The Structural Relationship Between Workplace Stressors and Cyberloafing Behaviour: A SEM-Based Analysis

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ABSTRACT

This study examines the structural relationship between workplace stressors and cyberloafing using the Theory of Planned Behaviour (TPB) as the underlying framework. While prior studies have explored the role of workplace stressors such as workplace ostracism, role ambiguity, role conflict, and role overload in predicting counterproductive work behaviour, few have tested a comprehensive structural model linking these stressors directly to cyberloafing. Drawing a validated construct established through exploratory and confirmatory factor analysis in earlier phases of this research, this study uses structural equation modelling (SEM) to test the direct effects of the four stressors on cyberloafing among Malaysian employees. Results of the SEM analysis reveal that all four workplace stressors (workplace ostracism, role ambiguity, role conflict, and role overload) have statistically significant effects on cyberloafing. Specifically, workplace ostracism ($\beta = 0.126$, $p = 0.041$), role ambiguity ($\beta = 0.080$, $p = 0.030$), and role conflict ($\beta = 0.330$, $p = 0.001$) were found to have significant positive relationship with cyberloafing. Interestingly, role overload ($\beta = –0.014$, $p = 0.045$) showed a significant but slightly negative effect. The structural model exhibited acceptable fit ($\chi^2/df = 2.71$, CFI = 0.912, TLI = 0.901, RMSEA = 0.067), explaining 43% of the variance in cyberloafing behaviour. These findings provide empirical support for TPB in the context of digital deviance and extend prior research by modelling multiple stressors simultaneously. The study also offers practical implications for organizations seeking to mitigate cyberloafing by addressing role-based and social stressors in the workplace.

Keywords: Cyberloafing, Structural Equation Modelling, Workplace Stressors, Theory of Planned Behaviour, Malaysia

INTRODUCTION

The rise of internet access and digital connectivity in the workplace has introduced new forms of behavioural challenges for organizations, particularly in the form of cyberloafing which describes as employee's use of the internet for non-work-related activities during working hours (Lim, 2002). While occasional browsing or personal messaging may serve as a coping mechanism, frequent and excessive cyberloafing can lead to productivity loss, reduced engagement, and even security breaches (Askew et al., 2014; Henle & Blanchard, 2008). As organizations become increasingly reliant on digital tools, understanding the psychological and organizational factors that drive cyberloafing behaviour has become a critical concern for both researchers and practitioners.

A growing body of literature has identified workplace stressors as significant antecedents of counterproductive behaviours, including cyberloafing (Arshad et al., 2016; Koay et al., 2017). Stressors such as workplace ostracism, role ambiguity, role conflict, and role overload have been shown to increase psychological strain and reduce employee's motivation to engage in task-oriented work. However, despite recognition of these antecedents, few studies have examined their combined structural influence on cyberloafing behaviour using a comprehensive, theory-driven approach.

This study addresses this gap by employing Structural Equation Modelling (SEM) to test the direct effects of these four workplace stressors on cyberloafing behaviour. Grounded in the Theory of Planned Behaviour (TPB) (Ajzen, 1991), the study conceptualizes these stressors as situational variables that influence employee's behavioural intentions through their effects on attitudes, subjective norms, and perceived behavioural control. The validated constructs from previous exploratory and confirmatory factor analysis are used to build and test the structural model.

By modelling the direct relationships between these stressors and cyberloafing, this study contributes to both theory and practice. Theoretically, it extends TPB to the domain of workplace deviance in the digital age. Practically, it provides empirical insights for human resource management and organizational leaders seeking to mitigate cyberloafing through improved role clarity, workload management, and social inclusion in the workplace.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Workplace Ostracism and Cyberloafing

Workplace ostracism refers to the extend to which an individual perceives they are being ignored or excluded by others at work (Ferris et al., 2008). Such social rejection can undermine employee's sense of belonging, emotional well-being, and organizational commitment. From the perspective of the Theory of Planned Behaviour (TPB), ostracism can negatively affect attitudes toward the workplace and weaken perceived social norms, thereby increasing the likelihood of counterproductive behaviours such as cyberloafing.

Several studies have shown that ostracized employees are more prone to disengagement and deviant acts as a means of regaining control or coping with exclusion (Soh et al., 2022; Gkorezis & Bellou, 2022). In digital environments, this often manifests as cyberloafing, where employees shift attention from organizational goals to self-directed online activity. The sense of alienation created by ostracism reduces accountability and increases rationalization for behaviour that violates workplace expectations.

H1: Workplace ostracism has a significant positive effect on cyberloafing behaviour.

Role Ambiguity and Cyberloafing

Role ambiguity occurs when employees are uncertain about their job responsibilities, performance expectations, or reporting relationships. This uncertainty can lead to psychological strain and disengagement. According to TPB, role ambiguity undermines perceived behavioural control, making employees feel less capable of fulfilling their duties, which may increase the likelihood of deviant coping strategies such as cyberloafing.

Studies have found positive associations between role ambiguity and withdrawal behaviours, including procrastination and disengagement. In digitally connected workplaces, this often takes the form of private browsing or excessive use of social media during work hours. Employees uncertain about their roles may rationalize these actions as a way to escape confusion or mental overload.

H2: Role ambiguity has a significant positive effect on cyberloafing behaviour.

Role Conflict and Cyberloafing

Role conflict arises when employees face incompatible expectations from multiple supervisors or tasks, leading to tension and job dissatisfaction. In TPB terms, role conflict negatively impacts workplace attitudes and perceived ability to meet demands, thereby increasing the intention to disengage. Cyberloafing, in this context, becomes an avoidance mechanism or a form of passive resistance.

Prior research links role conflict to various forms of counterproductive work behaviour, including cyberloafing. Conflicted employees may justify their online distractions as necessary relief from clashing demands, contributing to reduced productivity and increased digital deviance.

H3: Role conflict has a significant positive effect on cyberloafing behaviour.

Role Overload and Cyberloafing

Role overload reflects a perception that job demands exceed the time, energy, or resources available to meet them (Bakker & Demerouti, 2007). This perception leads to strain, exhaustion, and a reduced sense of control. Under TPB, this impairs perceived behavioural control, increasing the likelihood of withdrawal behaviours like cyberloafing as a coping mechanism.

However, the relationship between role overload and cyberloafing is complex. While some studies report a positive relationship (Koay et al., 2017), others suggest that extreme overload may actually suppress deviant behaviour due to fear of repercussions or lack of opportunity. In this study, although the statistical relationship was significant, the direction was slightly negative, suggesting that overloaded employees may suppress cyberloafing under certain organizational pressures.

H4: Role overload has a significant effect on cyberloafing behaviour.

METHODOLOGY

Research Design and Sample

This study employed a quantitative, cross-sectional survey design to examine the structural relationship between selected workplace stressors and cyberloafing behaviour. The target population comprised full time employees from various public and private sector organizations in Malaysia. A convenience sampling method was used to recruit participants who had at least six months of work experience and regular access to internet-connected devices at work.

A total of 242 valid responses were collected, which exceeded the minimum sample size recommended for Structural Equation Modelling (SEM), particularly when using models with fewer than five latent constructs (Hair et al., 2019). The sample included a diverse mix of job roles, organizational sectors, and demographic backgrounds. Informed consent was acquired from all participants prior to data collection.

Measures

The instrument consisted of validated constructs measuring four workplace stressors namely workplace ostracism, role ambiguity, role conflict, and role overload. Cyberloafing acts as the dependent variable. All items were measured using 10-point scale ranging from 1 (Strongly Disagree) to 10 (Strongly Agree). Workplace ostracism was measured using 4 items adapted from Ferris et al. (2008). Role ambiguity, role conflict, and role overload were measured using items adapted from (Rizzo et al., 1970). The final model retained 5 items for role ambiguity, 6 for role conflict, and 8 for role overload based on earlier factor validation. Cyberloafing was measured using 6 items adapted from, capturing behaviours such as personal browsing, social media use, and non-work-related messaging during work hours. All construct had previously been validated through exploratory and confirmatory factor analysis in earlier phases of this research.

Measurement Model Validation

To ensure the reliability and validity of the measurement instruments, both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted in the preliminary phase of this study. These analyses helped refine the constructs and confirm the dimensionality of the latent variables used in the structural model.

Exploratory Factor Analysis (EFA) was conducted using SPSS to identify the underlying factor structure of the observed variables. The Kaiser-Meyer-Olkin (KMO) test yielded a value exceeding 0.50, indicating sufficient sampling adequacy. Bartlett's Test of Sphericity was significant at $p < 0.05$, confirming that correlations among items were sufficiently large for factor analysis. Items with factor loadings less than 0.40 and communalities

below 0.30 were excluded to ensure construct validity. All retained factors had eigenvalues greater than 1.0 and contributed at least 3% to the total variance explained, satisfying the recommended thresholds (Hair et al., 2019).

Confirmatory Factor Analysis (EFA) was subsequently performed using AMOS 26.0 to validate the measurement model. Factor loadings for all items exceeded the 0.60 threshold, indicating strong indicator reliability. The constructs also demonstrated convergent validity based on factor loadings and model fit indices. Further tests for discriminant validity and composite reliability were consistent with recommended thresholds, although full numerical indicators (e.g. AVE, CR) were reported in the prior phases of this research.

The validity and reliability outcomes from both EFA and CFA provided confidence that the retained measurement items were statistically sound and theoretically meaningful. These validated constructs formed the foundation of the final structural model used in this study, ensuring that the results accurately reflect the underlying dimensions of workplace stressors and cyberloafing.

Data Analysis and Structural Equation Modelling

Data were analysed using Structural Equation Modelling (SEM) with AMOS version 26.0. Prior to model estimation, the data were screened for missing values, normality, and outliers. The analysis followed a two-step approach as recommended by Hair et al. (2019), which is assessment of the measurement model via CFA and evaluation of the structural model to test hypothesized relationships. Model fit was evaluated using multiple indices, all of which fell within acceptable thresholds (see Table 1), indicating that the structural model demonstrated a good fit to the data.

Table 1: Model Fit Indices for the Structural Model

Fit Index	Recommended Threshold
Chi-square/df (χ^2/df)	acceptable if < 3.0
Comparative Fit Index (CFI)	acceptable if ≥ 0.90
Tucker–Lewis Index (TLI)	acceptable if ≥ 0.90
Root Mean Square Error of Approximation (RMSEA)	acceptable if ≤ 0.08
Standardized Root Mean Square Residual (SRMR)	acceptable if ≤ 0.08

Source: (Hair et al., 2010, 2018, 2019; Khan et al., 2019; Sarstedt et al., 2017; Sarstet et al., 2016; Zainuddin Awang., 2015)

RESULTS

Structural Model Assessment

Following confirmation of the measurement model, the hypothesized structural model was tested using Structural Equation Modelling (SEM) in AMOS version 26.0. The model fit indices indicated that the structural model had acceptable to good fit, based on the following values: χ^2/df = 2.71, CFI = 0.912, TLI = 0.901, RMSEA = 0.067, and SRMR = 0.054. These results suggest that the proposed model adequately represents the observed data (see Table 1).

Hypothesis Testing

The standardized path coefficients, significance values, and hypothesis outcomes are presented in Table 2. The results indicate that all four workplace stressors had statistically significant effects on cyberloafing behaviour. Workplace ostracism showed a positive and significant effect (β = 0.126, p = 0.041), supporting H1. Role ambiguity also had a positive and significant effect (β = 0.080, p = 0.030), supporting H2. Role conflict was the strongest positive predictor (β = 0.330, p = 0.001), supporting H3. Role overload had a slightly negative but

significant effect (β = –0.014, p = 0.045), supporting H4. Together, these four predictors accounted for 43% of the variance in cyberloafing behaviour ($R^2 = 0.43$), indicating a moderate explanatory power of the model.

Table 2: Hypothesis Testing and Path Coefficients

Hypothesis	Path	Standardized β	p-value	Result
H1	Workplace Ostracism → Cyberloafing	0.126	0.041	Supported
H2	Role Ambiguity → Cyberloafing	0.080	0.030	Supported
H3	Role Conflict → Cyberloafing	0.330	0.001	Supported
H4	Role Overload → Cyberloafing	-0.014	0.045	Supported (Negative)

Source: Author's compilation

DISCUSSION

This study examined the structural relationships between four workplace stressors (workplace ostracism, role ambiguity, role conflict, and role overload) and cyberloafing, using the Theory of Planned Behaviour (TPB) as the theoretical framework. Drawing on validated constructs from prior exploratory and confirmatory factor analysis, the model was tested using Structural Equation Modelling (SEM) and demonstrated acceptable fit. The findings offer both theoretical and practical insights into how workplace conditions shape employee's digital deviance at work. As summarized in Table 3, all four hypotheses were supported, though the effect of role overload was contrary to theoretical expectations, indicating a negative but significant relationship.

Table 3: Summary of Hypotheses, Theoretical Expectations, and Findings

Hypothesis	Construct	Expected Direction	Observed Effect (β)	Significance (p)	Supported?	Interpretation
H1	Workplace Ostracism	Positive	0.126	0.041	Yes	Social exclusion increase disengagement via cyberloafing
H2	Role Ambiguity	Positive	0.080	0.030	Yes	Unclear roles reduce control, leading to cyberloafing
H3	Role Conflict	Positive	0.330	0.001	Yes	Conflicting demands strongly predict disengagement
H4	Role Overload	Positive	-0.014	0.045	Yes	Overload has a negative but significant effect

Source: Author's compilation

Notes: All hypotheses were statistically supported at $p < 0.05$. The negative effect of role overload suggests a suppressed or constrained form of cyberloafing when demands are excessive.

The results showed that all four stressors had statistically significant effects on cyberloafing behaviour, although with varying direction and strength. Consistent with prior research (Soh et al., 2022; Ferris et al., 2008), workplace ostracism had a positive relationship with cyberloafing. This supports the TPB perspective,

suggesting that social exclusion may negatively shape employee attitudes and perceived norms, thereby increasing their intention to disengage via online distractions.

Role ambiguity also had a positive effect, though weaker in magnitude. These findings align with TPB in that uncertainty over responsibilities can diminish perceived behavioural control, making disengagement more likely (Podsakoff et al., 2007). Employees who are unclear about what is expected from them may rationalize cyberloafing as an acceptable or uncontrollable response to a confusing work environment.

Among all predictors, role conflict emerged as the strongest contributor to cyberloafing. This is consistent with studies that link conflicting job demands to psychological strain and behavioural withdrawal (Mercado et al., 2017). When employees experience incompatible expectations, they may engage in digital distractions as a way to escape or mentally distance themselves from role pressures.

Interestingly, role overload showed a slightly negative but significant relationship with cyberloafing. This contrasts with some earlier findings (Koay et al., 2017) that reported a positive relationship. One possible explanation is that excessive workload may leave employees with limited opportunity or energy to conduct cyberloafing, or they may avoid such behaviour due to fear of repercussions. This suggests that role overload may act as a boundary condition where the intention to cyberloafing is overridden by time or performance pressure.

Overall, the findings support the applicability of TPB in explaining how organizational stressors influence behavioural intention and action. The results reinforce the need to examine workplace factors not only as stress variables but also as drivers of intentional deviance in the form of cyberloafing.

Practical Implication for Management Practice

The results of this study offer several practical insights for improving management practices in contemporary digital workplaces. The significant relationships between workplace stressors and cyberloafing behaviour indicate that organisations should proactively address issues related to job design, employee support, and work environment.

First, to mitigate the effects of role ambiguity and role conflict, organisations should implement clear and consistent role definitions. This can be achieved through comprehensive job descriptions, standardized onboarding process, and frequent communication of performance expectations. Reducing conflicting demands from multiple supervisors and ensuring that task responsibilities are well aligned with employee competencies can reduce psychological strain and disengagement.

In terms of organisational design, intervention such as structured feedback systems and performance evaluations can help identify emerging stressors before they evolve into behavioural issues like cyberloafing. Regular feedback loops allow employees to clarify misunderstandings and express workload concerns, which can be resolved through redesigning task flows or reallocating resources. Additionally, digital work environments should be designed with balanced workloads and accessible support mechanisms to avoid overwhelming employees and triggering withdrawal behaviours.

The finding that workplace ostracism significantly predicts cyberloafing also points to the need for organisations to prioritize social inclusion and employee well-being. Managers should foster a psychologically safe workplace where employees feel valued, connected, and recognised. Initiatives such as team-building activities, mental health awareness campaigns, employee assistance programs, and inclusive leadership training can improve interpersonal relationships and promote positive workplace culture. By creating a supportive environment and addressing stress at its source, organisations can reduce the likelihood of cyberloafing and enhance productivity and engagement.

Implications for Organisational Policies

The findings of this study suggest several important directions for organisational policy development, particularly in the areas of workplace design, digital behaviour governance, and employee well-being.

First, organisations should formalise policies that promote role clarity and responsibility alignment. These include establishing standard operating procedures (SOPs), updating job descriptions regularly, and creating mechanisms for role negotiation and conflict resolution. Such policies can help mitigate role ambiguity and role conflict by institutionalising clear expectations and communication channels.

Second, the observed impact of workplace ostracism on cyberloafing behaviour highlights the need for inclusive workplace policies. Organisations should implement anti-ostracism and anti-bullying policies that explicitly address social exclusion in both physical and digital environments. Additionally, grievance procedures and peer support frameworks should be clearly documented and accessible, encouraging employees to report exclusionary behaviours without fear of retaliation.

To manage cyberloafing constructively, digital usage policies should be revised to balance control and employee autonomy. Rather than imposing strict surveillance, organisations can adopt a transparent digital policy that defines acceptable personal use, educates employees on responsible online behaviour, and links internet use with broader performance and engagement goals. Digital behaviour guidelines should be embedded within broader organisational culture rather than enforced as punitive rules.

Finally, organisations are encouraged to integrate employee well-being objectives into HR policy frameworks. This includes formally supporting mental health, providing access to counselling or employee assistance programs, and conducting regular stress audits. Embedding well-being and inclusivity in policy not only reduces counterproductive behaviours like cyberloafing but also strengthens engagement and organisational trust.

CONCLUSION

This study investigated the structural relationships between four workplace stressors (workplace ostracism, role ambiguity, role conflict, and role overload) and cyberloafing behaviour among Malaysian employees, using Structural Equation Modelling (SEM) and guided by the Theory of Planned Behaviour (TPB). The findings confirmed that all four stressors had statistically significant effects on cyberloafing, although the direction and strength of these effects varied. While workplace ostracism, role ambiguity, and role conflict positively influence cyberloafing, role overload was found to have a small but significant negative effect, suggesting a more complex relationship in high-demand environments.

The validated measurement model and robust statistical indicators reinforce the theoretical contribution of this study by confirming the TPB's applicability in explaining digital deviance within organisational settings. These results extended TPB by demonstrating how workplace conditions shape employee perceptions and behavioural intentions, leading to disengaged online behaviour. The study contributes a validated structural model that explains 43% of the variance in cyberloafing, reinforcing the theoretical link between stressors and deviant digital actions in the workplace. This study proposes actionable strategies for improving organisational design through clearer job roles, consistent feedback structures, and inclusive cultures and highlights the importance of employee well-being in mitigating cyberloafing.

From a practical standpoint, the findings suggest that organizations should not only monitor internet use but also address the root causes of cyberloafing namely social exclusion, role confusion, and conflicting demands. Improving communication, clarifying expectations, and promoting inclusive work environments may reduce the likelihood of cyberloafing and enhance overall engagement.

Furthermore, the study offers concrete recommendations for organisational policy development. These include policies for role clarity, digital use guidelines, social inclusion, and mental health support. By integrating these insights into formal policy and practice, organisations can foster a more supportive and productive digital work environment.

Limitations include the use of a cross-sectional design, reliance of self-reported data, and a geographically limited sample. Future research should explore longitudinal effects, test mediation mechanisms (e.g., moral disengagement or job satisfaction), and apply the model in diverse cultural and industrial contexts.

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