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The intersection of stress, loneliness, and mental health attitudes in young multinational corporation employees

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Abstract

Introduction: Promoting psychological well-being in young multinational corporation (MNC) employees requires understanding the relationship between stress, loneliness, and mental health attitudes. However, existing research lacks a comprehensive analysis of how these factors interact and influence attitudes toward seeking psychological help. Addressing this gap is crucial for developing effective workplace mental health interventions.

Methods: Using a sample of 118 young MNC employees in Vietnam (64.4% Gen Z, 81.4% female, 11% LGBTQ+, 67.8% single), this study examines relationships between stress, loneliness, problematic internet use (PIU), and attitudes toward seeking psychological help, with tenure and remote work status as moderators. Data were analyzed using partial least squares structural equation modeling (PLS-SEM).

Results: Perceived stress is positively correlated with problematic internet use (PIU) and dissatisfaction with social relationships, while negatively correlated with social satisfaction. PLS-SEM revealed that perceived stress significantly predicted dissatisfaction with social relationships ($\beta = 0.408$, $p < 0.001$), which was strongly associated with PIU ($\beta = 0.407$, $p < 0.001$), indicating a maladaptive coping mechanism. Higher social dissatisfaction correlated with negative attitudes toward psychological help. Longer tenure was associated with reduced social dissatisfaction, whereas remote work intensified the loneliness–PIU relationship. Tenure ($\beta = -0.209$, $p < 0.05$) and remote work status ($\beta = 0.216$, $p < 0.05$) moderated the stress–loneliness and loneliness–PIU relationships, respectively.

Conclusion: These findings highlight the complex relationship between stress, loneliness, and workplace factors in young MNC workers. Addressing problematic internet use and improving psychological support may reduce stress and loneliness. Furthermore, tenure-related interventions could foster social well-being in corporate environments, emphasizing the need for targeted workplace mental health strategies.

Keywords: Attitudes; help-seeking attitudes; loneliness; multinational employees; problematic internet use; stress; workplace factors.

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INTRODUCTION

This study explores the impact of loneliness and social isolation on stress and the inclination to seek psychological counseling among young professionals employed in multinational corporations (MNCs). Understanding these interconnections is vital for corporate leaders and HR professionals as they work to promote employee mental well-being within the organizational environment. The interplay of these factors significantly influences employee well-being and productivity. Prior research has demonstrated the adverse effects of loneliness and perceived social isolation on mental health, emphasizing their potential to heighten stress and weaken coping mechanisms [1]. Within corporate settings, loneliness and isolation is increasingly identified as precursors to stress-related disorders [2].

Research background and motivation

This study seeks to examine the relationship between loneliness, stress, and psychological help-seeking behaviors among employees in MNCs. Given the distinctive stressors faced by these employees-such as cultural adaptation, high job expectations, and hierarchical structures understanding these interactions is essential. HR professionals and managers play a crucial role in fostering a supportive work environment by identifying workplace loneliness and implementing strategies to mitigate its impact. While extensive research has explored workplace stress and psychological well-being, there remains a significant gap in understanding how loneliness and stress affect employees' willingness to seek psychological help.

A key focus of this study is the connection between workplace loneliness, stress levels, and psychological help-seeking behavior. Existing literature has examined the effects of loneliness and stress on employee mental health [3-5]. Weiss introduced the concept of social and emotional loneliness, asserting that employees lacking meaningful workplace social bonds are more susceptible to emotional stress [6]. Furthermore, Lazarus & Folkman's stress theories suggested that chronic workplace stress, when compounded by a lack of social support, could significantly undermine employees' psychological resilience [7]. Employees experiencing workplace isolation or excessive job demands might be reluctant to seek psychological help due to stigma or organizational barriers. However, the number of papers that explored the direct relationship between stress, loneliness and help-seeking tendency remains limited.

Workplace relationships also play a pivotal role in employees' willingness to seek psychological help. According to social capital theory [8] and social support theory [9], the nature and quality of social relationships within an organization could influence employees' well-being and behavioral responses. Research suggests that employees with strong professional networks experience lower stress levels and are more likely to seek psychological help when necessary. Conversely, employees who feel isolated may resort to maladaptive coping mechanisms, such as avoidance or withdrawal.

Although previous research has examined loneliness, stress, and help-seeking behavior, most studies have examined these constructs in isolation, often focusing on either individual or organizational influences. However, a more integrated approach is needed to understand the interactive and mediating effects of these factors. Future studies should investigate how personal characteristics and workplace culture collectively shape psychological help-seeking behavior.

While existing literature acknowledges the importance of organizational factors in employee well-being, its role in psychological help-seeking remains insufficiently explored. Specifically, the interaction between workplace relationships and workplace culture in shaping employees' attitudes toward seeking professional support remains largely unexamined. Thus, this study aims to bridge this research gap by analyzing how loneliness and stress influence employees' psychological help-seeking behaviors. The findings will provide valuable insights that can inform policies designed to improve employee mental well-being in multinational corporate environments.

Hypothesis development

Theoretical development

Understanding the intersection of stress, loneliness, and mental health attitudes among young multinational corporation employees requires an integrative theoretical approach. This study draws on several key psychological and behavioral theories: Weiss's theory of loneliness [6], Lazarus and Folkman's transactional theory of stress and coping [7], the cognitive-behavioral model of Problematic Internet Use [10], Caplan's social competence model [11], and the Attitudes Toward Seeking Professional Psychological Help (ATSPPH) framework [12].

Weiss's theory of loneliness differentiated between emotional loneliness, resulting from the absence of close personal bonds, and social loneliness, arising from the lack of broader social networks [6]. These categories were underpinned by six essential social provisions-attachment, social integration, nurturance, reassurance of worth, reliable alliance, and guidance. Young MNC workers frequently experience disruptions in these provisions due to relocation and cultural transitions, leading to heightened loneliness and stress.

Lazarus and Folkman's transactional theory of stress and coping posited that stress would arise when external demands exceeded an individual's perceived coping resources [7]. In corporate settings, stress is exacerbated by job expectations, organizational hierarchies, and cultural adaptation challenges. The Perceived Stress Scale (PSS) operationalizes these experiences, enabling a measurable understanding of workplace stress among young MNC employees.

The cognitive-behavioral model of Problematic Internet Use (PIU) [10] and Caplan's social competence model [11] provided insight into the role of digital engagement in managing stress and loneliness. The displacement hypothesis [13] posited that excessive internet use reduces the quality of offline social interactions, while the stimulation hypothesis [14] suggested that online interactions enhance social connectivity. Moreover, digital engagement serves as both a coping mechanism and a risk factor for workplace loneliness and stress, as young MNC professionals may turn to online interactions as a substitute for in-person socialization, which may result in avoidance behaviors [15].

The ATSPPH framework [12] is essential in understanding barriers to seeking psychological help. According to this framework, stigma, cultural expectations, and workplace perceptions significantly influence employees' willingness to seek professional mental health support. Rickwood, Deane, Wilson, and Ciarrochi [16] and Gulliver, Griffiths, and Christensen [17] highlighted that mental health literacy and stigma are key deterrents to help-seeking behavior. As a result, many young professionals hesitated to pursue professional help due to embarrassment, confidentiality concerns, or cultural stigma surrounding mental health.

Compared to older employees, younger workers were more likely to depend on informal support networks rather than professional assistance [18]. Additionally, corporate environments frequently lacked structured mental health interventions tailored to young professionals, leaving them with limited access to necessary resources.

Workplace and behavioral context

While theoretical constructs provide a framework for understanding stress, loneliness, and help-seeking attitudes, workplace-specific dynamics further shape these experiences. Employees in MNCs face challenges such as high job demands, hierarchical structures, and social disconnection, which intensify psychological stress.

Tenure in an organization is found to influence stress levels and help-seeking behavior. Long-term employees often experience heightened job demands and role stagnation, which contribute to burnout [19]. However, they may also develop stronger coping mechanisms, potentially reducing their reliance on professional psychological services [20]. In contrast, newer employees may struggle more with workplace loneliness, particularly in remote or hybrid work environments where social bonds are harder to establish [21].

Problematic Internet Use (PIU) in the Workplace presents a unique coping challenge for employees managing stress and loneliness. Digital tools such as social media, messaging apps, and online forums serve as both enablers and barriers to workplace engagement. PIU manifests in behaviors such as compulsive email checking, excessive social media engagement, and cyberloafing [22]. While moderate digital engagement can enhance communication and provide stress relief [23], excessive use often leads to avoidance behaviors that exacerbate workplace stress and loneliness [24]. Employees may engage in digital escapism instead of seeking professional psychological help, deepening their psychological stress [15].

Barriers to Seeking Professional Psychological Help in Corporate Environments remain a critical issue. Despite the increasing recognition of mental health challenges, stigma, lack of awareness, and corporate culture often discourage employees from seeking professional support. Many corporate cultures prioritize performance over well-being, making employees hesitant to disclose psychological stress due to fear of professional repercussions [25]. The stigma surrounding mental health treatment remains a significant deterrent, particularly for senior employees who may perceive help-seeking as a sign of weakness. In workplaces where formal mental health support is inadequate, employees are often left with few resources. Understanding these barriers is crucial for developing targeted mental health interventions that promote employee well-being and resilience in MNCs.

By integrating multiple theoretical perspectives with workplace-specific factors, this study aims to shed light on the intricate relationships among stress, loneliness, and mental health attitudes in young MNC employees. The findings will provide actionable insights for organizations seeking to foster mental well-being, reduce stigma, and implement effective support systems for employees facing psychological stress. Building on this theoretical foundation, the next section proposes a series of hypotheses to empirically investigate these relationships.

Hypothesis

The effect of stress on loneliness

Research suggests that workplace stress reduces employees' ability to engage in meaningful social interactions, increasing emotional exhaustion and loneliness [26]. Additionally, expatriates in MNCs often struggle with acculturation stress, which limits their ability to form close relationships in new environments, exacerbating loneliness [27]. Furthermore, remote work arrangements and cross-time-zone communication barriers create difficulties in social bonding, further intensifying isolation [28]. Addressing workplace stress through supportive leadership, mental health initiatives, and inclusive work cultures can help mitigate loneliness among MNC employees [29].

H1: Stress has a positive impact on loneliness.

The effect of loneliness on seeking professional psychological help

Employees in MNCs often experience heightened levels of loneliness due to expatriation, remote work arrangements, and cultural adaptation challenges [30]. Research suggests that loneliness can exacerbate stress and mental health issues, increasing the likelihood of seeking professional psychological support [31]. However, stigma surrounding mental health in corporate settings, along with limited access to culturally competent therapists, may act as barriers to help-seeking behaviors [32]. Organizations that implement workplace mental health programs and foster social connections among employees can mitigate the impact of loneliness and encourage professional psychological

help-seeking [33]. Addressing loneliness in MNC workplaces is crucial for promoting employee well-being and organizational productivity.

H2: Loneliness has a positive impact on professional psychological help seeking.

The effect of loneliness on problematic internet use

A study suggests that workplace loneliness, characterized by a lack of social connection and emotional support, significantly contributes to excessive and maladaptive internet use as employees seek online engagement to compensate for unmet social needs [34]. This compensatory behavior can manifest in frequent non-work-related browsing, social media overuse, and online escapism, ultimately affecting productivity and psychological well-being [35]. Furthermore, the remote and hybrid work models adopted by many MNCs have exacerbated feelings of isolation, leading employees to rely on digital platforms for social interaction and emotional regulation [36]. Addressing workplace loneliness through proactive interventions, such as virtual team-building activities and fostering a culture of open communication, is essential to mitigating PIU and enhancing employee engagement and mental health [37].

H3: Loneliness has a positive impact on problematic internet use.

The effect of problematic internet use on attitudes toward seeking professional psychological help

Problematic internet use, characterized by excessive or compulsive internet engagement that disrupts daily functioning, has been associated with increased stress, anxiety, and depressive symptoms among employees, potentially impairing work performance and overall well-being [38]. However, studies indicate that individuals with problematic internet use may experience barriers to seeking professional psychological help, including stigma, lack of awareness, and digital dependence, which may discourage traditional face-to-face counseling [39]. In MNCs, where employees often work in high-pressure environments with cross-cultural interactions and digital communication demands, the impact of problematic internet use on mental health may be more pronounced [40]. Organizations that promote mental health awareness and provide accessible digital mental health resources could help mitigate the adverse effects of problematic internet use and encourage professional help-seeking behaviors among affected employees [41].

H4: Problematic internet use negatively influences attitudes toward seeking professional psychological help.

The effect of tenure on stress

Employees with longer tenure in an organization are more likely to develop effective coping mechanisms that help them manage job-related stress [42,43]. As tenure increases, employees gain experience in identifying and utilizing appropriate stress management strategies, leading to improved well-being and reduced job stress [44]. Longer tenure also allows employees to establish stronger social support networks, which further mitigate stress levels [45]. Among Japanese workers, colleague support, job satisfaction, and family satisfaction serve as protective factors against stress, while for Vietnamese workers, tenure, family support, and job satisfaction play similar roles [45].

H5: Tenure has a negative influence on stress.

The effect of tenure on loneliness

Employees with longer tenure generally cultivate strong ties with colleagues, build informal support systems, and engage in social activities that foster a sense of belonging [46]. Therefore, long-term workers are more likely to experience lower levels of loneliness due to their established workplace relationships, familiarity with the organizational culture, and deeper professional networks [20]. Research by Moens, Baert, Verhofstadt, and Van Ootegem [47] proved that permanent employees with stable job commitments experience less loneliness than temporary workers.

H6: Tenure has a negative influence on loneliness.

The effect of tenure on stress and loneliness

Longer tenure in an organization can shape employees' stress experiences and their ability to cope with workplace challenges. While tenure is often associated with the development of resilience and effective coping mechanisms, research suggests that prolonged service, particularly in leadership

roles, can reduce stress resistance, thereby intensifying the connection between stress and loneliness [48].

Moreover, tenure influences how employees perceive and engage with stress interventions, which in turn affects their work attitudes, highlighting the role of career duration in shaping stress-related outcomes [49]. These findings suggest that tenure not only affects stress levels but also plays a moderating role in how stress contributes to loneliness, with longer-serving employees potentially being more vulnerable to its adverse effects.

H7: Tenure moderates the relationship between stress and loneliness.

The effect of remote work status on loneliness and problematic internet use

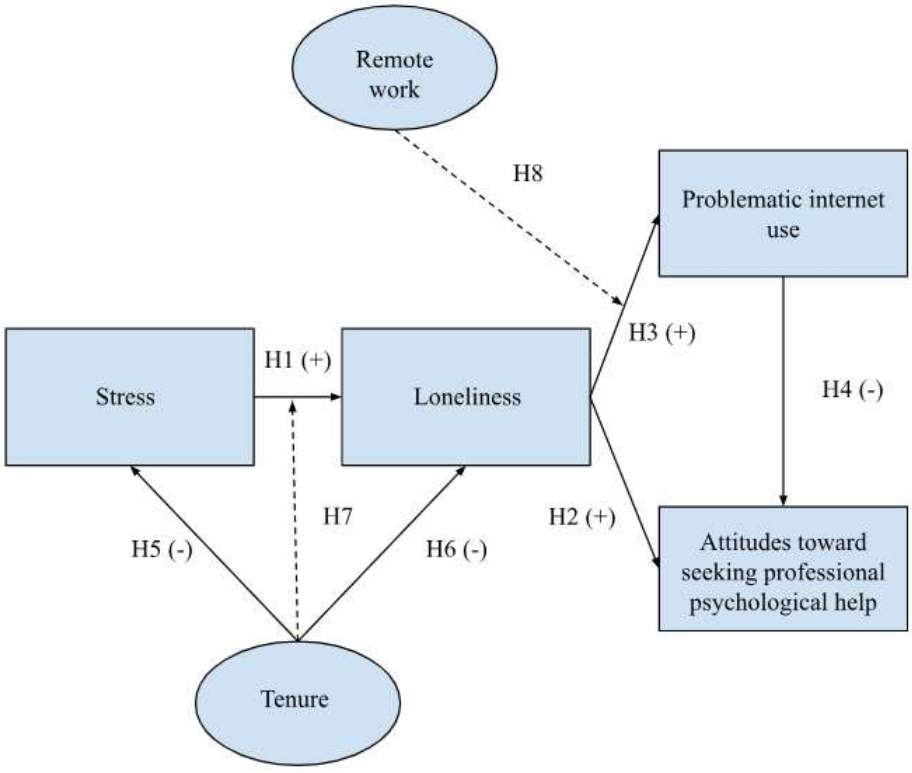
If young workers experience loneliness, they may turn to excessive internet use as a coping mechanism, reinforcing feelings of social isolation and dependence on online interactions [50]. This reliance on the internet can be particularly pronounced among remote workers, who have fewer opportunities for in-person social engagement compared to their on-site counterparts. Additionally, the degree of trust and social cohesion within a workplace plays a crucial role in influencing employees' internet usage patterns, with strong interpersonal relationships potentially mitigating the negative effects of loneliness [51]. In traditional office environments, face-to-face interactions may provide emotional support and reduce the need for online socialization, whereas remote workers, lacking such engagement, may be more susceptible to problematic internet use. Accordingly, the impact of loneliness on problematic internet use is expected to vary depending on remote work status.

H8: Remote work status moderates the relationship between loneliness and problematic internet use.

Based on these theoretical perspectives, the conceptual framework integrates stress, loneliness, problematic internet use, professional help-seeking behaviors, and moderating effects of tenure and remote work status.

The framework illustrates the hypothesized relationships (Figure 1):

Figure 1. The conceptual model developed for this study



Note: H1: Stress has a positive impact on loneliness. H2: Loneliness has a positive impact on professional psychological help-seeking. H3: Loneliness has a positive impact on problematic internet use. H4: Problematic internet use negatively influences attitudes toward seeking professional psychological help. H5: Tenure has a negative influence on stress. H6: Tenure has a negative influence on loneliness. H7: Tenure moderates the relationship between stress and loneliness. H8: Remote work status moderates the relationship between loneliness and problematic internet use.

METHODS

Research framework

Relevant literature was retrieved from Google Scholar, with the participants' age ranging from 18 years old. Our three steps of literature review included: (1) analyzing philosophy progression and knowledge limits; (2) evaluating and interpreting meanings; and (3) determining prospective research areas. Titles, authors, topics, keywords, abstracts, and listed references were among the data obtained. A variety of keywords related to "loneliness and social isolation", "perceived of stress", "problematic internet use", and "seeking professional psychological help" were utilized in this study when searching for literature in the data collection. Data were collected from research papers, articles and reports from December 16th, 2024 to December 24th, 2024. More than 50 preliminary sources were selected from our search. In order to pinpoint future study opportunities, papers published from 2020 to 2024 were collected and studied.

Sample size and sampling

In this research, the statistical formula for a study design with a single proportion was applied:

$$Sample\ Size\ = \frac{Z^2 p\ (1\ -\ p)}{e^2}$$

In this equation, Z = 1.96 at confidence level = 95%; p = 0.5 (50%) and margin of error (e) = 0.05 (5%) [52].118 participants, including by 25% potential nonresponse rates were established as the initial sample size, resulting in a total of 144 respondents. A convenience sampling strategy was employed to recruit study participants from international corporations.

Participants

The questionnaire surveys were given to a sample of young employees in multinational companies in Vietnam. We used a Google Forms online survey through social media platforms such as Facebook and LinkedIn to collect data from December 17th, 2024 to January 1st, 2025.

A total of 144 questionnaires were conducted, with 26 individuals excluded for providing inadequate or erroneous responses. One hundred eighteen valid surveys were acquired. Participants were categorized into three generational cohorts: Gen Y1, born from 1981 to 1989 (n = 8; 6.8%); Gen Y2, born from 1990 to 1996 (n = 34; 28.8%); and Gen Z, born from 1997 to 2012 (n = 76; 64.4%). There were 22 male volunteers (18.6%) and 96 female volunteers (81.4%). Among the participants, 13 (11.0%) identified as LGBTQ+, but the majority, n = 105 (89.0%), were heterosexual. Concerning marital status, 18 (15.3%) were living with partner, 18 (15.3%) were married, and 2 (1.7%) were divorced; the predominant group of participants-n = 80-were never married and single (67.8%). As for smoking status, 6.8% of individuals were current smokers, while eighteen (15.3%) were former smokers. Among the 118 people, 78% had never smoked. Concerning the habit of professional help need but no seeking, 75 individuals (63.6%) did not express a need for such support, whereas 43 participants (36.4%) recognized their need for professional help but did not pursue it. Additionally, regarding the mental health contact, 104 individuals (88.1%) had not pursued mental health support, whereas 14 participants (11.9%) had previous interactions with mental health professionals. Participants operated in various workplace situations. The most frequently utilized workspaces were shared offices (n = 41; 34.7%), open spaces (n = 37; 31.4%), open spaces with partitions (n = 18; 15.3%), private offices (n = 11; 9.3%), and no fixed workspace (n = 11; 9.3%). In term of work-alone time, 36.4% (43 participants) spent less than 10% of their time working alone, 28.0% (33 participants) spent 10-25%, 19.5% (23 participants) spent 26-50%, 11.9% (14 participants) spent 51-75%, and 4.2% (5 participants) spent more than 75% of their time working alone. Regarding work hours, 11 participants

(9.3%) worked fewer than 40 hours per week, 55 participants (46.6%) worked 40 hours per week, and 52 participants (44.1%) worked more than 40 hours per week. Twenty-eight participants (23.7%) had less than one year of experience; sixty-three (53.4%) had one to three years; nineteen (16.1%) had three to five years; six (5.1%) had five to ten years; and two (1.7%) had ten years of employment or more.

It was informed in advance that the survey was completely anonymous. The participants' information was secure and would only be used for research purposes. Participants were voluntary and could withdraw at any time during data collection. The researcher informed the participants about the research objectives in the survey and asked them to provide sociodemographic data including gender, age, smoking status, drinking assumption status, living situation, remote work status, time spent working alone, and position at work.

Measures

Perceived Stress Scale (PSS-10)

The Perceived Stress Scale (PSS-10) was developed by Cohen, Kamarck, and Mermelstein [53] to evaluate the extent to which one's life circumstances are deemed stressful. The PSS asks questions regarding thoughts and feelings throughout the past month. The purpose of the items was to gauge the respondents' level of unpredictability, uncontrollability, and overload in their life. This 10-item self-report instrument includes 6 negatively worded and 4 positively worded items scored on a 5-point Likert scale ranging from 0 to 4 (0 = Never, 4 = Very Often). Scores are aggregated, with higher scores indicating higher levels of perceived stress. The original article focused on the 14-item version of the PSS, which had strong internal consistency with Cronbach's alphas ranging from .84 to .86. Subsequent research and reviews have consistently demonstrated high internal consistency reliability for the PSS-10, with Cronbach's alphas typically exceeding 0.70 [54]. The Vietnamese version of PSS-10 with a Cronbach's alpha of 0.8 was used in this research [55]. In this study, Cronbach's alpha for the PSS-10 was 0.85, indicating good internal consistency.

Attitudes Toward Seeking Professional Psychological Help (ATSPPH-SF)

The 10-item ATSPPH-SF [12] was employed to assess mental health disorders using conventional ATSPPH. Items 2, 4, 8, 9, and 10 are reverse-scored, and the ratings are on a 4-point Likert-type scale (3 = Agree, 0 = Disagree). Higher scores indicate more positive attitudes toward obtaining professional help. The correlation between the 10-item short form and the original 29-item scale was 0.87 [12]. The Vietnamese version of ATSPPH-SF with a Cronbach's alpha of 0.837 was used in this research [56]. In our study, the reliability coefficient Cronbach's alpha of the scale was determined to be 0.63 for ATSPPH_SF_N.

UCLA Loneliness Scale (Version 3)

The UCLA Loneliness Scale Version 3 (UCLA-LS3) was utilized by Russell [57] to measure how lonely individuals described their experiences. This 20-item self-report instrument includes 11 negatively worded and 9 positively worded items scored on a 4-point Likert scale (1 = Never, 4 = Often). Scores are aggregated, with higher scores indicating greater levels of loneliness from a low of 0 to a high of 80. The Vietnamese version of the UCLA Loneliness Scale with a Cronbach's alpha of 0.85 was used in this investigation [58]. Building on this foundation, the UCLA-LS3 was further divided into two distinct subscales: UCLA_S (Satisfaction with Social Relationships) and UCLA_D (Dissatisfaction with Social Relationships). This subdivision aligns with research by Russell, Peplau, and Cutrona [59], which categorized items to differentiate between the presence and absence of satisfactory social connections. Such an approach facilitates a more nuanced understanding of loneliness by distinguishing between the positive and negative aspects of social relationships. In the original study, both subscales demonstrated strong internal consistency, with Cronbach's alpha coefficients of 0.88 for UCLA_D and 0.84 for UCLA_S, indicating high reliability.

The Problematic Internet Use Questionnaire Short Form (PIUQ–SF–6)

The Problematic Internet Use Questionnaire Short-Form (PIUQ-SF-6) was developed by Demetrovics et al. [60] to assess problematic Internet use across three dimensions: obsession, neglect, and control disorder. The 6-item scale uses a 5-point Likert scale ranging from 1 (never) to 5 (always/almost always), with total scores ranging from 6 to 30. Higher scores indicate greater levels

of problematic Internet use. The Vietnamese version of PIUQ-SF-6 with a Cronbach's alpha of 0.873 was used in this research [61].

Cronbach's alpha for the PIUQ scale came out in this study as 0.736. Measuring the composite reliability (rho_c) at 0.794, the average variance extracted (AVE) was found to be 0.416. These ideals point to a reasonable degree of convergent validity and dependability. The results show that the scale shows a noteworthy degree of internal consistency, so it is a suitable tool for assessing harmful online behavior.

Statistical analysis

Participant characteristics were initially analyzed using descriptive statistics. Data analysis was conducted using SPSS version 26 to perform tests of normality. Based on the results of the scales and subscales assessed in this study, independent sample t-tests and one-way ANOVA tests were then conducted to examine whether key variables such as loneliness, social isolation, and stress differed significantly across demographic factors (e.g., gender, age group, education level) and situational factors (e.g., job position, length of tenure, hours spent working alone).

For hypothesis testing, variance-based structural equation modeling (PLS-SEM) was employed using SmartPLS version 4.0. This approach was chosen for its ability to assess complex relationships between latent constructs, including mediating effects. The analysis followed a two-step process: first, the measurement model was assessed to evaluate reflective indicator reliability (outer loadings), construct reliability, convergent validity, and discriminant validity. Second, the structural model was analyzed, examining multicollinearity (using VIF), predictive accuracy (R^2), and effect sizes (f^2) to determine the strength and significance of hypothesized relationships.

A multiple mediation analysis was conducted within the PLS-SEM framework. The model investigated the relationship between stress, loneliness, and problematic internet use as independent variables, while attitudes toward seeking professional psychological help as the dependent variable. The role of two demographic variables, namely Tenure and Remote Work as potential moderating variables, was also explored. This comprehensive analysis aimed to elucidate the complex pathways influencing help-seeking behaviors among employees in MNCs.

RESULTS

Descriptive study and normality tests

Measures of kurtosis and skewness help to determine if indicators fit normality assumptions [62]. While kurtosis is judged suitable between −10 and +10 in the context of SEM, skewness levels are acceptable within the range of −3 to +3 [63]. Of the 118 people involved in our study, kurtosis and skewness fell within the specified range, therefore proving the consistency of our findings. This analysis underlined the dependability and credibility of our dataset, thereby supporting the validity of the statistical analyses carried out. All scales exhibited a normal distribution, thus permitting the use of parametric statistical analyses for UCLA_S (items related to satisfaction with social relationships), UCLA_D (items related to dissatisfaction with social relationships), PIUQ (items pertaining to problematic internet use), PSS_H (items reflecting perceived helplessness), PSS_L (items indicating lack of self-efficacy), ATSPPH_SF_O (items concerning openness to seeking professional psychological help), and ATSPPH_SF_N (items addressing the need for seeking professional psychological help).

Comparison test

A one-way ANOVA was employed to compare changes in the UCLA Loneliness Scale, Problematic Internet Use Questionnaire, Perceived Stress Scale, and Attitudes Toward Seeking Professional Psychological Help among Generations Y1, Y2, and Z. The findings indicated a notable disparity in perceived stress or helplessness, implying generational disparities in stress levels. Generation Z reported a higher level of stress (helplessness) than Generation Y2; yet post-hoc comparisons indicated that Generation Y1 experienced significantly greater stress. No significant generational differences were observed concerning loneliness, problematic internet use, stress (lack of self-efficacy), or attitudes toward seeking professional psychological help. The findings indicated

a significant gender discrepancy in stress (lack of self-efficacy), with female participants reporting higher levels than their male counterparts.

Concerning sexual orientation, individuals identifying as LGBTQ+ expressed more favorable views toward obtaining mental therapy compared to those identifying as straight. Furthermore, differences in marital status emerged in relation to stress (lack of self-efficacy) and attitudes toward seeking psychological help: individuals who were never married or single had greater stress and demonstrated a higher propensity to pursue psychiatric treatment compared to those who cohabited with a partner or were married. Gender, sexual orientation, and marital status showed minimal influence on loneliness, problematic internet usage, or perceived stress-helplessness.

Furthermore, smoking status showed an impact on perceptions about seeking psychiatric therapy; current smokers exhibit the greatest necessity for professional intervention, followed by individuals who have never smoked and those who have smoked at some point in their lives. In comparison to individuals who do not see a need for assistance, people in the "Professional Help Need But No Seeking" category reported elevated levels of loneliness, stress, and problematic internet usage. Employees in the "Mental Health Contact" group exhibited varied stress-related behaviors; individuals who have pursued mental health assistance report a greater lack of self-efficacy, resulting in increased stress and diverse coping strategies. This group of individuals exhibited higher favorable opinions and psychological support requirements.

The study highlighted the impact of the workspace environment, indicating that different office settings, such as open spaces, shared offices, and private offices, correlate with the varying demands for psychological care among employees. Moreover, the proportion of time spent working alone significantly influenced feelings of loneliness and the propensity to seek assistance; those who allocated more time to solitude exhibited distinct patterns of psychological stress. Work hours were significant, as individuals who invested more time frequently reported higher levels of stress.

Ultimately, job tenure correlated with psychological well-being; younger employees experienced greater loneliness than their more experienced counterparts.

Table 1. The differences between demographic characteristics and the subfields of loneliness, problematic internet use, perceived stress, and attitudes toward seeking professional psychological help (n = 118).

		UCLA				**PIUQ**		**PSS**				**ASTPPH**			
	N = 118	UCLA_S		UCLA_D				PSS_H		PSS_L		ASTPPH_SF_O		ASTPPH_SF_N	
	n (%)	*M*±*SD*	*p*	*M*±*SD*	*p*	*M*±*SD*	*p*	*M*±*SD*	*p*	*M*±*SD*	*p*	*M*±*SD*	*p*	*M*±*SD*	*p*
Age Group[b]		-		-		-		-	0.015		-		-		-
Gen Y1	8 (6.8)	2.10±0.60		2.45±0.59		2.40±0.59		2.00±1.13		1.98±0.74		3.58±1.25		3.63±1.07	
Gen Y2	34 (28.8)	2.04±0.63		2.46±0.61		2.59±0.72		1.62±0.90		1.74±0.83		3.05±0.70		2.81±0.64	
Gen Z	76 (64.4)	1.98±0.47		2.37±0.60		2.73±0.61		2.20±0.94		1.97±0.58		3.33±0.69		3.00±0.58	
Gender[a]		-		-		-		-			0.045		-		-
Male	22 (18.6)	2.10±0.57		2.40±0.64		2.72±0.80		1.73±1.02		1.65±0.63		3.20±0.73		2.82±0.54	

Female	96 (81.4)	1.98±0.51		2.40±0.59		2.66±0.61		2.09±0.95		1.96±0.67		3.28±0.75		3.03±0.68	
Sexual Orientation[a]	-	-	-	-	-	-	-	-	-	-	-	-	-		0.040
Straight	105 (89.0)	2.00±0.54		2.40±0.61		2.68±0.66		2.02±0.96		1.89±0.66		3.24±0.76		2.94±0.63	
LGBTQ+	13 (11.0)	2.07±0.42		2.40±0.53		2.58±0.55		2.05±1.09		2.00±0.79		3.48±0.64		3.34±0.80	
Marital Status[b]			-		-		-		-		-		0.035		-
Never married and single	80 (67.8)	1.98±0.51		2.38±0.59		2.69±0.59		2.01±0.92		1.90±0.61		3.30±0.72		2.98±0.63	
Living with partner	18 (15.3)	1.98±0.44		2.26±0.62		2.72±0.55		2.41±1.07		2.13±0.80		3.33±0.74		3.12±0.72	
Married	18 (15.3)	2.07±0.65		2.53±0.63		2.60±0.93		1.73±0.95		1.66±0.78		2.93±0.79		2.99±0.69	
Divorced	2 (1.7)	2.61±0.55		3.00±0.00		1.92±0.59		1.30±1.27		2.50±0.42		4.40±0.57		2.10±0.14	

Smoking Status[b]		-	-	-	-	-	-	-	0.011
Never smoked	92 (78.0)	1.98±0.51	2.36±0.59	2.71±0.63	2.00±0.99	1.89±0.67	3.30±0.77	3.03±0.62	
Former smoker	18 (15.3)	2.10±0.60	2.60±0.68	2.57±0.79	2.04±0.90	1.91±0.67	3.06±0.59	2.60±0.54	
Current smoker	8 (6.8)	2.01±0.58	2.39±0.53	2.38±0.46	2.13±1.00	2.08±0.76	3.28±0.79	3.33±0.97	
Professional Help Need But No Seeking[a]		-	0.002	-	0.000	0.015	-	-	
No	75 (63.6)	1.98±0.54	2.27±0.56	2.61±0.61	1.75±0.89	1.79±0.67	3.19±0.72	2.99±0.61	
Yes	43 (36.4)	2.05±0.50	2.62±0.61	2.77±0.71	2.49±0.92	2.10±0.64	3.39±0.78	2.98±0.74	
Mental Health Contact[a]		-	-	-	-	0.005	0.024	0.030	

No	104 (88.1)	2.02±0.55	2.38±0.59	2.66±0.63	1.97±0.95	1.84±0.65	3.21±0.71	2.94±0.67	
Yes	14 (11.9)	1.92±0.31	2.52±0.71	2.73±0.79	2.39±1.03	2.37±0.68	3.69±0.89	3.34±0.44	
Workspace[b]		-	-	-	-	-	-		0.022
Open space	37 (31.4)	2.09±0.57	2.38±0.64	2.64±0.56	2.07±0.93	2.05±0.70	3.29±0.76	3.28±0.71	
Open space with partitions	18 (15.3)	1.93±0.41	2.46±0.57	2.68±0.71	2.16±0.95	1.70±0.68	3.26±0.94	2.81±0.60	
Shared office	41 (34.7)	1.99±0.52	2.41±0.61	2.66±0.65	2.09±0.98	1.96±0.59	3.20±0.65	2.91±0.58	
Private office	11 (9.3)	2.09±0.38	2.39±0.61	2.68±1.02	1.69±1.09	1.84±0.67	3.53±0.77	2.85±0.48	
No fixed workspace	11 (9.3)	1.82±0.66	2.33±0.57	2.74±0.39	1.67±0.94	1.62±0.83	3.15±0.76	2.73±0.73	
Work Alone Time[b]		0.001							0.047

<10%	43 (36.4)	2.00±0.53	2.44±0.64	2.71±0.62	2.15±1.00	1.93±0.82	3.27±0.81	2.90±0.71
10-25%	33 (28.0)	1.77±0.40	2.26±0.58	2.62±0.63	1.86±0.82	1.83±0.68	3.29±0.70	3.10±0.61
26-50%	23 (19.5)	2.21±0.56	2.43±0.47	2.76±0.66	2.20±0.96	1.97±0.48	3.37±0.73	2.90±0.53
51-75%	14 (11.9)	2.01±0.48	2.38±0.69	2.36±0.56	1.74±1.19	1.86±0.56	3.06±0.82	3.33±0.68
>75%	5 (4.2)	2.62±0.24	2.84±0.51	3.13±0.91	1.84±0.99	2.00±0.37	3.12±0.18	2.44±0.55
Work Hours[b]		-	-	-	0.026	-	-	-
<40 hours/week	11 (9.3)	1.77±0.58	2.30±0.55	2.32±0.68	1.49±0.94	1.67±0.81	3.25±0.90	2.80±0.66
40 hours/week	55 (46.6)	2.02±0.54	2.36±0.59	2.62±0.65	1.90±0.97	1.95±0.63	3.28±0.67	3.04±0.56
> 40 hours/week	52 (44.1)	2.03±0.49	2.46±0.63	2.79±0.61	2.25±0.92	1.91±0.69	3.25±0.81	2.97±0.75

Tenure[b]			0.039	0.010	-	-	-	-	-
<1 year	28 (23.7)	2.19±0.56	2.67±0.65	2.78±0.63	2.19±0.90	2.04±0.53	3.21±0.67	3.09±0.53	
1 to <3 years	63 (53.4)	1.99±0.49	2.40±0.57	2.70±0.67	2.03±1.00	1.87±0.67	3.26±0.76	2.90±0.63	
3 to <5 years	19 (16.1)	1.95±0.54	2.09±0.52	2.46±0.63	2.02±0.98	2.02±0.80	3.38±0.66	3.13±0.65	
5 to <10 years	6 (5.1)	1.48±0.33	2.06±0.32	2.69±0.16	1.57±0.71	1.27±0.55	3.33±0.52	2.87±1.03	
>=10 year	2 (1.7)	1.89±0.47	2.45±0.77	1.83±0.47	0.70±0.42	1.90±1.27	2.90±2.69	3.50±1.84	

Note: M: Mean, SD: Standard deviation, n: number of participants, %: frequency, UCLA: UCLA Loneliness Scale, UCLA_S: Satisfaction with Social Relationships, UCLA_D: Dissatisfaction with Social Relationships, PSS_H: Helplessness, PSS_L: Lack of self-efficacy, ASTPPH_SF_O: Openness to Seeking Professional Psychological Help, ASTPPH_SF_N: Need in Seeking Professional Psychological Help

[a]Independent sample T-test

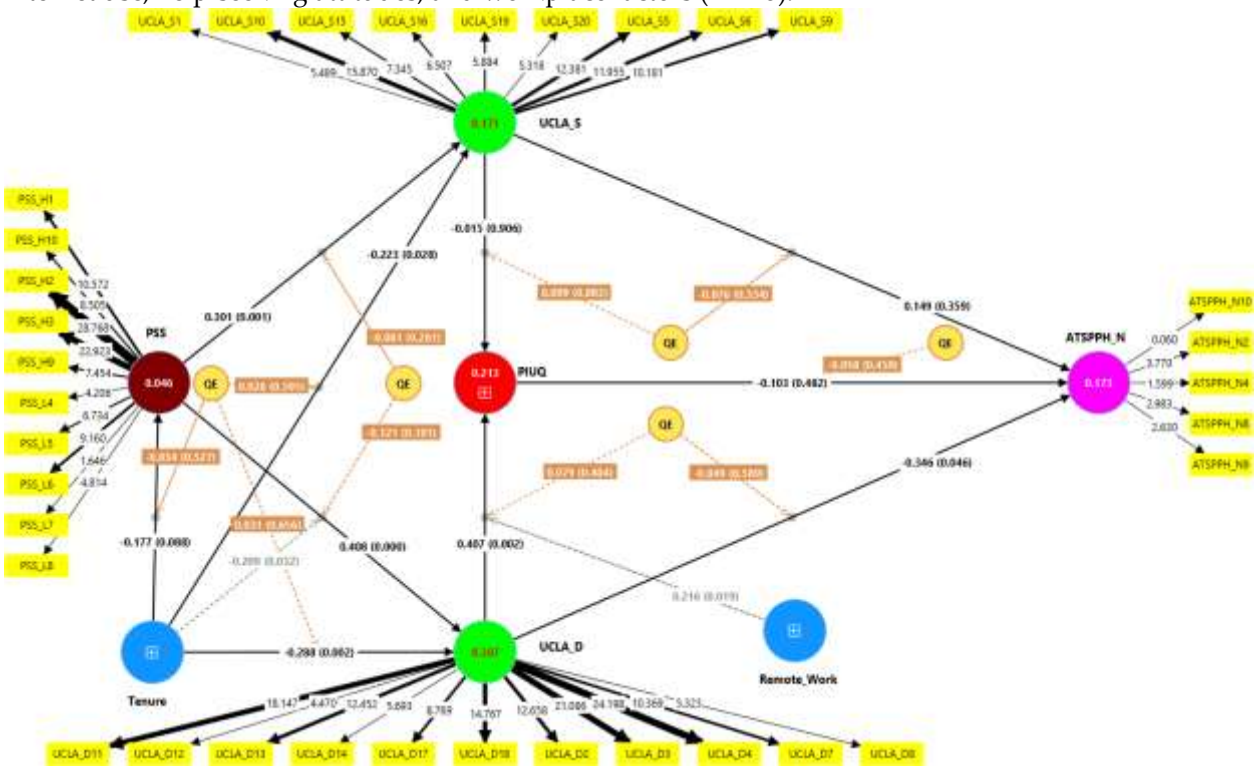
[b]One-way ANOVA

$p<0.05$

Model specification

The final PLS model is described in Figure 2. The proposed research model for the current study comprised five different latent constructs: UCLA_D (dissatisfaction with social relationships), UCLA_S (satisfaction with social relationships), PSS (perceived stress), PIUQ (problematic internet use), and ATSPPH_SF_N (need for seeking professional psychological help).

Figure 2. Structural equation model illustrating relationships among loneliness, stress, problematic internet use, help-seeking attitudes, and workplace factors (n=118).



Measurement model

The reliability of the indicators in the model was assessed using outer loadings, which quantify the relationship between latent variables and their observed equivalents. While a threshold of 0.70 is preferred, indicators with lower values were retained as long as the composite reliability remained satisfactory [64]. Automatic elimination was only applied for loadings below 0.30.

In our study, the outer loadings varied across constructs. For ATSPPH_N, the loadings ranged from -0.021 to 0.796. The PIUQ construct exhibited outer loadings ranging from 0.302 to 0.878, while for PSS, the values spanned from 0.251 to 0.86. Similarly, the outer loadings for UCLA_D ranged from 0.476 to 0.806, whereas for UCLA_S, they ranged from 0.573 to 0.794 (Table 2).

Despite some outer loadings falling below the preferred 0.70 threshold, the composite reliability (CR) values remained within an acceptable range across constructs, ensuring the internal consistency of the measurement model. Importantly, all remaining outer loadings were statistically significant ($p < 0.001$).

Findings of AVE and CR values in all constructs exceeded the respective thresholds of 0.50 and 0.60, indicating strong convergent validity [65]. The AVE outcomes ranged from 0.31 to 0.453, while CR values varied from 0.624 to 0.899 (Table 2). This suggests that the constructs adequately captured the variance of their indicators, confirming acceptable convergent validity.

The Heterotrait-Monotrait Ratio (HTMT) was employed to evaluate discriminant validity, ensuring the statistical robustness of the model through bootstrapping. HTMT results indicated that all values remained below the commonly recommended threshold of 0.85, confirming that the constructs were distinct from one another [66]. Our research found HTMT values ranging from 0.046 to 0.621, supporting the discriminant validity of the measurement model **(Table 3).**

Table 2. Outer loadings, Average Variance Extracted (AVE), Cronbach's α, and Composite Reliability (CR) for UCLA_D (Dissatisfaction with Social Relationships), UCLA_S (Satisfaction with Social Relationships), PSS (Perceived Stress), PIUQ (Problematic Internet Use), and ATSPPH_SF_N (Need for Seeking Professional Psychological Help) (n = 118).

Constructs & Items	**Outer Loadings**	**AVE**	**Cronbach's α**	**CR (rho_c)**
ATSPPH_N		0.310	0.625	0.624
ATSPPH_N10	-0.021			
ATSPPH_N2	**0.796**			
ATSPPH_N4	0.375			
ATSPPH_N8	0.658			
ATSPPH_N9	0.586			
PIUQ		0.412	**0.736**	0.789
PIUQ_1	**0.790**			
PIUQ_2	**0.878**			
PIUQ_3	0.359			
PIUQ_4	**0.730**			
PIUQ_5	0.302			
PIUQ_6	0.572			
PSS		0.437	**0.847**	**0.879**
PSS_H1	**0.720**			
PSS_H10	**0.759**			
PSS_H2	**0.860**			
PSS_H3	**0.837**			
PSS_H9	0.677			
PSS_L4	0.468			
PSS_L5	0.605			
PSS_L6	0.662			
PSS_L7	0.251			
PSS_L8	0.544			
UCLA_D		0.453	**0.875**	**0.899**
UCLA_D11	**0.765**			
UCLA_D12	0.476			
UCLA_D13	**0.714**			
UCLA_D14	0.559			
UCLA_D17	0.598			
UCLA_D18	**0.730**			
UCLA_D2	0.699			
UCLA_D3	**0.806**			
UCLA_D4	**0.791**			
UCLA_D7	0.652			
UCLA_D8	0.515			
UCLA_S		0.447	**0.844**	**0.878**
UCLA_S1	0.573			
UCLA_S10	**0.794**			
UCLA_S15	0.655			

UCLA_S16	0.601
UCLA_S19	0.614
UCLA_S20	0.599
UCLA_S5	**0.732**
UCLA_S6	**0.717**
UCLA_S9	0.698

Note: AVE: Average Variance Extracted, CR: Composite Reliability, UCLA_D: Dissatisfaction with Social Relationships, UCLA_S: Satisfaction with Social Relationships, PSS: Perceived Stress, PIUQ: Problematic Internet Use, ATSPPH_SF_N: Need for Seeking Professional Psychological Help. Loadings ≥ 0.70 are in bold to indicate strong contributions to constructs. Constructs with Cronbach's $\alpha \geq 0.80$ and CR ≥ 0.80 are in bold to highlight high reliability.

Table 3. Heterotrait-Monotrait Ratios (HTMT) of correlations among constructs related to social relationships, stress, problematic internet use, and attitudes toward seeking professional psychological help (n = 118).

	UCLA_D	**UCLA_S**	**PSS**	**PIUQ**	**ATSPPH_N**	**Remote_Work**	**Tenure**
UCLA_D							
UCLA_S	**0.621**						
PSS	**0.492**	**0.407**					
PIUQ	**0.422**	0.273	0.316				
ATSPPH_N	0.393	0.258	0.290	0.276			
Remote_Work	0.070	0.098	0.237	0.075	0.121		
Tenure	0.301	0.268	0.204	0.200	0.141	0.046	

Note: UCLA_D: Dissatisfaction with Social Relationships, UCLA_S: Satisfaction with Social Relationships, PSS: Perceived Stress, PIUQ: Problematic Internet Use, ATSPPH_N: Need for Seeking Professional Psychological Help, Remote_Work: Remote Work Status, Tenure: Work Tenure. HTMT ratios ≥ 0.40 are in bold to indicate moderate-to-strong correlations, highlighting key relationships among constructs.

Structural model

After verifying that the measurement model was adequate, the analysis proceeded to the PLS-SEM structural model evaluation. The criteria assessed included the coefficient of determination (R^2), the effect size (f^2), the blindfolding-based cross-validated redundancy measure (Q^2), and the statistical significance and practical relevance of path coefficients (Table 4).

Collinearity Statistic (VIF)

Variance Inflation Factor (VIF) was used to assess potential multicollinearity issues. All VIF indicators fell below the commonly accepted threshold of 4, indicating the absence of multicollinearity in the model [67]. This ensures that standard errors and coefficient estimations remain reliable [67].

Model Fit (SRMR)

The Standardized Root Mean Square Residual (SRMR) for the estimated model was 0.095, falling within an acceptable range for PLS-SEM [68]. This result indicates an adequate fit between the model and the observed correlations [69].

Coefficient of Determination (R^2)

In the structural model, R^2 values represent the proportion of variance in the dependent variables attributable to the independent variables. The R2 value must exceed 0.1 to be considered significant; greater values indicate a stronger explanatory power. With a R^2 value of 0.173, ATSPPH_N in our study accounted for 17.3% of its variation through predictor variables. The R^2 values for other measures were as follows: PIUQ (0.213), PSS (0.046), UCLA_D (0.307), and UCLA_S (0.171). These results confirm the sufficient explanatory power of our model **(Table 4)** according to Chin [70].

Cross-Validated Redundancy (Q^2)

Q^2 values indicate predictive relevance. Our model exhibited Q^2 values ranging from -0.004 to 0.058. Although the Q^2 value for ATSPPH_N was negative, suggesting weak predictive ability, the remaining values above zero confirm the model's ability to predict endogenous construct indicators (Table 4) [71].

Table 4. Structural model estimates among constructs related to social relationships, stress, problematic internet use, and attitudes toward seeking professional psychological help (n = 118).

Construct	R^2	Q^2 Predict
ATSPPH_N	0.173	-0.004
PIUQ	0.213	0.008
PSS	0.046	0.019
UCLA_D	0.307	0.058
UCLA_S	0.171	0.031

Note: R^2: Coefficient of determination, representing the variance explained by predictor variables. Q^2 Predict: Predictive relevance of the model using the blindfolding technique. Constructs: ATSPPH_N (Need for Seeking Professional Psychological Help), PIUQ (Problematic Internet Use), PSS (Perceived Stress), UCLA_D (Dissatisfaction with Social Relationships), UCLA_S (Satisfaction with Social Relationships).

The Effect Size (f^2)

The f^2 statistic evaluates the relative impact of predictor variables on dependent variables within the model. According to Cohen [72], f^2 effect sizes are classified as small (0.02), moderate (0.15), and large (0.35).

In our model (Table 5), the effect size from PIUQ to ATSPPH_N was small (f^2 = 0.01). PSS demonstrated a moderate effect on UCLA_D (f^2 = 0.229) and a small effect on UCLA_S (f^2 = 0.104). Remote_Work had a negligible effect on PIUQ (f^2 = 0.003), while Tenure showed small effects on PSS (f^2 = 0.024), UCLA_D (f^2 = 0.083), and UCLA_S (f^2 = 0.042). Additionally, UCLA_D had a small effect on ATSPPH_N (f^2 = 0.086) and a moderate effect on PIUQ (f^2 = 0.14). UCLA_S had a minor effect on ATSPPH_N (f^2 = 0.017) and no discernible effect on PIUQ (f^2 = 0.0). Moderation analyses revealed small effect sizes for the interactions of Tenure x PSS on UCLA_D (f^2 = 0.04) and Remote_Work x UCLA_D on PIUQ (f^2 = 0.057), indicating subtle but meaningful influences on these relationships.

Structural Hypothesis Testing

Table 5. Effect size (f^2) of predictor variables on dependent variables in the model (n = 118).

Path	f^2 Effect Size
PIUQ -> ATSPPH_N	0.010
PSS -> UCLA_D	0.229
PSS -> UCLA_S	0.104
Remote_Work -> PIUQ	0.003
Tenure -> PSS	0.024
Tenure -> UCLA_D	0.083
Tenure -> UCLA_S	0.042
UCLA_D -> ATSPPH_N	0.086
UCLA_D -> PIUQ	0.140
UCLA_S -> ATSPPH_N	0.017
UCLA_S -> PIUQ	0.000
Tenure x PSS -> UCLA_D	0.040

Remote_Work x UCLA_D -> PIUQ	0.057

Note: Effect Size: f^2 PIUQ: Problematic Internet Use, PSS: Perceived Stress, UCLA_D: Dissatisfaction with Social Relationships, UCLA_S: Satisfaction with Social Relationships, ATSPPH_N: Need for Seeking Professional Psychological Help, Tenure: Length of Employment, Remote_Work: Work-from-Home Status.

To examine direct relationships among the constructs, path coefficients were analyzed (Table 6). Findings indicated that PSS had a significant and positive effect on UCLA_D ($\beta = 0.408$, $p < 0.001$) and UCLA_S ($\beta = 0.301$, $p < 0.001$). Meanwhile, Tenure negatively influenced UCLA_D ($\beta = -0.288$, $p < 0.001$) and UCLA_S ($\beta = -0.223$, $p < 0.05$). Furthermore, UCLA_D had a significant effect on PIUQ ($\beta = 0.407$, $p < 0.001$) and ATSPPH_N ($\beta = -0.346$, $p < 0.05$).

Moderation analyses were conducted to explore additional dynamics in the model. Tenure moderates the relationship between PSS and UCLA_D ($\beta = -0.209$, $p < 0.05$), while Remote_Work moderated the relationship between UCLA_D and PIUQ ($\beta = 0.216$, $p < 0.05$), confirming the interplay of workplace factors on these psychological constructs (Table 6).

Table 6. The mediating effect of social relationships, stress, and problematic internet use and the moderating role of tenure and remote work (n = 118).

Path	β Coefficient	t-value	95% CI	95% BC CI
PIUQ -> ATSPPH_N	-0.103	0.704	[-0.385; 0.216]	[-0.317; 0.337]
PSS -> UCLA_D	0.408	5.303**	[0.267; 0.570]	[0.225; 0.538]
PSS -> UCLA_S	0.301	3.311*	[0.136; 0.496]	[0.072; 0.447]
Remote_Work -> PIUQ	0.052	0.568	[-0.140; 0.224]	[-0.142; 0.220]
Tenure -> PSS	-0.177	1.709	[-0.387; 0.014]	[-0.365; 0.042]
Tenure -> UCLA_D	-0.288	3.146*	[-0.449; -0.096]	[-0.470; -0.116]
Tenure -> UCLA_S	-0.223	2.195*	[-0.412; -0.012]	[-0.414; -0.014]
UCLA_D -> ATSPPH_N	-0.346	1.997*	[-0.591; 0.120]	[-0.580; 0.196]
UCLA_D -> PIUQ	0.407	3.146*	[0.151; 0.624]	[0.065; 0.599]
UCLA_S -> ATSPPH_N	0.149	0.918	[-0.156; 0.475]	[-0.193; 0.449]
UCLA_S -> PIUQ	-0.015	0.118	[-0.240; 0.243]	[-0.244; 0.238]
Tenure x PSS -> UCLA_D	-0.209	2.15*	[-0.418; -0.030]	[-0.389; -0.007]
Remote_Work x UCLA_D -> PIUQ	0.216	2.351*	[0.002; 0.365]	[0.045; 0.395]

Note: β Coefficient: Standardized path coefficient, representing the effect size. t-value: The statistical significance of the path coefficient. 95% CI: Confidence Interval, showing the lower and upper bounds. 95% BC CI: Bias-Corrected Confidence Interval.
Constructs: PIUQ (Problematic Internet Use), PSS (Perceived Stress), UCLA_D (Dissatisfaction with Social Relationships), UCLA_S (Satisfaction with Social Relationships), ATSPPH_N (Need for Seeking Professional Psychological Help), Tenure (Length of Employment), Remote_Work (Work-from-Home Status).
*p < 0.05; **p < 0.001

DISCUSSION

Demographic factors

The results of this study contribute to the expansion of the existing corpus of knowledge regarding psychological help-seeking behaviors, stress levels, and feelings of isolation in a variety of demographic and organizational contexts. The results are in accordance with those of prior research and contribute to a more comprehensive understanding of the complex relationships that exist between loneliness, stress, gender, sexual orientation, marital status, smoking behavior, the workplace environment, and vocational characteristics.

According to our findings, Generation Z employees exhibit significantly higher levels of stress and helplessness than Generation Y2. Nevertheless, additional research reveals that Generation Y1 employees experience significantly elevated stress levels. This conclusion supports previous research which indicated that Generation Z experience elevated stress levels; a minority reported confidence in their ability to manage stress. In the United States, sixty-seven percent of Generation Z and eighty-five percent of people worldwide consider that stress may impede their capacity to assume leadership responsibilities [73].

It was found that there is a significant gender disparity in the amount of stress experienced, particularly in relation to the lack of self-efficacy. Female respondents report higher levels of stress than male respondents. Previous research has demonstrated that occupational stress is influenced by gender, particularly in male-dominated fields [74]. These findings align with prior research. Discrimination in the workplace, challenges in balancing work and family responsibilities, and uncertainty regarding their organizational roles may all contribute to elevated stress levels in women, which can have a detrimental effect on their mental health [75].

Individuals who identify as LGBTQ+ exhibited a higher likelihood of seeking treatment for mental health issues than their heterosexual counterparts in terms of sexual orientation. This is in accordance with prior research, which showed that individuals who identify as LGBTQ+ are 2.5 times more likely to seek mental health services than heterosexual individuals. One potential explanation for the growing demand for psychological help among LGBTQ+ individuals is that they are dealing with a variety of issues, such as discrimination, societal stigma, and challenges associated with their identities [76].

The study's results indicate that individuals who are single or have never been married exhibit a higher level of stress and a greater propensity to seek psychiatric treatment than those who are married or living together. This study complements prior research which has demonstrated that individuals who have never been married or who have been divorced experience consistently decreased levels of mental well-being throughout various life stages. It seems that the presence of a companion is a protective factor that enhances one's emotional well-being and reduces the necessity for psychiatric rehabilitation [77]. Consequently, it is reasonable to assume that individuals who are unmarried may exhibit a higher level of motivation to consult with a professional psychiatrist.

Our findings also indicate that the most significant need for professional psychiatric treatment is among those who are currently smoking. Individuals who have never smoked are ranked second, while those who have previously smoked have a lower need for such assistance. In comparison to both individuals who have never smoked and those who have never smoked, these findings lend credibility to previous research, showing that current smokers exhibit elevated levels of impulsivity, anxiety, and despondency [78]. The mental health profiles of individuals who have discontinued smoking are comparable to those of those who had never smoked, which implies that the psychological well-being of these individuals could be enhanced over time by quitting smoking [79].

Individuals in need of psychological support who avoid professional therapy report heightened stress, loneliness, and problematic internet use, a trend perhaps linked to barriers such as stigma and inadequate mental health literacy [80]. This outcome corresponds with the research of Rickwood et

al. [16] and Gulliver et al. [17], which highlighted stigma and insufficient comprehension of mental health as principal barriers hindering persons from pursuing and obtaining necessary support.

Furthermore, individuals who have previously sought help for mental health issues exhibit a greater lack of self-efficacy, which leads to an increase in stress and the implementation of a variety of coping strategies. As a result of the increasing demand for mental health services and the fact that these individuals have more favorable opinions toward psychological help, it is essential to reduce stigma and enhance the provision of psychological treatment [16,17].

In addition, we found the potential impact of the workplace environment on the mental health of employees. Despite the absence of a clear correlation between the arrangement of workspaces and the necessity for psychological assistance, previous study has found that employees' psychological care requirements are associated with a variety of workplace environments, including private offices, shared offices, and open spaces. According to Bodin Danielsson & Theorell [81], specific office layouts are associated with varying degrees of emotional exhaustion among employees. It is evident from this finding that the mental health of employees may be influenced by the physical environment of the workplace, which in turn may affect the extent to which they require the assistance of a professional psychologist.

Our research reveals that the extent of loneliness and the desire to seek psychological help are significantly influenced by the amount of time spent working alone. Individuals who labor independently for extended periods of time experienced stress in a variety of ways. Hofstede's cultural framework, established in 1980, provides a relevant perspective, particularly in the context of Vietnamese MNCs [82]. These corporations are distinguished by a collectivist culture that prioritizes social unity and group membership [83]. The significance of social dynamics in the workplace with respect to mental health is underscored by the stress levels that professionals in these situations experience as a consequence of the necessity to conform to cooperative work environments [84,85].

In our study, stress levels are significantly influenced by working hours. Individuals who work for extended periods reported experiencing greater levels of stress. The findings of other research that demonstrate that extended working hours result in increased stress related to one's job, which in turn impairs one's overall well-being and health, are corroborated by this conclusion [86,87].

Ultimately, the survey findings indicate that younger employees report experiencing a greater sense of isolation than their more experienced colleagues. Burnout is more likely to occur in long-term employees due to role stagnation and increasing job demands [19]. This may partially explain organizational tenure influences stress and help-seeking behavior. Conversely, recent employees, notably those who work in hybrid or remote work environments, report experiencing loneliness in the workplace as a consequence of their inability to establish social connections [31]. The importance of these discoveries is that workers at different phases of their careers necessitate personalized therapies to address their mental health needs.

The research demonstrates the intricate interaction between loneliness, stress, and activities engagement that entail seeking psychological assistance across a variety of demographic and occupational variables, thereby providing support for and expanding upon previous research. The results of this study underscore the importance of specific mental health programs that cater to the psychological well-being of the workforce by addressing factors such as age, gender, sexual orientation, marital status, smoking behavior, work environment, and occupational factors namely tenure and remote work status.

PLS_SEM Analysis Results

Perceived Stress (PSS) and Loneliness (UCLA_D and UCLA_S)

The SEM results indicate that stress has a significant positive effect on both dissatisfaction (UCLA_D) and satisfaction (UCLA_S) with social relationships ($\beta = 0.408$ and $\beta = 0.301$, respectively). This suggests that, despite the fact that stress levels have a general impact on the perception of social connections, they also contribute to an increased level of dissatisfaction with social interactions. This finding is consistent with the research conducted by Cacioppo and Hawkley [88], which

demonstrated that perceived social isolation, a significant consequence of stress, significantly impacts an individual's social well-being. Consequently, this finding supports the notion that stress can erode social connections. Additionally, research conducted by Chandola et al. [28] supports this connection by demonstrating that stress can lead to increased feelings of isolation, particularly in high-demand employment environments such as MNCs. This reinforces our assertion that emotional exhaustion and loneliness are exacerbated by stress.

However, our research extends previous findings and demonstrates that stress not only increases dissatisfaction with social relationships (UCLA_D) but also has a slight impact on satisfaction (UCLA_S). This suggests a multifaceted interaction in which stress could simultaneously influence both positive and negative impressions of social contacts. Past research has primarily focused on the detrimental effects of stress on social satisfaction and loneliness, which is why our findings are significant in the context of the stress-loneliness interaction.

Loneliness and Problematic Internet Use (PIU)

Loneliness (measured by UCLA_D) is found to have a significant positive effect on PIUQ (β = 0.407). This reinforces the hypothesis that individuals who experience profound loneliness are more inclined to employ problematic internet as a compensatory strategy in order to establish connections through digital channels. This finding is consistent with the research conducted by Wang et al. [34], which indicates that intense internet usage is significantly predicted by loneliness in the workplace. Those who experience social isolation are more likely to substitute online contacts for in-person socializing, according to Caplan [11]. In a multinational corporate environment, our research specifically connects loneliness to PIU, emphasizing the impact of professional isolation on digital coping strategies.

Although previous research has emphasized the general correlation between internet addiction and loneliness, this study specifically connects it to the dynamics of the workplace. The distinction lies in the examination of loneliness in MNCs, where expatriates or distant workers encounter unique challenges such as acculturation and the absence of in-person social engagements. These factors can exacerbate the need for digital engagement.

Loneliness and Attitudes Toward Seeking Professional Psychological Help (ATSPPH)

The SEM results revealed a significant negative effect of dissatisfaction with social relationships (UCLA_D) on attitudes toward seeking professional psychological help (ATSPPH_N) (β = -0.346, $p < 0.05$). This implies that individuals who are dissatisfied with their social interactions are potentially less inclined to seek psychological help. This may be due to feelings of isolation or a perceived lack of support from their social environment. This outcome is consistent with Corrigan et al. [25], who emphasized that social isolation frequently leads to the avoidance of mental health assistance, as it is incited by stigma and a lack of social support. Similarly, Gulliver et al. [17] noted that social isolation, particularly among younger individuals, presents challenges to aid seeking.

Our research broadens this perspective by focusing on employment environments, particularly in MNCs, where dissatisfaction with social connections may exacerbate feelings of isolation, resulting in a reluctance to seek professional treatment.

Tenure and its moderating role in stress-loneliness relationship

Tenure was found to moderate the relationship between stress and loneliness (β = -0.209). It is likely that the more established coping strategies and more robust social support systems of longer-tenured employees of a company are the reasons for the reduced correlation between stress and loneliness. This result is consistent with the findings of Ng and Feldman [20], who posited that employees who have been employed for an extended period of time have more effective stress management and social integration strategies, which in turn reduces their susceptibility to stress-induced loneliness. Additionally, Bradley [43] suggested that extended tenure is typically associated with stronger social networks, which can help mitigate the adverse effects of occupational stress.

The study's focus on the impact of tenure on the stress-loneliness relationship broadens the scope of the investigation to specifically investigate how long-term employees in MNCs may be more resilient to the demands of global work environments. Although previous research on tenure and

coping has primarily focused on individual coping mechanisms, our study integrates this within the stress-loneliness framework, thereby providing a more comprehensive understanding of the moderating effect.

Remote work status and its moderating effect on loneliness-PIU relationship

Remote work status was found to moderate the relationship between loneliness and PIU (β = 0.216), suggesting that remote employees are more likely to engage in problematic internet use when experiencing loneliness. This finding is consistent with the research conducted by Xie et al. [36], which examined the extent to which distant labor exacerbates loneliness and increases internet dependence. Guitton [41] also observed that remote workers may utilize the internet as a compensatory measure for the absence of in-person interactions, which is consistent with our findings.

Although both studies acknowledge the correlation between internet use, loneliness, and distant work, our investigation focuses on the impact of these dynamics on individuals' perceptions of seeking professional psychological help. Remote work not only increases internet usage but also complicates help-seeking behavior, thereby offering a unique perspective on the current corpus of research.

These findings highlight the multifaceted ways in which stress and loneliness influence both digital behaviors and psychological help-seeking attitudes in young MNC employees. The inclusion of moderating variables such as tenure and remote work status further reveals how workplace context shapes these psychosocial outcomes. Taken together, these results not only confirm existing theoretical relationships but also offer novel insights into how these dynamics operate within multinational corporate environments.

Given the complexity of these interrelationships and the emerging nature of this research area, this study adopted an exploratory approach focused on identifying the structural model with the highest predictive utility rather than strictly maximizing model fit. The model presented was selected as the best-performing version based on the strength of its predictive paths, theoretical alignment, and relevance to workplace mental health outcomes.

Although the model's SRMR value of 0.095 approaches the upper threshold of acceptability ($\leq$ 0.10), it remains within the commonly accepted range for PLS-SEM applications [68]. More importantly, PLS-SEM is appropriate in exploratory research where prediction is prioritized, particularly when investigating underexplored constructs such as stress-related digital coping and help-seeking behavior in organizational settings.

While some constructs demonstrated relatively low R^2 values such as 0.046 for Perceived Stress and 0.173 for Attitudes Toward Seeking Professional Psychological Help, this is not uncommon in studies of complex psychosocial phenomena, where numerous unmeasured factors such as organizational culture, stigma, or personality traits may influence outcomes [2,3]. Despite these limitations, the model effectively captured key predictive relationships, such as the link between dissatisfaction in social relationships and both problematic internet use ($\beta = 0.407$, $p < 0.001$) and help-seeking attitudes ($\beta = -0.346$, $p < 0.05$). These pathways are aligned with theoretical frameworks on digital behavior and social disconnection [5,10], reinforcing the model's value as a foundation for future research and intervention development.

Implications

Theoretical implications

This study's findings substantially enhance the theoretical framework regarding stress levels, occupational isolation, and psychological help-seeking behaviors. The significant correlations identified between demographic factors and employees' stress underscore the necessity for a more intricate theoretical framework that incorporates these demographic variables into existing stress and mental health models. Future research should refine stress and coping theories by incorporating the moderating effects of employment duration, workplace environment, and social dynamics within organizations.

This research underscores the necessity of longitudinal studies to examine the psychological effects of professional stress and loneliness on employees. The established correlation between office layout and mental health suggests that occupational stress models should include environmental design as a significant factor, in addition to psychological components.

Future research should employ multidisciplinary approaches that integrate psychology, organizational behavior, and human resource management to establish a comprehensive framework that addresses the intricacies of workplace mental health, hence enhancing theoretical advancement.

Practical implications

This study explores the necessity for MNCs to implement targeted mental health initiatives tailored to diverse workforce demographics. Organizations must prioritize the implementation of comprehensive mental health support systems, considering the evidence linking stress, loneliness, and workplace environment to stress levels. This addresses the establishment of employee assistance programs (EAPs), on-site counseling services, and digital mental health platforms that provide readily accessible help, particularly for remote and hybrid employees who may experience increased isolation.

Moreover, in establishing interventions that promote emotional well-being, corporate wellness programs should adopt a tailored strategy that considers demographic factors such as age, gender, and sexual orientation. Companies should consider redesigning workspaces to reduce stress, offering flexible work schedules to enhance work-life balance, and fostering inclusive workplace cultures that diminish stigma and bias.

Leaders and HR professionals in MNCs must be proactive in addressing workplace mental health issues by fostering a culture of psychological safety. The primary objectives should be to encourage candid discussions about mental health, reduce stigma, and establish policies that prioritize employee well-being. HR departments should consider incorporating mental health evaluations into their regular employee feedback systems in order to identify early indicators of stress and provide prompt solutions. Training in leadership should encompass the instruction of supervisors on how to effectively support their teams, as well as the identification of stress and burnout symptoms in staff members. HR should also provide support for diversity and inclusion initiatives that acknowledge the unique challenges faced by different demographic groups, thereby ensuring equitable access to mental health resources. By incorporating mental health issues into corporate policies and leadership approaches, MNCs may cultivate a more engaged and resilient workforce. Furthermore, corporate consultants should prioritize enhancing mental health literacy among employees and leadership teams through targeted training programs on stress management, coping strategies, and the importance of professional psychological assistance. Integrating multiple strategies comprehensively can assist MNCs in cultivating an enhanced and more stimulating work environment, hence improving employee retention, satisfaction, and productivity.

Limitations

This study provides valuable insights into the intersection of stress, loneliness, and mental health attitudes among young employees in MNCs; however, several limitations should be acknowledged:

Initially, in our analysis, while the proposed model met the minimum acceptable model fit criteria (SRMR = 0.095), some of the explained variances (R^2) for key variables such as Perceived Stress ($R^2 = 0.046$) and ATSPPH ($R^2 = 0.173$) were lower than typically desired. These values indicate that a significant proportion of variance in these constructs remains unaccounted for by the predictors included in the current model. This outcome is not unexpected. Research in stress and help-seeking consistently shows that these variables are influenced by a wide range of psychological, social, and contextual factors, including stigma, mental health literacy, and interpersonal experiences [3,5]. In particular, attitudes toward help-seeking are shaped by personal and cultural influences that may extend beyond the scope of work-related stress and digital behavior.

Moreover, the low R^2 for Perceived Stress is consistent with the theoretical understanding that stress appraisals are highly individualized and dependent on appraisal and coping processes, as proposed by Lazarus' stress model [3]. Similarly, the modest explained variance in help-seeking

attitudes aligns with previous studies that found complex barriers to psychological service use, especially among young populations in collectivist cultures. Despite these limitations, the model successfully identified significant and theoretically supported paths that warrant further investigation. Future research should consider evaluating alternative SEM models, such as fully mediated or moderated-mediation models, and potentially integrating additional predictors (e.g., perceived stigma, organizational support, or burnout). Nonetheless, the current model provides a strong exploratory basis and practical relevance for organizations aiming to understand mental health dynamics among young employees.

Furthermore, one limitation of this study is the modest sample size (N = 118), which may raise concerns about the adequacy of statistical power given the number of structural paths estimated. However, several steps were taken to ensure the reliability of model estimates. First, we applied bootstrapping with 5000 resamples, which enabled the generation of bias-corrected 95% confidence intervals for all path coefficients. This technique improves the robustness of significance testing in small samples, a core advantage of the PLS-SEM approach. Additionally, the collinearity diagnostics (VIF) for all indicators remained well below the critical threshold of 4, indicating stable and unbiased regression estimates.

To further address power, the predictive relevance (Q^2) of the model was evaluated using the blindfolding procedure. While the Q^2 value for ATSPPH_N was slightly negative (-0.004), other constructs such as PSS (0.019) and UCLA_D (0.058) showed positive Q^2 values, reflecting acceptable levels of predictive relevance in line with recommended guidelines for exploratory models. Importantly, the PLS predict analysis confirmed that the model retained practical utility in identifying predictive patterns, especially for problematic internet use and social dissatisfaction. Given the exploratory nature of this study and the complexity of psychosocial constructs involved, the model was considered suitable despite the moderate sample size. Future research should aim to validate these findings using larger and more diverse populations to enhance statistical power and generalizability.

Secondly, this investigation restricted the results to a specific age group by focusing solely on young professionals (18–43 years old) in MNCs. To compare the extent to which these elements vary by age and experience, future studies should include a broader age range, such as middle-aged employees, as workplace stress, loneliness, and help-seeking behaviors may differ among various age groups. This analysis could assist in comprehending the manner in which the dynamics of stress and loneliness evolve over tenure.

Third, while this investigation examined the impact of stress, loneliness, and problematic internet use on attitudes toward seeking professional psychological help, it failed to consider other potentially significant variables, such as the influence of company culture, job expectations, or social support systems. Future research should incorporate additional workplace factors, such as leadership styles, work-life balance, and the availability of mental health programs, to provide a more comprehensive understanding of the factors that influence employee mental health.

Fourth, the cross-sectional design of the study limits the ability to draw causal conclusions about the relationships between stress, loneliness, and help-seeking activities. Although the study provides an initial understanding of these associations, future research with a longitudinal design would facilitate a more intricate understanding of the ways in which these elements interact over time and influence long-term mental health outcomes.

Lastly, the investigation focused on employees of MNCs in Vietnam, which may not accurately represent the experiences of employees in other corporate or cultural settings. Vietnam's collectivist culture may influence one's perception of stress and loneliness in a manner that is distinct from that of more individualistic societies. Future research should examine the impact of organizational and cultural variations on these variables in other global regions in order to enhance the cross-cultural validity of the results. Moreover, the study does not examine the specific forms of digital participation (e.g., social media, online forums, gaming) that workers employ to alleviate stress, despite the fact that it acknowledges the assistance that problematic internet utilization provides in coping with

loneliness. Future research could further investigate the types of online activities that either exacerbate or alleviate loneliness and stress, thereby presenting a more comprehensive understanding of the ways in which digital technologies are employed in the workplace to manage emotions.

In conclusion, while this study provides important insights into the mental health challenges faced by young professionals in MNCs, addressing these limitations in future research will contribute to a more comprehensive understanding of the complex interplay between stress, loneliness, and help-seeking behaviors across diverse employee populations and organizational contexts.

CONCLUSION

This study offers a perceptive investigation of the complex relationships among MNC employees between stress, loneliness, and help-seeking activities. The findings indicate that demographic factors, including age, gender, sexual orientation, marital status, smoking behavior, and work environment, significantly influence psychological well-being and the likelihood of seeking professional psychological help. The results indicate that Generation Z experiences higher stress levels than previous generations; women report more stress than males, and LGBTQ+ individuals are more likely to seek psychological help. Additionally, individuals who are unmarried or divorced exhibit a greater degree of stress, while current users demonstrate the greatest requirement for professional psychological help. Additionally, the physical environment, particularly the amount of work alone time and the design of the workstation, is a significant factor in the determination of stress and loneliness, which in turn affects the behavior of those seeking assistance.

Additionally, the SEM study emphasizes the detrimental impact of social relationship dissatisfaction on professional psychological help-seeking, the connection between loneliness and problematic internet use, and the effects of stress on social connections. These findings align with Çağış et al. [89], who identified loneliness as a key mediator between COVID-19-related anxiety and life satisfaction in the post-pandemic context, suggesting that loneliness exacerbates negative mental health outcomes across diverse populations. Similarly, Rizzo et al. [90] highlight the role of social media in perpetuating stigma against mental illness, which supports our observation that workplace attitudes, shaped by social and digital influences, can deter young MNC employees from seeking psychological help. Furthermore, our study emphasizes the moderating impact of tenure, suggesting that while younger employees, particularly those employed in remote or hybrid environments, are more susceptible to stress and loneliness, long-term employees develop more effective coping mechanisms. The mental health of MNC staff members is also influenced by their remote work status, which underscores the importance of workplace experience in this context.

These findings underscore the necessity of targeted mental health campaigns in MNCs, which should encompass inclusive workplace policies, structured wellness programs, and readily accessible psychological support systems. Organizations should prioritize the development of a psychologically healthy workplace, the reduction of stigma, and the provision of leaders with the necessary resources to effectively manage the demands of their roles. Specifically, implementing peer support networks, training managers to recognize and address mental health challenges, and fostering organizational policies that reduce stigma can significantly enhance employee well-being by mitigating loneliness and encouraging help-seeking behaviors among young MNC employees, as supported by several authors [91-95].

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