

## The Impact of Stress and Loneliness on Cyberloafing of Health Workers in Malawi: The Moderating Role of Age

Jacqueline Pangani<sup>1</sup>  
Benson Munyenyembe<sup>2</sup>

<sup>1</sup>jackatundu@gmail.com  
<sup>2</sup>bmunyenyembe@unima.ac.mw

<sup>1,2</sup>University of Malawi

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### ABSTRACT

*Employee intensification of internet use within working hours on personal endeavours other than work (cyberloafing) continues to harm productivity. Drawing from the General Strain Theory and the Social Resources Theory, the current study thus sought to explore the psychological and social factors that induce cyber-loafing among health workers in Malawi. The study had three main aims. First, to examine the impact of stress on the cyberloafing of health workers. Second, to examine the impact of loneliness on the cyberloafing of health workers. Third, to examine the moderating role of age in the stress and cyberloafing as well as loneliness and cyberloafing relationships. The study adopted a quantitative research design targeting health care workers in Malawi. The data was collected using a cross-sectional approach from a sample size of 210 health workers using online questionnaire. The collected data was analysed using the linear regression technique in the tool SPSS version 26. The direct effect results of the study indicated that there is a significant positive relationship between stress of the health workers and cyberloafing ( $B=0.230$ ,  $p<0.5$ ). The direct effect results of the study also indicated that there is a significant positive relationship between loneliness of the health workers and cyberloafing ( $B=0.324$ ,  $p<0.5$ ). In terms of moderating effect, the findings revealed a significant interaction term of stress and age on cyberloafing ( $B=-0.187$ ,  $p<0.05$ ) implying that age weakens the positive relationship between stress and cyberloafing. The moderating effect results also revealed a significant interaction term of loneliness and age on cyberloafing ( $B=-0.152$ ,  $p<0.05$ ) implying that age weakens the positive relationship between loneliness and cyberloafing. The paper confirms that stress and loneliness are strong triggers of cyber-loafing among health workers but that these triggers have a much stronger effect on younger employees compared to older employees. These findings offer important pointers for the need for hospital management to come up with stress management as well as social connectivity programs that would reduce stress and loneliness, thereby reducing cyber-loafing.*

**Keywords:** Cyber-Loafing, Health Workers, Loneliness, Malawi, Stress

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### I. INTRODUCTION

The Internet offers a gateway to limitless information access and has revolutionized human communication through advances in telecommunications and Internet technology over the years. Employees use the Internet to communicate with experts and peers worldwide more quickly and cost-effectively via emails and video conferencing (Syed, et al., 2020). However, despite its benefits, the Internet also has drawbacks. One such drawback is cyberloafing, which refers to employees voluntarily using the Internet during work hours for non-work-related activities to satisfy their needs (Tandon et al, 2022). This behaviour has garnered the attention of industries and scholars due to its contribution to organizational inefficiency. Cyberloafing makes employees concentrate on personal endeavours when they are supposed to attend to work activities (Akgun, 2020). Cyberloafing has a significant negative impact on employee productivity (Malik, 2023). With approximately 53% of the world's population being Internet users (Bayrak, 2018), increased Internet usage has led to Internet addiction, particularly among younger individuals (Weinstein & Lejoyeux, 2010). This misuse and excessive use of Internet technology pose a serious threat to organizational productivity (Dursun et al., 2018). Li et al. (2014) observed that employees often misuse the Internet at work for personal activities such as checking emails, playing games, shopping, and other non-work-related purposes. Ruhnka and Loopesko (2013) highlighted that this behavior results in lost time and productivity, leading to significant costs for companies.

Multiple authors have explored the determinants of cyberloafing among employees. Factors such as social stigmas and neutralizing efforts have been found to influence the likelihood of employees engaging in cyberloafing (Koay & Soh, 2018). Beehr (1976) discovered that work stress, arising from role ambiguity, organizational issues, and personal problems, contributes to employees' tendency to cyberloaf (Alkubaisi, 2015). Savci et al. (2021) noted that cyberloafing can also result from employees' beliefs that they can easily multitask. Additionally, feeling unfairly treated at work can lead employees to retaliate by reducing their work effort and engaging in cyberloafing (Koay &

Soh, 2018). Koay and Soh (2018) also stated that cyberloafing can occur when employees experience burnout. The issue of cyberloafing is particularly grave among health workers, as excessive Internet use can inadvertently endanger patients' lives (Abubakar & Mohammed, 2021). Therefore, it is crucial to identify the determinants of cyberloafing among health workers to design effective interventions (Yildiz & Yildiz, 2021). Addressing the root causes of cyberloafing in this sector will help ensure the safe delivery of healthcare services, where practical work often involves life-or-death situations. While the impact of psycho-social factors on cyberloafing has been extensively studied, there is limited research on the contingency factors that influence this impact. The current study addresses this gap by focusing on the moderating role of age, providing a more nuanced understanding of the factors that either mitigate or amplify the effects of stress and loneliness on cyberloafing.

### 1.1 Statement of the Problem

Several studies have brought to light the existence of cyber-loafing in the workplace, including the health service sector. Critical analysis of literature shows that cyber-loafing is increasingly becoming a challenge in the world of work. The cyberloafing levels of nurses and doctors have been found to be high (Savci et al, 2021; Santos et al., 2020). However, there is limited literature to explain more about the psycho-social triggers which result in cyberloafing among health workers.

### 1.2 Specific Objectives

Therefore, this study's primary objective was to examine the impact of stress and loneliness on the cyberloafing of health workers in Malawi. The study's secondary objective was to examine the moderating effect of age on the stress vs cyberloafing and loneliness vs cyberloafing relationships.

### 1.3 Research Hypotheses

Consequently, the following four hypotheses were proposed:

*Ho<sub>1</sub>*: There is a significant positive relationship between stress and cyberloafing among health workers in Malawi

*Ho<sub>2</sub>*: There is a significant positive relationship between loneliness and cyberloafing among health workers in Malawi

*Ho<sub>3</sub>*: Age moderates the positive relationship between stress and cyberloafing among health workers in Malawi

*Ho<sub>4</sub>*: Age moderates the positive relationship between loneliness and cyberloafing among health workers in Malawi

## II. LITERATURE REVIEW

### 2.1 Health Workforce in Malawi

A healthcare worker is defined as an individual who provides care and services to the sick, either directly as doctors, nurses, midwives, or physicians, or indirectly as aides, helpers, laboratory technicians, or medical waste handlers (Joseph & Joseph, 2016). In Malawi, health workers are often the primary point of contact with the healthcare system for millions of patients (Munyenyembe, 2022). A study by Manafa et al. (2009) found that hospital managers acknowledged a high workload, particularly for enrolled nurses and medical assistants in health centres, and that staffing levels were inadequate to meet the demand. This workload was perceived to negatively impact staff, leaving many frustrated and exhausted. Despite a high burden of disease, Malawi has fewer frontline health workers per 1,000 population (Liu et al., 2017). The healthcare system in Malawi is inherently fragile and suboptimal, making the issue of cyberloafing among health workers a significant concern. This research examines the interaction between psycho-social factors (stress and loneliness) and health workers' physical attributes (age) to predict their cyberloafing.

### 2.2 Impact of Stress on Cyberloafing

The General Strain Theory (GST) poses it that the likelihood of a person experiencing negative emotions is higher when faced with high levels of stressors. Stress refers to a state of worry or mental tension caused by difficult situations. It reflects how a person reacts when feeling under pressure or threatened, facing significant life changes, feeling a lack of control over outcomes, or experiencing discrimination, hate, and abuse (Chu et al., 2021). Stress can quickly lead to exhaustion and physical or psychological fatigue as cognitive resources become depleted (Fink, 2016). Reizer et al. (2022) found that fears and uncertainties increase psychological distress, and lacking physical interaction often makes many employees engage in cyberloafing as a coping mechanism. They further argue that high-stress levels prompt individuals to use the Internet, particularly social media sites, to interact with others or find self-entertainment.

A stressed person continuously seeks ways to alleviate it. If we apply the GST, it can be argued that engaging in cyberloafing at work is some form of corrective action to deal with negative emotions that stem from stress (Koay et al., 2017). Henle and Blanchard (2008) noted that employees cyberloaf to escape job stress and alleviate emotions

or pressure from their workload. Koay et al., (2022) found that workplace ostracism and emotional exhaustion could also lead to cyberloafing. He described ostracism as a situation where an employee is ignored or disregarded by colleagues, leading to emotional exhaustion and, consequently, cyberloafing. Employees can cyberloaf because of stress or pressure at work (work stressors). Employees who experience job stress will try to cope with the stressors (Manafa et al., 2009). One way is by using cyberloafing (RuningSawitri, 2012). When employees feel side-lined by colleagues, they may seek relief through the Internet, resulting in sustained cyberloafing if the situation does not improve. This can lead to developing new habits where the person becomes overly dependent on Internet services to address social isolation. Accordingly, the following hypothesis is proposed;

*Ho<sub>1</sub>*: There is a positive relationship between stress and cyberloafing

### 2.3 Impact of Loneliness on Cyberloafing

Human beings are social animals driven by a fundamental need to socialize and belong, as a lack of social connections can lead to loneliness, which has numerous negative consequences (Suri et al., 2019). Being social by nature, employees need a social environment to survive and thrive (Hawkey & Cacioppo, 2010). This social environment provides employees with social resources (Hobfoll 1989). The social connections that emanate from the presence of social resources act as a fundamental motivational base for employees. When an employee's social connections are threatened or unavailable as a result of social exclusion, a complex set of negative feelings that bundle into loneliness occurs (Baumeister & Leary 1995). Loneliness, which is a social deficiency, occurs in situations where an employee's network of social relationships is smaller or less satisfying compared to what he/she wants (Weiss, 1973). Perception of social isolation increases vigilance for threats, heightens feelings of vulnerability, and raises the desire to reconnect. A study by Yang et al. (2022) found that workplace loneliness is positively related to cyberloafing. When an individual experiences loneliness, there is a gap that needs to be filled. If this need is unmet, the person will seek to fulfil it by using other means (Dmour et al., 2020). In the absence of physical social interactions, the Internet often fills this gap. When someone lacks social connections at work to share personal issues with, they may turn to social media platforms like Facebook or WhatsApp to communicate, leading to cyberloafing. Similarly, some individuals deliberately create physical loneliness by avoiding team or family activities and instead spend much of their time chatting and exchanging messages with distant colleagues, neglecting those around them. Accordingly, the following hypothesis is proposed;

*Ho<sub>2</sub>*: There is a positive relationship between loneliness and cyberloafing

### 2.4 Moderating Role of Age

It has been revealed that age has a huge effect on employee's attitudes towards cyberloafing. This is the case because cyberloafing is considered more acceptable for among employees who are young compared to their older counterparts. The plausible explanation to support this situation stems from the fact that young employees grow up in the age of technology and the Internet (Ahmad & Jamaluddin, 2009). Such young employees who have grown up with computers appear to have more potential for Internet use than older workers (Mastrangelo et al., 2006). Since they have grown up in the presence of digital technology and the Internet, it makes them more comfortable and proficient when it comes to using these tools. This familiarity with technology and the internet is what leads to higher rates of cyberloafing among them, as they can easily navigate various websites and applications while at work without being detected. Older employees on the other hand are usually not as proficient with digital technologies, which often results in lower levels of cyberloafing among them. Andreassen et al., (2014) found a negative relationship between age and cyberloafing behavior because young employees place more value on work-life balance as well as personal fulfillment. This makes them to be more inclined to engage in cyberloafing as a means of taking mental breaks and/or managing their stress. Young employees also tend to see cyberloafing as a way to maintain personal connections and stay updated with personal interests. (Batury & Toker, 2015; Hartijasti & Fathonah, 2014). Older workers, to the contrary, mostly have a more traditional view of work ethics and productivity where they see personal Internet use during work hours as unprofessional or inappropriate, which translates to lower rates of cyberloafing. Accordingly, the following hypotheses are proposed;

*Ho<sub>3</sub>*: The positive relationship between stress and cyberloafing is stronger among younger employees compared to older employees.

*Ho<sub>4</sub>*: The positive relationship between loneliness and cyberloafing is stronger among younger employees compared to older employees.

### III. METHODOLOGY

#### 3.1 Methods and Data

The data were collected from selected district hospitals of Malawi. The participants in the study were drawn from the general hospital and mission hospital of Malawi. The study administered online questionnaires to a total of 210 respondents who were sampled randomly from Malawian hospitals. The questionnaire was administered in English as respondents in work class in Malawi speak and write in this language.

#### 3.2 Data Collection Procedure

The primary quantitative data were collected using a structured online questionnaire. A structured questionnaire is a document with a collection of standardized questions with a predetermined answer scheme for respondents to choose from, making it easy for researchers to collect necessary data.

#### 3.3 Data Analysis

The data drawn from the questionnaire were used to generate the latent variables for both independent and dependent variables which were later analyzed with the aid of the IBM Statistical Package for Social Sciences software (SPSS) version 22. Multiple linear regression was carried out in SPSS to assess the direction and strength of the relationship between the dependent and independent variables.

### IV. FINDINGS & DISCUSSIONS

#### 4.1 Respondents Characteristics

The respondent's characteristics were looked at in terms of gender, age, education, tenure, and marital status. In terms of gender, there were 112 female respondents (53.3%) and 98 male respondents (46.7%). In terms of age, the majority of the respondents (159) were aged between 25-40 years, representing 75.7% of the study sample. In terms of education, the majority of the respondents (90) were holders of a Bachelor's degree, representing 42.9% of the study sample. In terms of tenure, the majority of the respondents (96) had worked more than 2 years but less than 5 years, 45.7% of the study sample. In terms of marital status, the majority of the respondents (137) were married, representing 65.2% of the study sample.

#### 4.2 Preliminary data analysis

Several statistical tests were conducted before linear regression analysis. These tests were; 1) Kaiser Meyer Olkin (KMO) and Bartlett's test to confirm sampling adequacy, 2) Cronbach alpha test to establish internal consistency in the measurement instruments, and 3) Harman's Single Factor test to rule out common method variance.

##### 4.2.1 KMO and Bartlett's Test

Kaiser-Meyer-Olkin and Bartlett's test was carried out and used to provide statistical evidence of the suitability of the data to necessitate it for further analyses (Napitupulu et al., 2017). KMO takes values that range from 0 to 1 and values above 0.5 ascertain the suitability of the data for further analyses in cases where the sample size is at least 100 (Shrestha, 2020; Shrestha, 2021). On the other hand, Bartlett's test result should yield a statistically significance of a *p-value* less than 0.05 to ascertain that the data is robust for further analysis. The KMO and Bartlett's tests were carried out on SPSS for all the variables and the results are shown in Table 1 below.

**Table 1**

*KMO and Bartlett's Test*

Variable	KMO Value	Bartlett's Measure of Sphericity Significance Level
Stress	0.828	0.000
Loneliness	0.834	0.000
Cyberloafing	0.867	0.000

As can be seen from Table 1 above, the KMO results for all the variables are within the acceptable range of above 0.5 (Shrestha, 2021). Bartlett's tests of sphericity results for all the variables are also all significant at *p-values* that are below 0.05. This being the case, the data was deemed thus suitable for further analysis.



#### 4.2.2 Reliability Analysis

Cronbach's Alpha test is used to ascertain the reliability or internal consistency of the questionnaire items. Assessment of the questionnaire items that make up individual constructs is done on a scale of 0 to 1 and only Cronbach's alpha results which are at least 0.7 are considered to be indicative of internal consistency between the questionnaire items that make up a scale for an individual construct (Taber, 2018). However, Ursachi et al., (2015) suggested that the generally accepted rule is Cronbach's alpha from at least 0.6 and that Cronbach's alpha greater than 0.95 could indicate redundancy in the items. As reported in Table 3, this study Cronbach's alpha ranged from 0.716 to 0.789 and this is a satisfactory measure of reliability (Acceptance) were satisfactory indicators of internal consistency (Ursachi et al., 2015).

**Table 2**

*Reliability Statistics*

Variable	Cronbach Alpha	Number of items
Stress	0.789	4
Loneliness	0.754	4
Cyberloafing	0.716	3

#### 4.2.3 Common Method Bias

This study adopted the cross-sectional research design and cross-sectional studies are known to commonly be subjected to Common Method Variance also called Common Method Bias (CMV or CMB) (Podsakoff et al., 2012) observed that CMV has a detrimental impact on the correctness of the conclusions made from the research findings in situations where CMV is feared to be present. The Harman's Single Factor analysis value of at least 50% signifies the presence of CVA (Eichhorn, 2014) and (Tehseen et al, 2017). In this study, Harman's single factor test showed that no single factor was attributed to more than 50% of the variance hence CMV was ruled out.

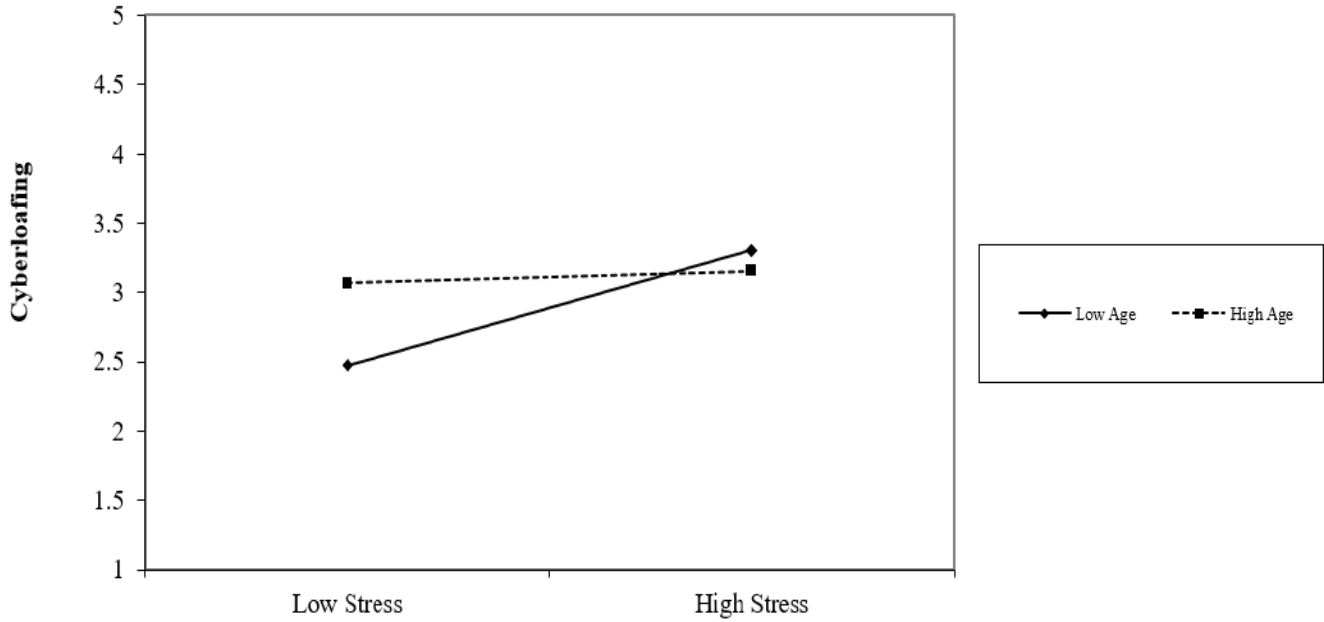
#### 4.3 Regression Analysis

The hypothesis test was conducted after the data collected was checked for quality and it was found that the construct used are valid and reliable. A total of four hypotheses were tested. The results of the tests are discussed below;

Hypothesis 1 predicted that the higher the stress, the higher the cyber-loafing. Results of the linear regression analysis revealed that indeed stress had a significant positive effect on cyberloafing ( $B=0.230, p<0.5$ ). This means that a one-unit increase in stress level yields a corresponding 0.230-unit increase in cyber-loafing behaviour among health workers.

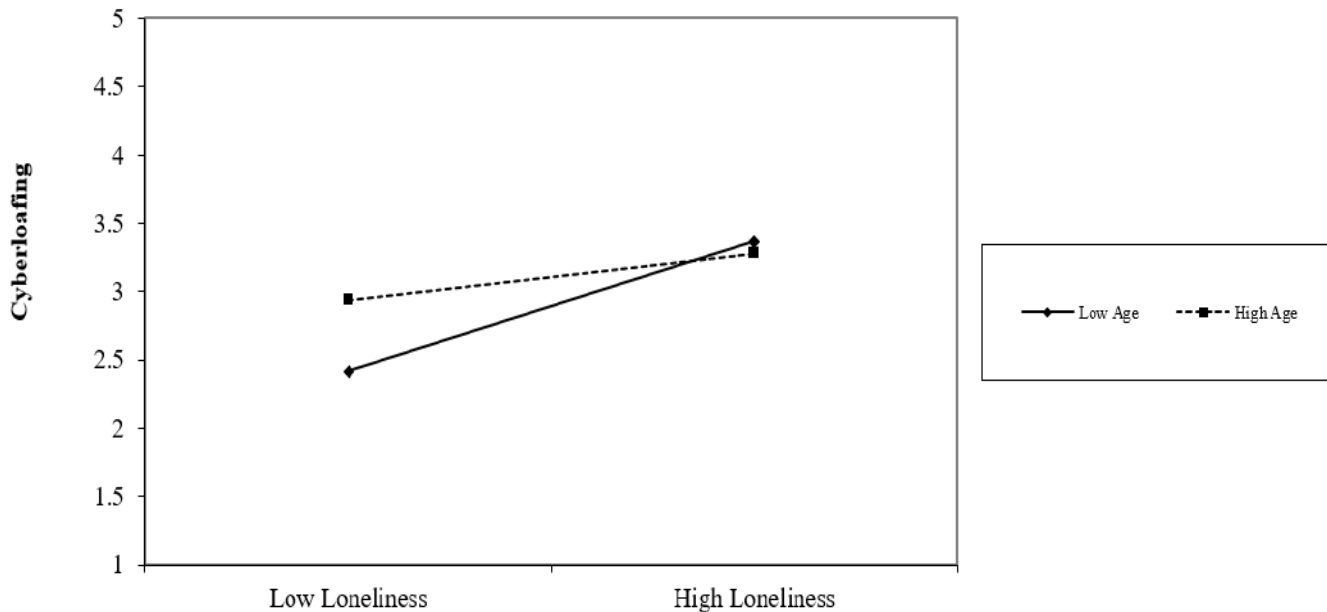
Hypothesis 2 predicted that the higher the loneliness, the higher the cyberloafing. Results of the linear regression analysis revealed that indeed loneliness had a significant positive impact on cyberloafing ( $B=0.324, p<0.5$ ). This means that a one-unit increase in loneliness yields a corresponding 0.324-unit increase in cyberloafing behaviour among health workers.

Hypothesis 3 predicted that the positive relationship between stress and cyberloafing is stronger among younger employees compared to older employees. The findings revealed a significant interaction term of stress and age on cyberloafing ( $B=-0.187, p<0.05$ ) implying that age weakens the positive relationship between stress and cyberloafing. This means that the positive relationship between stress and cyberloafing is stronger among younger employees compared to older employees. Figure 2 below is a graphical plot of this moderating effect.



**Figure 2**  
*Moderating Effect of Age on the Relationship between Stress and Cyberloafing*

Hypothesis 4 predicted that the positive relationship between loneliness and cyberloafing is stronger among younger employees compared to older employees. The results revealed a significant interaction term of loneliness and age on cyberloafing ( $B=-0.152, p<0.05$ ) implying that age weakens the positive relationship between loneliness and cyberloafing. This means that the positive relationship between loneliness and cyberloafing is stronger among younger employees compared to older employees. Figure 3 below is a graphical plot of this moderating effect.



**Figure 3**  
*Moderating Effect of Age on the Relationship between Loneliness and Cyberloafing*

## V. CONCLUSION & RECOMMENDATIONS

### 5.1 Conclusions

This study was conducted among health workers in Malawi. A total of 210 respondents participated in this study. The results of the study revealed four key relationships as follows; First, stress has a significant positive effect on cyberloafing. Second, loneliness has a significant effect on cyberloafing. Third, age weakens the positive relationship between stress and cyberloafing. Last, age weakens the positive relationship between loneliness and cyberloafing. The results conform with other existing studies that suggested that psychological and social factors impact cyberloafing among employees.

### 5.2 Recommendations

Based on the study results, the following three practical implications for managing cyberloafing in the workplace are proposed. First and foremost, since stress has a significant positive impact on cyberloafing, then there is a need for the implementation of stress management programs. The hospital management should invest in stress management programs such as 1) the offering of regular workshops on stress reduction techniques, 2) the provision of access to counselling services, and 3) the promotion of a healthy work-life balance through flexible working arrangements. Additionally, since loneliness significantly impacts cyberloafing, there is a need for hospital management to enhance social connectivity by creating opportunities for social interaction among employees. This could be achieved by 1) organizing team-building activities, 2) creating informal social spaces in the office, or 3) establishing employee resource groups and mentorship programs to foster a sense of community. Lastly, since age moderates the positive impact of both stress and loneliness on cyberloafing, there is a need for hospital management to develop age-specific cyberloafing interventions. This should be the case since age weakens the relationship between stress and cyberloafing, as well as loneliness and cyberloafing. Young employees ought to be monitored more compared to older employees when it comes to mitigating cyberloafing.

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