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Cyberloafing: A preliminary study from Indonesian workers

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Abstract

The primary objective of this study was to create a comprehensive measurement scale for cyberloafing from the perspective of Generation Z in Indonesia. The research was conducted in two stages. The first stage involved 145 participants for initial validity, and the second stage included 214 respondents for the final validation. Two distinct factors were identified through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA): personal interest and social cyberloafing. These factors comprised 11 items, providing a more in-depth understanding of cyberloafing and its prevalence in Gen Z populations. The article also discussed the study's limitations and provided recommendations for future research.

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Keywords:
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Abstrak

Tujuan utama dari penelitian ini adalah untuk mengembangkan skala pengukuran cyberloafing yang komprehensif dari perspektif Generasi Z di Indonesia. Penelitian dilakukan dalam dua tahap. Tahap pertama melibatkan 145 peserta untuk validasi awal, dan tahap kedua melibatkan 214 responden untuk validasi akhir. Dua faktor berbeda diidentifikasi melalui analisis faktor eksplorasi (EFA) dan analisis faktor konfirmatori (CFA): kepentingan pribadi dan cyberloafing sosial. Faktor-faktor ini terdiri dari 11 item, yang memberikan pemahaman lebih mendalam tentang cyberloafing dan prevalensinya pada populasi Gen Z. Makalah ini juga membahas keterbatasan penelitian dan memberikan rekomendasi untuk penelitian masa depan.

Kata kunci: Cyberloafing, pengembangan skala, validasi awal, gen Z

Introduction

The communication and information technology advancements of the last ten years have brought about numerous changes in organizations and individuals' behaviors. These developments have significantly transformed how businesses operate and perform their day-to-day activities, particularly in the post-COVID-19 era. Additionally, these advancements have impacted people's daily routines at work and outside. However, as internet access has become more widespread and social media platforms have made it easier to access information, managing focus and productivity in the workplace has become more challenging. Cyberloafing, which refers to non-work related online activities for personal purposes, has recently become a topic of interest in management and organizational psychology literature (Koay & Soh, 2019; Lim, 2002).

Despite extensive research on cyberloafing, two fundamental issues still need to be addressed. Firstly, there needs to be more agreement among researchers on the characterization or definition of cyberloafing. Secondly, the differences in the definition of cyberloafing have led to two opposing views, with most researchers considering it a deviant behavior that can negatively impact productivity, efficiency, and performance (Farivar & Richardson, 2021; Jeong et al., 2020; Khansa et al., 2017; Naveed & Muhammad, 2015). In contrast, other researchers believe cyberloafing can reduce stress and boredom and increase job satisfaction, creativity, productivity, and employee well-being (Anandarajan & Simmers, 2005; Andel et al., 2019; Lim & Teo, 2022). Furthermore, employees can easily conceal their cyberloafing activities without being noticed by others. For instance, they can quickly minimize non-work-related websites and make their monitors display work-related content when coworkers are present. Although organizations have prohibited cyberloafing in the workplace by blocking access to specific sites and installing monitoring systems that track internet activity, it is challenging to detect cyberloafing behavior on employees' smartphones.

This study aims to further explore the concept of cyberloafing from the perspective of employees in Indonesia to overcome debates related to its characterization. The study has two objectives: first, to redefine cyberloafing from the perspective of Generation Z in Indonesia and develop appropriate measuring tools, and second, to identify workers' general opinion about cyberloafing. The present study applies both quantitative and qualitative approaches to achieve these objectives. Hence, the study's findings contribute theoretical insights into organizational behavior, particularly concerning the misuse of technology and digitalization in today's workplace.

There are two main reasons why it is important to investigate Gen Z's perception of cyberloafing in Indonesia: First, Indonesia is one of the countries with the largest number of internet users in Southeast Asia, with a projected figure of more than two hundred million users in 2021 (tekno.kompas.com, February 23, 2021). Considering that Gen Z is known as the

generation that is always online, it is important to explore their perceptions regarding cyberloafing. Second, the post-millennial generation known as Gen Z (1997-2013) is just entering the labor market, and employers must prepare for its arrival. While Gen Z shares many similarities with Millennials, it also brings new behavioral patterns. Today's managers must understand how best to manage young, inexperienced employees and the unique characteristics of a generation shaped by their experiences. In line with this, the workforce in Indonesia is dominated by young workers aged between 20 – 39 years (BPS, 2020). Thus, organizations must understand Gen Z's perceptions of cyberloafing to recruit and manage their workplace expectations successfully.

Cyberloafing: concept and measurement

Cyberloafing is a term used to describe the non-work related use of the internet and other digital technologies during working hours. The concept has many synonyms, including "cyber slacking," "cyberbullying," "counterproductive use of technology at work," and "cyber deviancy." Although the terms differ, they all refer to the same behavior (Koay & Soh, 2019; Lim, 2002; Weatherbee, 2010). Weatherbee (2010) states that cyberloafing is a minor form of ICT misuse prevalent in the workplace. Behaviors such as online gambling, stock trading, online romance, chat, or visiting pornographic websites have been identified as cyberslacking (Johnson & Indvik, 2004; Mills et al., 2001). Cyberloafing, as defined by Lim (2002), encompasses only behaviors involving organizational Internet access or email. While these constructs share similarities, they differ in the behaviors they aim to account for, leading to measurement and empirical results variations. However, it is important to note that not all internet use during work hours falls under cyberloafing. For example, browsing the internet or watching social media such as TikTok and YouTube for work-related purposes is not considered cyberloafing. Hence, the key to defining cyberloafing is the non-work-related nature of the activity.

Lim's research investigated cyberloafing, comprising two factors: non-work-related Internet surfing and personal email use. To assess this behavior, Lim et al. (2002) developed a scale consisting of 12 questions. The questions aim to measure the extent to which individuals engage in cyberloafing in the workplace. For instance, some of the questions in the scale include "I spend time surfing the internet when I should be working" and "I often visit social media websites when I am at the office." However, given today's rapid technological advancements, the concepts and measurements of cyberloafing developed by Lim et al. (2002) may need to be updated. With the constant evolution of online communication opportunities and mobile technologies, cyberloafing may become more prevalent and diverse (Akbulut et al., 2016).

Another model proposed by Blau et al. (2006) includes three factors that constitute cyberloafing: Internet surfing or browsing, non-work related email use, and interactive behaviors such as online gaming. This model aligns with Johnson and Kulpa's (2007) argument that online behaviors can be differentiated based on their degree of socialness, utility, or interactivity. Blanchard and Henle (2008) also developed a tool to measure cyberloafing, defined as using the Internet for non-work-related activities during working hours. The tool consists of a scale that includes 16 questions. These questions are categorized into two dimensions: minor and serious cyberloafing. The minor dimension includes activities not considered harmful to the organization's productivity, such as receiving and sending non-work emails and visiting news sites. The serious dimension includes activities that can harm the organization's productivity and the employee's performance, such as visiting adult sites, participating in chat rooms, and visiting virtual communities.

Additionally, Koay's study on cyberloafing in schools resulted in a comprehensive list of questions to assess this phenomenon among students. The questionnaire aims to capture various aspects of cyberloafing behavior among students, such as checking their friends' posts, browsing their social media profiles, sharing content on social networks, and reacting to exciting posts (Koay, 2019). The variety of measurement models suggested in previous research is closely linked to the technological improvements made when the scales were created. This means that as technology advances, there is still a need to develop more precise cyberloafing scales.

Methods

This study used qualitative and quantitative research methods to develop a scale for measuring cyberloafing. The process involved six stages, guided by psychometric recommendations (Hinkin, 1995). Firstly, the concept of cyberloafing was developed based on a thorough literature review. Secondly, items for the cyberloafing scale were generated, adhering to Hinkin's guidelines, which suggest that item pools should be based on definitions developed in the literature review. At this stage, the items were also tested for their content validity by obtaining feedback from an expert panel. Thirdly, an exploratory factor analysis (EFA) was conducted to examine the factor structure and estimate the internal consistency reliability of the factor test scores identified in the pilot study. Finally, the identified structure was validated using confirmatory factor analysis (CFA) ((Hair et al., 2019).

Participants

The study involved Indonesian participants who responded to an online survey. Two sets of quantitative data were collected from different sectors. The first phase involved 145 respondents for initial validation using EFA. The second phase involved 214 Jakarta employees for further validation using CFA. The demographic information is summarized in Table 1. The initial study involved 145 participants, with the majority of them being women (62%). 52% of the respondents work in the private sector or government with contract status (31%). Most of the first sample group participants were under 22 years old (82%), while 12% were between 22-25 years old. Most respondents (92%) are single, while only 8% are married. The second group of samples was numbered 214 and consisted of 78% women and 27% men. Like the first sample, most of the second sample group also works in the private sector (47%) and government (29%). As many as 74% of respondents were aged less than 22 years, and 23% were between the ages of 22-25. Furthermore, 88% of the respondents are single, and 12% are married.

Table 1.
Respondents' characteristics

Demographic	Sample 1		Sample 2	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	55	38%	58	27%
Female	90	62%	167	78%
Employee status				
Private: Contract	75	52%	101	47%
Private: Permanent	17	12%	34	16%
Government: Contract	45	31%	62	29%
Government: Permanent	7	5%	17	8%
Age				
< 22 yrs	119	82%	158	74%
23-25 yrs	17	12%	49	23%
> 25 yrs	9	6%	6	3%
Marital status				
Married	12	8%	26	12%
Single	133	92%	188	88%

Measurement

This research aims to create a cyberloafing scale that is appropriate for Indonesian culture based on previous studies (Akbulut et al., 2016; Andreassen et al., 2014; Blanchard & Henle, 2008; Blau et al., 2006). The responses were evaluated on a 5-point Likert scale, with 1= never, 2 = rarely, 3=occasionally, 4= usually, and 5 is always. The Likert scale was used to determine the extent of an employee's participation in each cyberloafing activity at their workplace. The preliminary proposed scale consisted of twenty items evaluated for relevance by three experts in the technology field and three experts in organizational behavior. Additionally, two senior employees were invited to provide initial assessments regarding the suitability of the items. Based on the content and feedback testing results, fifteen items were identified as the most relevant for assessing cyberloafing behavior (the complete items can be seen in Appendix 1).

Results and discussion

Preliminary screening and descriptive statistics

The first stage was conducted on 145 participants, and the results showed a tendency to engage in cyberloafing activities during work hours. The participants were found to be involved in various online activities, with online shopping and music streaming being the most popular ones. Other activities like checking personal emails, visiting entertainment sites, and watching social media videos also received high scores. These findings present a challenge for companies in maintaining employee productivity and focus. However, the level of participation in specific activities varies, which can be used to develop more focused and tailored time management policies.

Sample 2 respondents showed varying levels of participation in cyberloafing activities in the workplace. The average scores indicated that the most frequently performed activity was listening to online music, with the highest score, followed by visiting online shopping sites, watching videos on YouTube, and checking personal email. On the other hand, activities such as playing online games, responding to active comments on social media, and socially viewing friend's profiles received lower scores. These differences can provide insights for companies in managing and understanding employees' cyberloafing behavior and designing more focused policies to maintain productivity and efficiency in the workplace (See Table 2).

Study 1: Exploratory factor analysis (EFA)

Exploratory Factor Analysis (EFA) is a statistical technique that helps identify patterns and relationships between variables in a dataset. The primary objective of EFA is to identify factors that may underlie patterns in the data, even when the researcher have limited prior knowledge about those factors. The EFA process involves using statistical techniques to determine the number of critical factors in a dataset, reducing the complexity of the data by grouping highly correlated variables into smaller factors. EFA is an efficient method for reducing the dimensionality of data, identifying patterns, classifying variables, and providing researchers with insights into the factors underlying relationships in the data (Beavers et al., 2019; Hair et al., 2019).

The initial stage of our study analyzed the data through EFA. It revealed that two items had a loading factor coefficient of less than 0.40, so they were removed from testing. Based on the adjustments made, the analysis shows that the measurement model meets the initial assumptions (KMO > 0.60 and Bartlett's Test of Sphericity = < 0.001).

Table 2.
Descriptive statistics

Code	Items	Sample 1 (n = 145)		Sample 2 (n=214)	
		Mean	SD	Mean	SD
A1	Visiting investment websites	3.05	1.15	2.41	1.10
A2	Visiting entertainment Websites	3.34	1.16	3.33	1.22
A3	Visiting news portals	3.19	1.12	3.07	1.16
A4	Visiting online marketplace	4.05	1.13	3.96	1.22
A5	Opening Private Email	3.70	1.17	3.68	1.22
B1	Post status on social media	3.04	1.28	3.00	1.35
B2	Actively reply to comments	2.67	1.27	2.48	1.25
B3	Check my friends' posts	2.92	1.32	2.82	1.30
B4	Checking my friends' profile	2.49	1.17	2.28	1.10
B5	Checking my friends' social media	3.36	1.38	3.52	1.30
B6	Watching videos on social media	3.60	1.22	3.62	1.21
B7	Watching videos on Youtube	3.32	1.32	3.81	1.18
B8	Listen to music online	3.72	1.30	4.11	1.05
B9	Play online games	2.77	1.31	2.71	1.42
B10	Retweet tweets	2.68	1.21	2.42	1.23

Table 3.
Exploratory factor analysis (EFA): Initial validation (n=145)

	Component			
	1	2	3	Uniqueness
A1			0.809	0.325
A2	0.656			0.532
A3	0.385		0.661	0.408
A4	0.523			0.604
A5	0.632		0.353	0.472
B1		0.685	0.308	0.402
B2		0.798		0.329
B3	0.343	0.811		0.224
B4		0.774		0.369
B5	0.741	0.312		0.341
B6	0.797	0.312		0.261
B7	0.541			0.639
B8	0.685			0.479
Cronbach Alpa	0.824	0.820	0.504	

Bartlett's Test of Sphericity = < 0.001
KMO Measure of Sampling Adequacy = 0.821
Total variance explained = 58.6%

After evaluating the eigenvalues and scree plots, we found that three factors accounted for 58.2% of the total variance of the scale. This result was satisfactory (Hair et al., 2019), as shown in Table

3 and Figure 1. The factor structure is similar to Blau's (2006), consisting of three sub-dimensions of cyberloafing. Most items are loaded by their intended factors, and no major cross-loadings were observed, indicating that all three factors have unidimensionality. Therefore, convergent validity is achieved (Table 3).

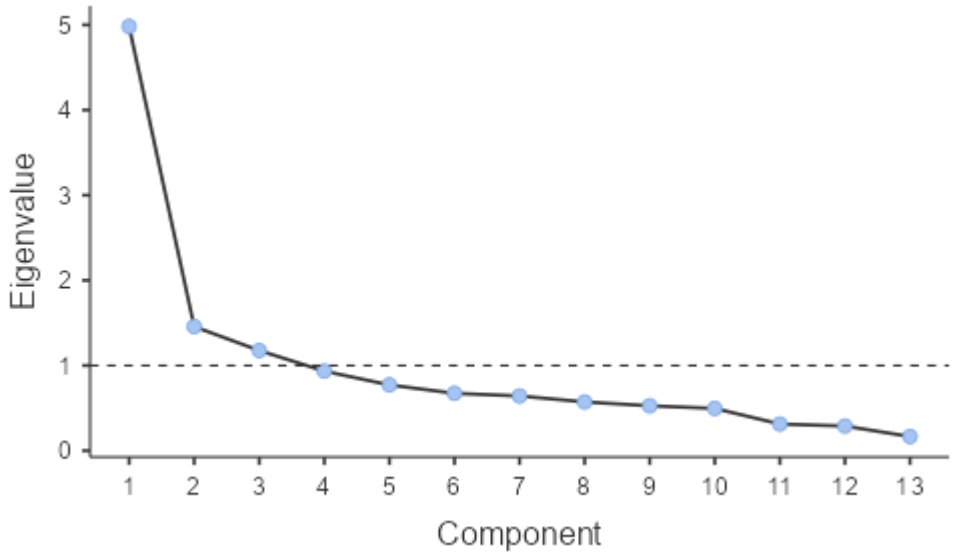

Figure 1.
Scree plot of EFA

Table 4.
Goodness of fit evaluation

Parameters	**Model**	
Comparative Fit Index (CFI)	0.929	Good fit
Tucker-Lewis Index (TLI)	0.913	Good fit
Bentler-Bonett Non-normed Fit Index (NNFI)	0.913	Good fit
Relative Noncentrality Index (RNI)	0.929	Good fit
Bentler-Bonett Normed Fit Index (NFI)	0.876	Marginal fit
Bollen's Relative Fit Index (RFI)	0.847	Marginal fit
Bollen's Incremental Fit Index (IFI)	0.930	Good fit
Fit indices		
SRMR	0.051	Good fit
RMSEA	0.073	Good fit
X^2	< .001	-

Next, based on the results, items are grouped into three components: component 1 (A2, A4, A5, B5, B6, B7, B8), component 2 (B1, B2, B3, B4) and component 3 (A1, A3). Furthermore, the internal consistency with Cronbach alpha revealed that the three factors have values of 0.824 and 0.820 for factors 1 and 2, respectively, which meets the criteria for good reliability (Nunnally & Bernstein, 1994). Meanwhile, factor 3 has a Cronbach alpha of 0.502, below the cut-off value 0.70. However, because factor 3 only has two items, this number is considered reasonable, so we still consider it in the measurement model. When there are only two items in a measurement model, the formula for calculating Cronbach's alpha tends to produce low values or may not be calculated.

Table 5.
Confirmatory factor analysis (CFA)

Latent	***Observed***	***β***	***z***	***p***
JIC	JIC1	0.659		
	JIC2	0.778	7.010	< .001
	JIC3	0.638	6.950	< .001
Personal	A2	0.595		
	A4	0.610	7.300	< .001
	A5	0.580	7.030	< .001
	B5	0.858	9.140	< .001
	B6	0.822	8.940	< .001
	B7	0.559	6.830	< .001
	B8	0.544	6.690	< .001
Social	B1	0.643		
	B2	0.731	8.930	< .001
	B3	0.875	10.040	< .001
	B4	0.778	9.360	< .001
Heterotrait-monotrait (HTMT) ratio of correlations				α
	JIC	Personal	Social	
JIC	1			0.734
Personal	0.312	1		0.841
Social	0.314	0.718	1	0.842

Study 2: Confirmatory factor analysis (CFA)

Confirmatory Factor Analysis (CFA) is a statistical method used to test how well a proposed factor model matches the observed data. It is also employed to confirm or test the factor model proposed in the previous stag e (e.g., EFA). CFA enables researchers to verify whether the proposed factors accurately reflect the data and correspond to the proposed construct. This study added an external scale (job insecurity) to test Nomological validity by comparing it with an external scale (Asfiati et al., 2022).

The first CFA analysis showed that items A1 and A3 were not feasible for further analysis because one had a loading factor coefficient <0.40. After considering the entire model, we removed both items from the measurement model, leaving only two factors: personal interest and social cyberloafing. We evaluated the measurement model (Table 3) using the CFA. We found it had a good fit (CFI = 0.98, TLI = 0.91, NNFI = 0.91, RNI = 0.93, IFI = 0.93), all greater than the cutoff value of 0.90. Additionally, SRMR = 0.051 (< 0.60) and RMSEA = 0.073 (< 0.08), both meeting the criteria for a good fit (Hair et al., 2019).

In order to evaluate the discriminant validity of a measurement instrument, researchers often use a statistical technique called the heterotrait-monotrait ratio of correlations (HTMT). This technique involves comparing the correlations between traits (heterotrait) and those between the same trait (monotrait). The results of this analysis are typically presented in Table 4. Upon examining the HTMT values in Table 4, the researchers found none were close to 1 or fell within the recommended cutoff scores of 0.85-0.90 (Henseler et al., 2016). Hence, the measurement instrument has been confirmed to have good discriminant validity, as there is little evidence of overlap between the different traits being measured.

All factors demonstrated plausible internal consistency coefficients (Nunnally & Bernstein, 1994). Specifically, the coefficients for job insecurity, personal interest, and social

cyberloafing were 0.734, 0.841, and 0.842, respectively. Additionally, the item loadings ranged between 0.544 and 0.875, which falls within the good category (Hair et al., 2019). To test nomological validity, the correlation of the tested scale with the external scale is calculated for comparison. The results indicate that the cyberloafing sub-scales of personal interest and social cyberloafing, which are theoretically different constructs, have positive correlations. This result confirms the discriminant validity of the two sub-scales. Additionally, a correlation analysis was performed on all sub-scales formed with job insecurity, and the results show low-to-moderate positive intercorrelations between the cyberloafing sub-scales. The correlation between the cyberloafing sub-scale and job insecurity also supports nomological validity (Koay & Soh, 2019; Lim & Teo, 2022; Tandon et al., 2022). Table 5 and Figure 1 provides of these results.

According to the findings in Table 5, there is a significant positive correlation between job insecurity and both personal cyberloafing ($\beta = 0.288$, $p < 0.05$) and social cyberloafing ($\beta = 0.327$, p-value < 0.05). These results suggest that employees who experience higher levels of job insecurity are more likely to engage in cyberloafing activities at work (see Table 6).

In addition, our study also reflects the respondents' viewpoints on whether it is appropriate for employees to use the Internet during working hours. The majority of respondents find it unprofessional to use social media during work. They believe that there are regulations that should be followed, social media can distract from work, and working hours should be used for work-related tasks. However, some respondents view social media activity as normal or even advantageous. They see it as a way to avoid boredom, find work-related information, or refresh their minds. The respondents' opinions also vary depending on the nature of their work. Those who work in fields related to social media or marketing see it as a normal practice. However, many also stress the importance of balancing social media and focusing on work.

Next, we summarize a thematic summary of respondents' answers showing various views regarding using social media in the work environment. Some of the main themes that emerged include: First, many respondents stated that using social media outside working hours is an employee's right. They emphasize the importance of balancing individual rights and work responsibilities. Second, several respondents stated that companies should have policies regarding using social media in the workplace. This policy is considered important to maintain employee focus and productivity. Third, several respondents mentioned the benefits of using social media, such as getting the latest information and increasing creativity. However, there is also awareness of risks, such as reduced focus and concentration on work.

Table 6.

Parameters estimates

				95% Confidence Intervals				
Dep	**Pred**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
Personal	JIC	0.287	0.0902	0.110	0.464	0.288	3.18	0.001
Social	JIC	0.390	0.1091	0.176	0.603	0.327	3.57	< .001

Fourth, leaders are considered important in managing and supervising employees' social media activities. Several respondents highlighted the need for leaders to understand employee needs and implement policies fairly. Fifth, several respondents highlighted the importance of social media as a means of refreshing and dealing with stress. They stated that social media use outside work hours can support employee mental health. Fifth, several respondents supported the view

that using social media can increase creativity and provide freedom to employees as long as they comply with company rules. Sixth, there is an awareness that every individual has responsibility for their work. If social media use interferes with performance, individuals are expected to address this. Finally, several respondents emphasized the importance of adhering to times and limits when using social media. They argue that wise use and moderation need to be maintained.

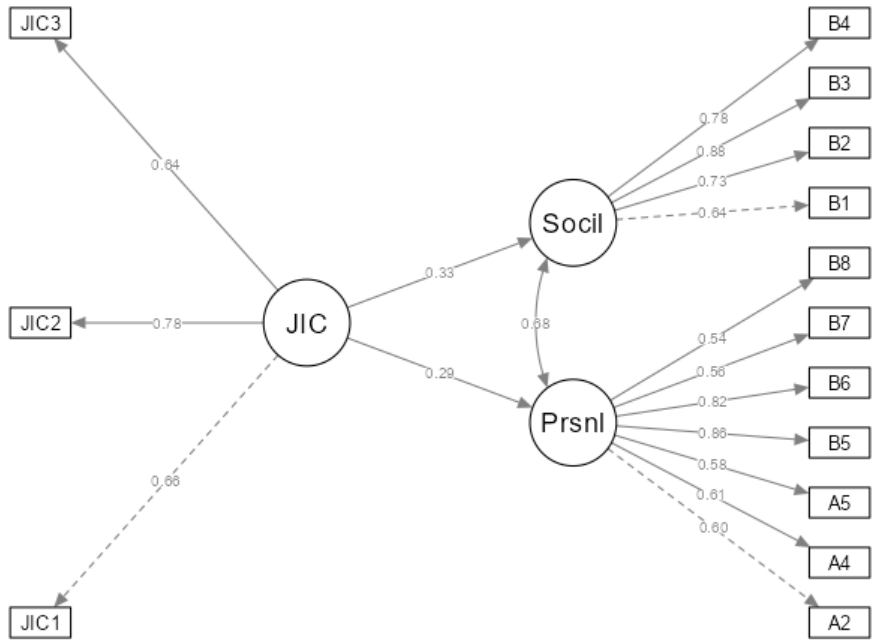

Figure 1.
Nomological validity evaluation

Our research has shown that the Indonesian version of the cyberloafing scale is appropriate for evaluating cyberloafing behaviors in general. Initially, 15 items were selected for the scale, but two items were removed in the initial validity stage using EFA. In the second stage, CFA analysis was used to reconstruct the structure of the scale, and two more items were removed, leaving 11 relevant items. These items were removed because their factor loading was lower than 0.5, or they were associated with factors that had less than three items, which is not sufficient for factor analysis (Hair et al., 2019; Koay, 2018). The internal consistency of each factor was measured using Cronbach's alpha (α) method. The values of Cronbach's alpha (α) for all the factors ranged from 0.734 to 0.824, which is acceptable for establishing the internal consistency of factors (Nunnally & Bernstein, 1994).

Factor 1, with an eigenvalue of 1, accounted for 28% of the total variance and included seven items (A2, A4, A5, B5, B6, B7, B8), such as "Visiting entertainment Websites," "Opening Private Email," "Watching videos on social media," "Checking my friends' social networking profile," "Watch videos on Youtube," and "Listen to music online." The two highest loading factor coefficients were found in "Checking my friends' profile" and "Watching videos on social media," leading to this factor's label of personal interest. Factor 2, labeled social cyberloafing, explained 22% of the variance and consisted of four items (B1, B2, B3, B4), including "Post status on social media" and "Actively reply to comments," which were mainly related to social media activity.

Our study yielded results that align with previous research and satisfy all psychometric criteria. Specifically, the findings support the two-factor structure of the scale, which bears some resemblance to Blanchard and Henle's (2008) categorization of 16 items into minor and serious cyberloafing but differs from most studies that support the unidimensional nature of cyberloafing

(Andreassen et al., 2014; Lim, 2002). Our study's results also exhibit similarities in content to the three factors identified by Blau et al. (2006), which include browsing-related, non-work-related e-mail, and interactive cyberloafing.

Cyberloafing is a term used to describe the activities of employees who use their work time to access non-work related content online, such as browsing the internet or social media platforms. This behavior can be seen as both a challenge and an opportunity for organizations. On one hand, non-work-related online activities can pose a risk to an organization's data and information security, especially if employees access unsecured websites or content. On the other hand, some online activities, such as taking short breaks, can help employees achieve a better work-life balance, improve their well-being, and increase job satisfaction. However, if employees engage in cyberloafing, they may need more time to give their full attention to work tasks, which can negatively affect the quality of their work output.

Conclusion

Our study aimed to develop a cyberloafing scale that can be used to measure employee engagement in non-work related online activities during work hours. We successfully produced such a scale, which consisted of a two-factor structure. This structure was based on two processes: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). While our initial validation of the scale was promising, we acknowledge that further testing is required to ensure its reliability and validity. Specifically, this scale needs to be expanded and retested on different sample groups to determine if the results are consistent across various contexts.

Despite the success of this study in developing the cyberloafing scale, some things could still be improved. Firstly, the data used to measure cyberloafing was self-reported by employees. In cultures with high power distance, such as Indonesia, employees may underreport their cyberloafing behavior due to fear of their managers becoming aware of it (Gustiawan et al., 2023; Hofstede, 2003). Therefore, future research should use social desirability bias as a control variable to minimize such biases. Moreover, future studies can add the manager's attitude toward cyberloafing or the organization's policies towards these behaviors as a control variable or as a moderator to minimize the effects of these factors on reporting cyberloafing behaviors. Secondly, the data was collected from professionals, so it is recommended that research be conducted on employees from different sectors. Thirdly, this study had a cross-sectional design, meaning mixed and longitudinal studies should be conducted to detect causal relationships between cyberloafing and its antecedents and outcomes. Finally, this study did not investigate any hypothetical causal relationship, as the aim was to adapt the cyberloafing scale to the Indonesian context. Therefore, it is suggested that future studies include sociodemographic variables, perceptions, attitudes, or behavioral factors as dependent or independent variables.

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Appendix 1. Initial items

1. Visiting investment Websites (A1)
2. Visiting entertainment Websites (A2)
3. Visiting news sites (A3)
4. Visit online shopping sites (A4)
5. Opening Private Email (A5)
6. Post status on social media (B1)
7. Actively reply to comments on social media (B2)
8. Check my friend's post (B3)
9. Checking my friends' social networking profiles (B4)
10. Give "likes" to interesting posts on social media (B5)
11. Watch videos shared on social media (B6)
12. Watch videos on Youtube (B7)
13. Listen to music online (B8)
14. Play online games (B9)
15. Retweet tweets I like (B10)

Declaration section

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