demands of adapting to new technologies (Nastjuk, Trang, Grummeck-Braamt, Adam & Tarafdar, 2024). Technostress manifests through dimensions such as techno-overload (pressure to work harder and faster), techno-complexity (challenges in learning technology), techno-invasion (technology intruding on personal time), techno-uncertainty (discomfort with constant updates), and techno-insecurity (fear of job loss to technology). These factors can lead to emotional exhaustion, pushing employees toward deviant behaviors. For example, techno-overload or techno-invasion may drive employees to seek relief by engaging in non-work-related internet use (Yao & Wang, 2022).

Studies highlight technostress's moderating role in workplace relationships; Tanyildizi and Habïp (2023) found it

weakens the link between over-qualification and innovative behavior, while Jaiswal and Singh (2024) observed that it diminishes trust's positive effects on performance in virtual work settings. Technostress, a burden due to technology's demands, also impacts cognition. Cyberslacking may act as a coping mechanism, helping employees manage technostress-related strain (Güğerçin, 2020), even in those who typically maintain self-control and high conscientiousness. Furthermore, technostress can exacerbate tendencies toward cyberslacking in individuals high in neuroticism, as the increased discomfort and threat perception drive them toward this coping strategy (Gaiseanu, 2021). Hence, the proposed hypotheses are:

H3(a): The relationship between neuroticism and cyberslacking is moderated by perceived technostress such that the relationship strenghtens when perceived technostress is high;

H3(b): The relationship between conscientiousness and cyberslacking is moderated by perceived technostress such that the relationship weakens when perceived technostress is high.

Self-regulation as moderator. Self-regulation has been a significant topic in psychology, emphasizing its role in managing thoughts, emotions, and behaviors to achieve goals (Akinyi & Oboko, 2020). It is essential for handling stressors and enhancing work efficiency (Akinyi. Oboko & Omwenga, 2024). Research indicates that self-regulation is critical in preventing modern issues such as internet and smartphone addiction. Van Deursenand colleagues (Van Deursen, Bolle, Hegner & Kommers, 2015) found that self-regulation helps individuals manage behavior effectively, reducing the risk of developing addictive behaviors. This capability is especially relevant in managing work-related conflicts and maintaining proper conduct.

Individuals with high self-regulation can control excessive media use and focus on long-term goals, such as professional success, rather than immediate gratification (Khan & Khan, 2019). This ability helps employees stay productive and maintain well-being despite distractions, thus supporting work-life balance (Perone, Inguglia & Coco, 2021). In contrast, those with low self-regulation often struggle with immediate rewards, leading to increased strain and decreased performance (Wise, Alhabash & Park, 2011). For conscientious individuals, self-regulation is robust, allowing them to prioritize long-term goals over short-term rewards (Sutin et al., 2021). However, low self-regulation, combined with high neuroticism, impairs impulse control, increasing cyberslacking tendencies (Khan, Kock & Stadtler, 2014). Cyberslacking may be more prevalent among neurotic employees when work stress is high, but self-regulation can act as a buffer, helping them control impulses and reduce such behavior. Thus, self-regulation may mitigate cyberslacking in highly neurotic individuals. This study proposes that self-regulation functions as a protective factor against cyberslacking, with the following hypotheses:

H4(a): The relationship between neuroticism and cyberslacking is moderated by self-regulation, weakening the relationship when self-regulation is high.

H4(b): The relationship between conscientiousness and cyberslacking is moderated by self-regulation, strengthening the relationship when self-regulation is high

The rationale for this study centers on the growing issue of cyberslacking in technology-intensive workplaces, particularly software houses. With the global increase in human-computer interaction, cyberslacking has emerged as a deviant behavior that can undermine productivity and organizational security (Nguyen & Luu, 2020). This study has three main objectives. Firstly, while previous research has explored the link between personal factors and cyberslacking, it often overlooks the combined effect of organizational factors, such as technostress and individual traits (Tarafdar, Gupta & Turel, 2015). By examining personality traits and their interactions with perceived technostress and self-regulation, this study aims to provide a more comprehensive view of the antecedents that influence cyberslacking among IT professionals. Secondly, this research adopts a novel approach by examining technostress as a contextual variable rather than a direct predictor of cyberslacking. This perspective provides a deeper understanding of how technostress affects the relationship between factors like personality traits and cyberslacking behavior. Additionally, the study considers self-regulation as a resource, as individuals with lower self-control may be more susceptible to cyberslacking. Understanding these factors could inform effective policies and interventions to enhance productivity and security in software houses. Thirdly, focusing on IT professionals is essential due to their unique technological work environment. While cyberslacking has been studied among other professions in Pakistan, research on IT professionals remains limited. IT workers' frequent interactions with advanced technological tools may influence their cyberslacking behaviors differently from other groups (Khan et al., 2021). Additionally, cultural norms

and socioeconomic conditions in Pakistan play a significant role in shaping employee behaviors, including cyberslacking tendencies. This study can provide insights into the cultural attitudes toward technology use in workplaces, as well as the socioeconomic factors that impact internet usage among IT employees, who often have higher access to internet-enabled devices and greater technological proficiency. It is important to note that only two personality dimensions (conscientiousness and neuroticism) were included, while extraversion, openness, and agreeableness were excluded. These dimensions were selected because prior research indicates they are most strongly related to cyberslacking behaviors (Ekinci, 2023). Also conscientiousness was conceptualized as a protective factor, whereas neuroticism was considered a risk factor in relation to cyberslacking behaviors. This focus is supported both theoretically and empirically (Koronczai, Kökönyei, Griffiths & Demetrovics, 2019). These two traits were therefore prioritized, given their strong theoretical and empirical links with cyberslacking behaviors, while the remaining three dimensions were excluded to maintain focus and reduce participant burden.

METHOD

Sample

A purposive sample of (N = 450) consisting full-time IT professionals from different software houses of Rawalpindi, Islamabad and Lahore were selected for this study. The inclusion criteria required participants to have at least one year of employment in their current organization and a minimum of two years of overall job experience. Organizations included in the study were required to have a minimum of 15 employees to ensure a focus on sufficiently staffed workplaces. To ensure consistency, the study focused exclusively on in-office employees and excluded remote workers. The sample predominantly consisted of men (71.3%, n = 321) and women (28.7%, n = 129). Educational backgrounds of the participants varied, with 64.4% (n = 290) holding graduate degrees, 35.4% (n = 159) having post-graduate qualifications. Most participants were employed in technical roles (69.1%, n = 311), while 30.9% (n = 139) held managerial positions. Participants' ages ranged from 25 to 54 years, with a mean age of 32.78 years (SD = 5.87). Most participants were in the industry with experience of 2 to 18 years, with an average of 8.67 years (SD = 4.55).

The majority of participants were employed in private organizations (75.3%, n = 339), while 24.2% (n = 109) worked in government sectors. Participants' working hours were diverse: 7.6% (n = 34) worked 4-6 hours per day, 47.1% (n = 212) worked 6.1-8 hours, 38.7% (n = 174) worked 8.1-10 hours, and 6.7% (n = 30) worked more than 10 hours daily. On average, participants worked approximately 7.9 hours per day. Reasons for personal internet use at work included improving work skills (35.1%, n = 158), personal business (22.4%, n = 101), socialization (22.2%, n = 100), and reducing work stress (20%, n = 90). Time spent on personal internet use varied such as 22% (n = 99) respondents used it for less than 1 hour, while 30% (n = 135) respondents use it for 1-2 hours, 18.2% (n = 82) for 3-4 hours, and 29.3% (n = 132) for 4 or more hours.

Measures

Conscientiousness subscale and neuroticism subscale of the Big Five Inventory. To assess these personality traits, the Conscientiousness and Neuroticism subscales from the Big Five Inventory were used. Each subscale consisted of 8 items. Responses were recorded on a 4-point Likert scale, ranging from (1 = Strongly agree to 4 = Strongly disagree). The scoring range for each subscale was 8 to 32, with higher scores reflecting higher levels of conscientiousness and neuroticism. The internal consistency of the subscales was demonstrated to be excellent, with Cronbach's alpha reliability coefficients reported as α = .84 for the Neuroticism subscale and α = .82 for the Conscientiousness subscale (John & Srivastava, 1999). In this study, the Neuroticism subscale achieved an alpha coefficient of .82, while for the Conscientiousness subscale, a high reliability was observed for the subscale, with an alpha coefficient of .85.

Technostress Creator's Inventory. Technostress was assessed using the Technostress Creator's Inventory (Ragu-Nathan, Tarafdar, Ragu-Nathan & Tu, 2008), which comprises 23 items divided into five subscales: techno-overload (5 items), techno-invasion (4 items), techno-complexity (5 items), techno-insecurity (5 items), and techno-uncertainty (4 items). Responses were given on a 4-point Likert scale, from (1 = Strongly agree to 4 = Strongly disagree). The possible scores ranged from 23 to 92, with higher scores reflecting higher perceptions of technostress. The scale demonstrated

excellent internal consistency with α = .84 (Ragu-Nathan et al., 2008). In the current study, the overall scale achieved an alpha coefficient of .87, with subscales demonstrating the following reliability: techno-overload (α = .73), techno-invasion (α = .78), techno-complexity (α = .74), techno-insecurity (α = .72), and techno-uncertainty (α = .70).

Self-Regulation Scale. Self-regulation was assessed using a 10-item self-report scale developed by Schwarzer and colleagues (Schwarzer, Diehl & Schmitz, 1999), which focused on attention control during goal pursuit. Participants responded on a 4-point Likert scale, from (1 = Not at all true to 4 = Exactly true) with possible range of 10-40. The scale has been shown to have excellent internal consistency, with a Cronbach's alpha of α = .82 (Schwarzer et al., 1999). In this study, the reliability analysis of the scale revealed Cronbach's alpha coefficient of .85.

Social Cyberloafing Scale. Cyberslacking behaviors were measured using a scale adapted by Wu and colleagues (Wu, Mei, Liu & Ugrin, 2020) from Andreassen et al. (Andreassen, Pallesen & Griffiths, 2014), which focuses on the use of social networks for personal purposes during work hours. This scale includes 7 items rated on a 4-point Likert scale, ranging from (1 = Rarely to 4 = To a great extent). Scores on the scale ranged from 7 to 28, with higher scores indicating a greater tendency to engage in cyberslacking behaviors. The scale demonstrated excellent internal consistency, with a reported Cronbach's alpha of α = .84 (Wu et al., 2020). In the present study, the scale established an alpha coefficient of .85.

Procedure

The study was conducted with IT employees from various software houses in Pakistan. The survey was administered between October 2023 and March 2024. Participants were recruited mostly from organizations based in Islamabad, Rawalpindi and Lahore. Approval was obtained from software houses and relevant authorities across various cities in Pakistan, and permission was sought from HR departments to conduct surveys on-site. Recruitment of participants commenced only after receiving the necessary approvals from the respective HR departments. The data were collected using paper-based surveys. Before the survey administration, participants were briefed about the general purpose of the study, and informed consent was obtained from each participant. Participants were assured of the anonymity and confidentiality of their responses, with all data securely stored and accessible only to the research team. Questionnaire booklets were distributed to participants and they were encouraged to provide as much information as they felt comfortable with and were free to withdraw from the study at any point. To assist the respondents, both written and verbal instructions were provided for completing the questionnaires. After data collection, respondents were thanked for their valuable information and their precious time.

Data analysis

Data were analyzed using SPSS version 26. Prior to analysis, data were screened for missing values and assumptions (normality, multicollinearity, etc.). Descriptive statistics were calculated for all variables. To test the hypotheses, correlation, hierarchal regression analysis, *t*-tests, MANOVA, moderation/mediation analysis were performed. Statistical significance was set at $p<.05$.

RESULTS

Results in Table 1 indicate the correlation pattern among the study variables. The results show that neuroticism is positively related to perceived technostress and cyberslacking behaviors. However, it is inversely correlated with conscientiousness and self-regulation. Conscientiousness is positively associated with only self-regulation; whereas, it is negatively correlated with all other variables. Thus, it shows that neuroticism, perceived technostress, and cyberslacking behaviors are positively correlated with each other while they are negatively correlated with conscientiousness and self-regulation.

Table 2 presents the results of the regression analyses examining predictors of cyberslacking behaviors. In step 1, conscientiousness and neuroticism explained 30% of the variance in cyberslacking behaviors, indicating that approximately 30% of the variance in the outcome variable can be accounted for by these two traits. In step 2, the inclusion of self-regulation increased the explained variance up to 46% and the value of ΔR^2 increased from step 1 to step 2, indicating that the addition of self-regulation accounted for an additional 16% of the variance in cyberslacking behaviors.

Table 1 – Correlation among study variables (N = 450)

Variables	*M*	*SD*	1	2	3	4	5
1. Neuroticism	22.36	5.92	—	−.57**	.37**	−.37**	.51**
2. Conscientiousness	19.07	4.74		—	−.40**	.19**	−.45**
3. Perceived technostress	72.45	11.15			—	−.31**	.57**
4. Self-regulation	23.33	7.05				—	−.56**
5. Cyber slacking	15.84	5.09					—

**p<.01, ***p<.001

Table 2 – Hierarchical multiple regression analysis predicting cyberslacking behaviors (N = 450)

Criterion variable: cyberslacking behaviors							
		95% CI for B					
Variables	B	LL	UL	SE	β	R^2	ΔR^2
Model 1						.30	.30***
Constant	12.62***	9.52	16.00	1.71			
Conscientiousness	−.20***	−.28	−.12	.04	−.24***		
Neuroticism	.41***	.31	.51	.05	.38***		
Model 2						.46	.16***
Constant	23.61***	20.09	27.13	1.79			
Conscientiousness	−.22***	−.28	−.14	.04	−.25***		
Neuroticism	.23***	.13	.32	.05	.21***		
Self−regulation	−.31***	−.36	−.25	.03	−.43***		
Model 3						.54	.08***
Constant	10.51***	6.19	14.83	2.20			
Conscientiousness	−.13***	−.20	−.06	.03	−.16***		
Neuroticism	.18***	.09	.27	.04	.17***		
Self−regulation	−.26***	−.31	−.21	.02	−.36***		
Perceived technostress	.15***	.12	.18	.01	.33***		

**p<.01, ***p<.001

In step 3, with the further inclusion of perceived technostress, the predictors collectively explained 54% of the variance in cyberslacking behaviors. The increase in ΔR^2 from step 2 to step 3 suggests that perceived technostress contributed an additional 8% to the explained variance in the dependent variable.

Moderating role of perceived technostress

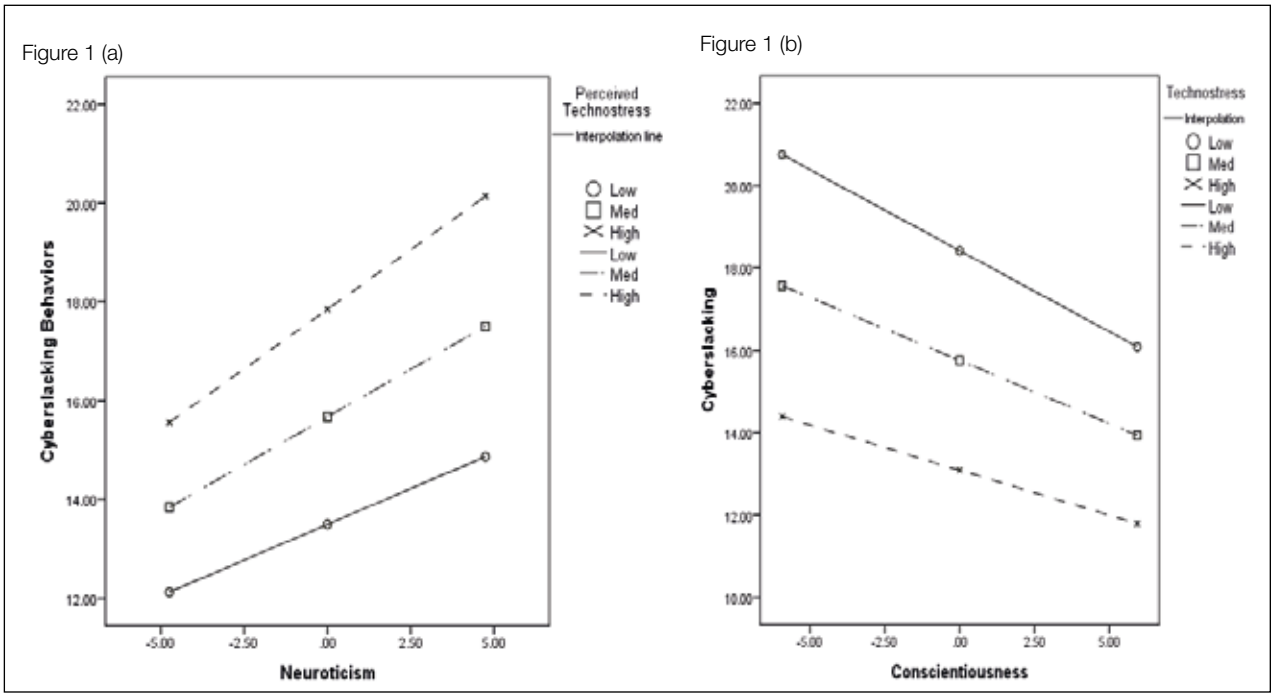
To examine the moderating effect of self-regulation on the relationship between personality traits and cyberslacking behaviors, a moderation analysis was conducted. In the first path, moderating role of perceived technostress was examined in predicting cyberslacking behaviors from neuroticism, and then in the second path, moderating role of perceived technostress was tabulated to predict cyberslacking behaviors from conscientiousness (see Table 3).

As shown in Figure 1(a), a significant moderation effect was found, indicating that perceived technostress strengthens the positive relationship between neuroticism and cyberslacking behaviors. Specifically, the impact of neuroticism on cyberslacking becomes more pronounced at higher levels of technostress. In contrast, Figure 1(b) illustrates the moderation effect of perceived technostress on the relationship between conscientiousness and cyberslacking behaviors. A significant moderation effect was observed, indicating that perceived technostress weakens the negative relationship between conscientiousness and cyberslacking. At higher levels of technostress, the ability of conscientiousness to reduce cyberslacking is diminished. Results indicated that perceived technostress plays an antagonistic role in the relationship between conscientiousness and cyberslacking behaviors.

Table 3 – Moderating role of perceived technostress in predicting cyberslacking behaviors from neuroticism and conscientiousness (N = 450)

Criterion variable: cyberslacking behaviors					
				95% CI	
Predictors			β	p	LL	UL
Constant			15.67	.00	15.29	16.05
Neuroticism			.38	.00	.30	.4
Perceived technostress			.20	.00	.17	.24
Neuroticism × perceived technostress			.01	.01	.00	.02
R^2 = .44	ΔR^2 = .01	F = 115.04		.00		
Constant			15.60	.00	15.19	15.99
Conscientiousness			−.24	.00	−.31	−.17
Perceived technostress			.20	.00	.16	.24
Conscientiousness × perceived technostress			−.01	.00	−.15	.00
R^2 = .40	ΔR^2 = .01	F = 97.48		.00		

Figure 1 – Perceived technostress as a moderator between personality traits and cyberslacking behaviors (N = 450)



Moderating role of self-regulation

To examine the moderating effect of self-regulation on the relationship between neuroticism and cyberslacking behaviors, and conscientiousness and cyberslacking behaviors, a moderation analysis was conducted. In the first path, moderating role of self-regulation was examined in predicting cyberslacking behaviors from neuroticism, and then in the second path, moderating role of self-regulation was tabulated to predict cyberslacking behaviors from conscientiousness (see Table 4).

Figure 2(a) demonstrates the moderating effect of self-regulation on the relationship between neuroticism and cyberslacking behaviors. The positive association between neuroticism and cyberslacking is strongest when self-regulation is low, indicating that individuals with high levels of neuroticism are more likely to engage in cyberslacking when they have poor self-regulation skills. However, as self-regulation increases, the influence of neuroticism on cyberslacking behaviors weakens. Results indicated that self-regulation acts as a buffer in the relationship between neuroticism and cyberslacking behaviors, thereby acting as a shield against negative impacts of neuroticism.

Figure 2(b) illustrates that self-regulation enhances the negative relationship between conscientiousness and cyberslacking behaviors. When self-regulation is low, conscientious individuals are already less likely to engage in cyberslacking. However, as self-regulation increases, the ability of conscientiousness to further reduce cyberslacking behaviors is strengthened. At higher levels of self-regulation, this negative relationship becomes more pronounced, indicating that individuals who are both highly conscientious and possess strong self-regulation skills are significantly less likely to engage in cyberslacking.

Group differences

Table 5 represents that there is significant difference between private sector and government sector employees on perceived technostress as well as self-regulation. However, no significant differences exist between the two categories in

Table 4 – Moderating role of self-regulation in predicting cyberslacking behaviors from neuroticism and conscientiousness (N = 450)

Criterion variable: cyberslacking behaviors						
					95% CI	
Predictors			B	*p*	LL	UL
Constant			15.72	.00	15.34	16.11
Neuroticism			.39	.00	.31	.47
Self-regulation			−.33	.00	−.39	−.27
Neuroticism × self-regulation			−.01	.04	−.02	.00
R^2 = .42	ΔR^2 = .01	F = 108.54		.00		
Constant			15.59	.00	15.19	15.99
Conscientiousness			−.31	.00	−.30	−.17
Self-regulation			−.39	.00	−.44	−.35
Conscientiousness × self-regulation			−.01	.00	.00	.02
R^2 = .44	ΔR^2 = .01	F = 117.92		.00		

neuroticism, conscientiousness and cyberslacking behaviors.

A factorial MANOVA was performed to assess the combined effects of Gender, Job nature, and Work experience on five dependent variables. The multivariate effect was significant, Pillai's trace = .604, F (70, 2150) = 4.22, p<.001, partial η^2 = .12 (see Table 6 and Table 7).

DISCUSSION

The current research was designed to determine the relationship of personality traits with cyberslacking behaviors with perceived technostress and self-regulation acting as risk and protective factors. Research aimed to investigate how neuroticism and conscientiousness affects an employee's involvement in cyberslacking behaviors and how perceived technostress make them more susceptible to get involved in such behaviors and how self-regulation reduces the chances of such involvement. Research also aimed at exploring the effects of demographic variables such as gender, education, job nature, job tenure, time spent on non-work internet use and reasons for that.

It was hypothesized that higher level of neuroticism would be correlated to higher levels of cyberslacking behaviors. The study's findings demonstrate that neuroticism positively predicts cyberslacking behaviors among IT employees, consistent with earlier studies (Liani, Baidun & Rahmah, 2021; Ventakesh et al., 2023). Neuroticism is characterized by emotional instability, anxiety, and a tendency to experience negative emotions. To cope with these uncomfortable

Figure 2 – Self-regulation as a moderator between personality traits and cyberslacking behaviors (N = 450)

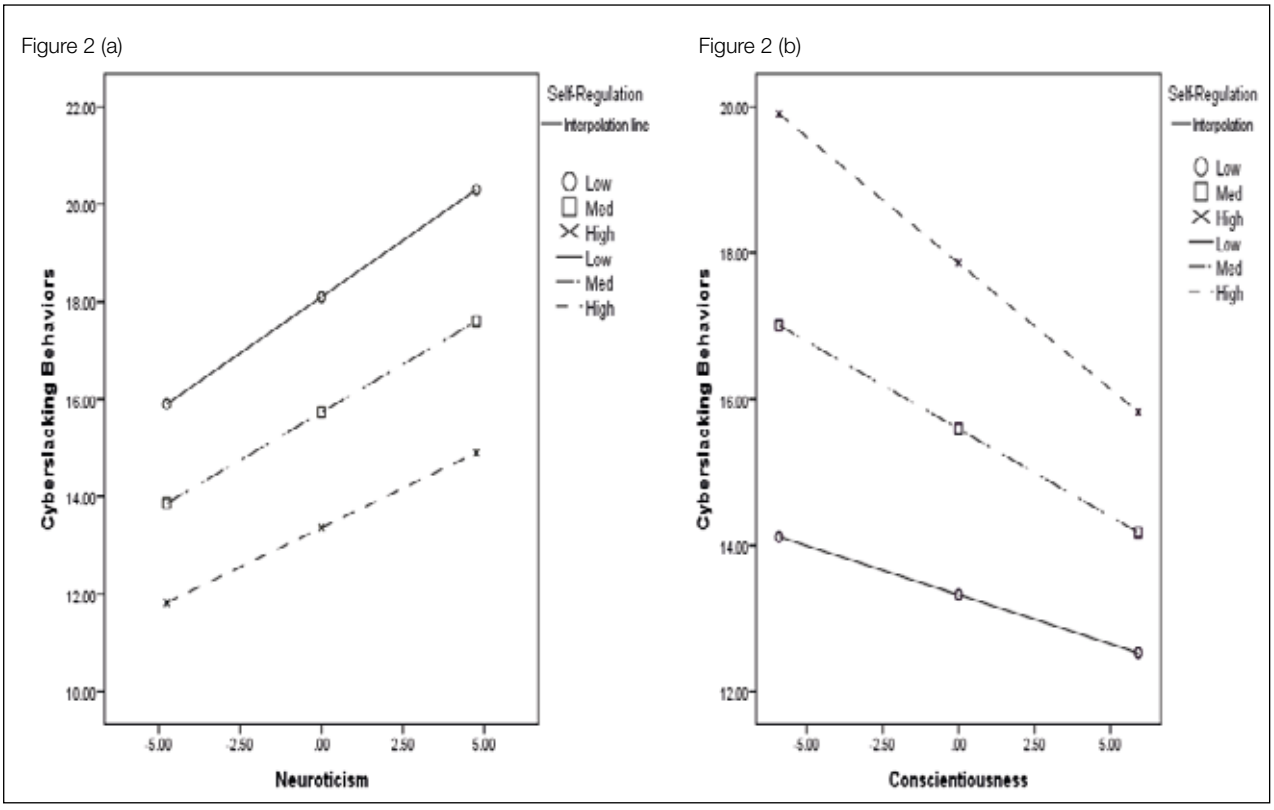


Table 5 – Organization of nature differences along study variables (N = 450)

Variables	Govt. sector (n = 109)		Private sector (n = 339)		t (df)	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Neuroticism	19.55	5.24	18.90	4.58	1.16 (*446*)	.21	−.46	1.76	–
Conscientious	21.75	7.20	22.56	5.46	−1.07(*446*)	.21	−2.29	.68	–
Technostress	69.85	12.07	73.31	10.69	−2.84(*446*)	.00	−5.85	−1.07	.30
Self-regulation	22.24	5.30	23.69	7.52	−2.21*(443)*	.02	−2.73	−.16	.22
Cyberslacking	16.60	4.97	15.61	5.11	1.77(*445*)	.07	−.11	2.09	–

Legenda. Conscientious = conscientiousness; Technostress = perceived technostress; Cyberslacking = cyberslacking behaviors.

Table 6 – MANOVA analysis for variables of study (N = 450)

Variables	**Men** (*n* = 318)											
	Managerial (*n* = 138)						Technical (*n* = 307)					
	1-5 years (*n* = 232)		5.1-10 years (*n* = 148)		10.1 & above years (*n* = 65)		1-5 years (*n* = 232)		5.1-10 years (*n* = 148)		10.1 & above years (*n* = 65)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Neurotic.	19.43	4.50	19.09	4.54	17.23	5.58	19.20	4.07	18.13	4.68	20.50	5.16
Conscient.	20.62	4.86	23.03	6.09	23.82	6.80	21.93	5.85	23.60	6.80	21.40	5.93
Techstress	76.74	9.81	72.09	10.9	69.94	13.4	69.63	11.02	71.15	10.51	74.13	14.0
Regulation	21.28	5.37	23.75	6.90	25.29	7.78	23.58	6.08	22.79	6.89	21.13	7.05
Cyberslac.	18.22	5.08	15.56	5.16	13.94	4.50	15.69	4.97	14.91	4.87	16.72	4.44
Variables	**Women** (*n* = 127)											
	Managerial (*n* = 138)						Technical (*n* = 307)					
	1-5 years (*n* = 232)		5.1-10 years (*n* = 148)		10.1 & above years (*n* = 65)		1-5 years (*n* = 232)		5.1-10 years (*n* = 148)		10.1 & above years (*n* = 65)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Neurotic.	21.82	3.95	23.00	3.84	12.25	5.32	20.82	4.18	18.73	4.13	20.83	2.40
Conscient.	20.04	5.07	21.90	5.68	27.70	5.65	20.56	4.62	23.76	5.39	21.33	3.98
Techstress	77.13	14.15	70.63	12.86	73.15	6.35	75.73	8.20	74.61	11.77	82.66	4.84
Regulation	20.91	4.92	20.54	3.64	37.50	9.24	22.82	4.57	20.50	4.96	19.67	8.57
Cyberslac.	19.91	4.75	16.09	2.94	9.40	5.22	16.95	4.46	16.23	4.05	18.50	2.25

Legenda: Neurotic. = neuroticism; Conscient.= conscientiousness; Regulation = self-regulation; Techstress = perceived technostress; Cyberslac. = cyberslacking behaviors.

Table 7 – Tests of between-subjects effects for gender × job nature × work experience

Dependent variables	F	df_1	df_2	p	Partial η^2
Neuroticism	2.52	14	430	.002	.08
Conscientiousness	13.45	14	430	<.001	.31
Perceived technostress	8.51	14	430	<.001	.22
Self-regulation	2.86	14	430	<.001	.08
Cyberslacking behaviors	7.06	14	430	<.001	.19

Legenda. df = degree of freedom; Partial η^2 = effect size estimates.
Note. Reported F statistics are based on the three-way interaction (gender × job nature × work experience).

emotions, neurotic individuals may resort to cyberslacking, using the internet during work hours to engage in personal activities and thus alleviate stress (Liani et al., 2021). The internet provides a readily available escape, enabling neurotic individuals to avoid confronting work-related tasks and instead seek solace in non-work-related online activities (Venkatesh et al., 2023).

It was also hypothesized that higher level of conscientiousness would be correlated to lower levels of cyberslacking behaviors. The results suggest that in contrast to neuroticism, conscientiousness is negatively associated with cyberslacking behaviors. Conscientious individuals are characterized by a strong sense of duty, responsibility, and goal orientation. They are more disciplined and focused on achieving work-related goals, which makes them less likely to engage in personal internet use during work hours (Ibrahim & Helay, 2022). Although even conscientious individuals might occasionally engage in some personal internet use, their high level of self-regulation typically prevents excessive engagement in such behaviors (Li, 2022).

Two critical moderators in the relationship between neuroticism and cyberslacking are perceived technostress and self-regulation. Perceived technostress is a significant moderator as it strengthens the relationship between neuroticism and cyberslacking behaviors. Technostress, which encompasses the stress and strain associated with the use of technology, particularly under conditions of constant connectivity and multitasking, can lead to increased cyberslacking as individuals seek to escape the overwhelming demands. High levels of technostress can make it difficult for employees to concentrate on their work tasks, prompting them to turn to social media and other non-work-related online activities as a coping mechanism (Li & Liu, 2022). Technostress factors like techno-invasion and techno-overload further compound this problem by creating a stressful environment that encourages the use of cyberslacking as a means of escape, reducing efficiency and productivity (Güğerçin, 2020).

On the other hand, self-regulation serves as a protective factor, enabling individuals to manage their impulses and maintain focus on their goals, thus reducing the likelihood of cyberslacking. Strong self-regulation skills help individuals stay committed to their tasks and resist the distraction of non-work-related online activities, effectively mitigating the impact of neuroticism on cyberslacking. Individuals with high self-regulation are better equipped to control their emotional responses and stay focused, which reduces the tendency to cyberslack even when they experience stress or discomfort.

The relationship between conscientiousness and cyberslacking is similarly influenced by perceived technostress and self-regulation. High levels of perceived technostress can undermine the typical self-discipline of conscientious individuals, potentially leading to occasional

lapses in cyberslacking as a way to cope with stress. While conscientiousness generally protects against cyberslacking, excessive technostress might still pose a challenge, though to a lesser extent compared to individuals with lower conscientiousness (Li & Liu, 2022). Conversely, self-regulation strengthens the negative relationship between conscientiousness and cyberslacking. Conscientious individuals who possess strong self-regulation skills are highly effective in managing their time and responsibilities, which acts as a robust buffer against engaging in non-work-related online activities (Tanriverdi, 2021). Thus, self-regulation enhances the protective effect of conscientiousness against cyberslacking. Importantly, the moderation analysis demonstrated that perceived technostress and self-regulation significantly moderated these relationships, although the interaction effect was relatively small ($\beta = .01$, $\Delta R^2 = .01$). This suggests that technostress and self-regulation alter the strength, but not the direction, of the associations between personality traits and cyberslacking. These findings are consistent with prior research showing that moderation effects for cyberslacking behaviors tend to be small yet theoretically meaningful (Nweke, Jarrar & Horoub, 2024). In line with Aguinis and colleagues (Aguinis, Edwards & Bradley, 2017) and Frazier et al. (2004), such effects typically account for 1-3% of the variance ($\Delta R^2 \approx .01–.03$) as observed in the current study.

The findings on group differences indicate meaningful sectoral differences in employees' experiences of technostress and self-regulation. Private-sector employees reported significantly higher levels of technostress than their counterparts in the government sector. This pattern may be attributed to the greater technological integration, performance pressures, and rapid digital transformations common in private organizations. These environments often demand constant connectivity and multitasking, which can heighten perceptions of overload and invasion, leading to elevated technostress (Stadin et al., 2021). Interestingly, despite facing higher technostress, private-sector employees also demonstrated stronger self-regulation. This may reflect the adaptive mechanisms cultivated in dynamic and competitive work environments, where employees are required to manage their time effectively, control impulses, and maintain productivity under pressure. Enhanced self-regulation could serve as a coping resource that enables employees to manage the stress associated with technological demands.

The factorial multivariate analysis reveals that gender, job nature, and job tenure significantly impact neuroticism, conscientiousness, self-regulation, technostress, and cyberslacking. Men increase in neuroticism with longer tenure as managers but show decreased neuroticism with longer tenure in technical roles. Managerial roles may induce stress and require emotional regulation over time, influencing neuroticism differently by role (Schmitt, Den Hartog & Belschak, 2021). Women tend to have higher neuroticism in early career years, especially overall or in managerial tracks, but tend to have decreased neuroticism with tenure in managerial roles, reflecting development of emotional stability over time. In technical roles, women's neuroticism remains relatively stable without large differences by tenure (Chapman, Duberstein, Sörensen & Lyness, 2007). The general gender difference in neuroticism, with women scoring higher than men, is consistent across ages and roles but modulated by job tenure and role type (Weisberg, Deyoung & Hirsh, 2011).

Gender and role influence conscientiousness development, with managerial roles tending to enhance conscientious behaviors whereas technical roles maintain consistent conscientiousness levels across tenure for both men and women (Opstad, Karevoll, Lewicka & Årethun, 2024; Russo & Stol, 2020). Technostress increases with tenure for technical men and women but decreases with tenure for managerial men and women (Kumar, 2024; Zhang, Ye, Qiu, Zhang & Yu, 2022). Women in technical roles experience higher technostress levels, likely related to greater strain with digital demands and gender-related stereotypes in technology use.

Self-regulation appears higher among men and managerial staff, increasing with tenure, suggesting regulatory control develops with experience and professional maturity. Research supports that self-regulation or emotional regulation tends to increase with longer tenure among men and women in managerial roles, linked to growing professional maturity, experience, and the need to manage complex interpersonal and organizational dynamics. On the other hand, technical men and women tend to show a decrease in regulation over tenure, possibly due to different job demands and stressors that affect their emotional resources and coping strategies differently than management roles. Cyberslacking behaviors, such as personal internet use at work, are more frequently reported by men in managerial roles and women in technical roles,

often as coping mechanisms for stress, and increase with job tenure (Hernández et al., 2016; Vitak, Crouse & Larose, 2011). Among women, managerial roles exhibit less cyberslacking than technical roles, with managerial women's cyberslacking decreasing with tenure due to growing regulatory control and professional norms. In contrast, technical women show increasing cyberslacking with tenure, possibly as a coping response to persistent technostress in technical positions.

Limitations and suggestions

The study did not employ precise time-tracking tools or software to measure the exact duration of non-work internet use, relying instead on self-reported data. This reliance may have led to inaccuracies, as employees might not accurately recall or may intentionally underreport their non-work internet use to avoid negative consequences. Additionally, the time spent on cyberslacking can vary depending on factors such as the time of day, workload, and personal circumstances. A single measurement or snapshot may not accurately capture the dynamic nature of cyberslacking over a typical workweek. The study also did not account for potential confounding variables, such as organizational culture, management practices, and individual differences in work-life balance, which could influence cyberslacking behaviors. Future research should utilize digital tools or software to accurately track the amount of time employees spend on non-work-related internet use, offering more objective measurements. Longitudinal studies are recommended to better identify causal relationships and changes over time. Additionally, future studies should consider contextual factors, including job role, workload, and organizational culture, to better understand the reasons and extent of cyberslacking behaviors.

Implications of the study

The study offers several implications for organizations navigating digital adaptation challenges. To reduce cyberslacking, companies should implement clear internet usage policies and support workload management to enhance employee well-being and productivity. Since individuals high in neuroticism are more vulnerable to technostress, organizations should implement stress management interventions, such as mindfulness sessions, emotional regulation training, and supportive supervision, to help employees cope with technology-related strain. For highly conscientious employees, who may experience pressure to remain constantly productive, managers can promote balanced workload structures and digital breaks to prevent burnout and ensure sustained efficiency. Given that conscientiousness emerged as a protective factor, organizations can leverage this trait by fostering environments that encourage responsibility, goal-setting, and autonomy. For instance, providing structured work routines, clear performance expectations, and recognition systems may help conscientious employees maintain focus and reduce the likelihood of cyberslacking. Reducing technostress is crucial and can be achieved through training on efficient technology use, promoting breaks, and offering resources to help employees adapt to technological changes. Policymakers should advocate for ethical internet usage guidelines and mental health support in the workplace, providing adaptive training and digital literacy programs to those more susceptible to stress. Employees can benefit from focusing on self-awareness and personal development, including mindfulness and time management, to manage cyberslacking and improve job focus. Effective organizational strategies, training, and supportive policies are essential for enhancing employee well-being and productivity in the digital age.

CONCLUSION

This study underscores the importance of addressing cyberslacking and technostress in the workplace through targeted interventions, clear policies, and employee support programs. Beyond these general measures, a key contribution of this research lies in demonstrating the relevance of personality characteristics, specifically conscientiousness and neuroticism, in understanding employees' susceptibility to these challenges. Conscientiousness emerged as a protective factor, indicating that employees high in this trait are more likely to self-regulate and resist cyberslacking, while neuroticism functioned as a risk factor, heightening vulnerability to technostress and counterproductive online behaviors.

The added value of incorporating personality evaluation into workplace strategies is twofold. First, it allows organizations to identify employees who may be at greater

risk and to provide them with tailored resources, such as stress-management training or digital well-being programs. Second, it enables the design of preventive measures that leverage existing strengths by promoting responsibility, structured task management, and recognition systems. Thus, personality-informed interventions can enhance both individual well-being and organizational productivity in the digital era.

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