

Understanding Cyberloafing: A Systematic Literature Review of Workplace Antecedents and Behavioural Theories

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ABSTRACT: Cyberloafing, defined as employer's use of the internet and digital technologies for personal purposes during work hours, has emerged as a significant organizational behaviour with implications for productivity, cybersecurity, and employee well-being. This systematic literature review consolidates findings from 20 empirical studies published between 2000 and 2024, offering an integrated understanding of the antecedents, behavioural theories, and moderators that explain cyberloafing in workplace settings. Drawing upon frameworks such as the Theory of Planned Behaviour, Neutralization Theory, and the Job Demands-Resources Model, this review identifies job-related stressors (e.g. role ambiguity, role conflict, workload, workplace ostracism), personal traits (e.g. self-control, attitudes), and organizational factors (e.g. policy enforcement, leadership style) as primary predictors of cyberloafing behaviour. Additionally, cognitive mechanisms such as moral disengagement and the Metaphor of the Ledger, along with contextual variables like job satisfaction and mindfulness, are highlighted as key moderators. The findings reveal both detrimental and adaptive dimensions of cyberloafing, with some studies emphasizing its role in stress coping and psychological recovery. Notably, research gaps persist in cross-cultural comparisons, longitudinal designs, and the measurement of cyberloafing in hybrid and remote work contexts. This review attributes to the evolving discourse on managing cyberloafing, offering recommendations for future research, and practical interventions that balance organizational control with employee autonomy in the digital workplace.

KEYWORDS: Systematic Literature Review, Cyberloafing, Workplace Deviance, Neutralization Theory, Theory of Planned Behaviour, Malaysia

I. INTRODUCTION

The rapid proliferation of internet technologies and digital devices in modern workplaces has transformed organizational communication, information access, and work processes. However, alongside these benefits, a growing concern has emerged over employee's use of internet resources for personal, non-work-related purposes during paid working hours. This phenomenon is widely known as cyberloafing (Askew et al., 2014; Lim, 2002). Defined as the engagement in electronically mediated activities at work that are not job-related, cyberloafing encompasses behaviours such as browsing social media, online shopping, streaming entertainment, and personal emailing during office hours (Mercado et al., 2017a; Varghese & Barber, 2017).

Cyberloafing has attracted significant scholarly attention over the past two decades due to its dual impact on organizations. On one hand, it is often classified as a form of counterproductive work behaviour (CWB), associated with productivity loss, increased cybersecurity risks, and workplace deviance (Hadlington & Parsons, 2017; Henle & Blanchard, 2008). On the other hand, emerging studies suggest that moderate cyberloafing may serve adaptive functions, such as stress relief, psychological detachment, and restoration of mental energy, thereby supporting employee well-being and work engagement (Koay & Soh, 2018; Lim & Chen, 2012). This dualistic nature has led to ongoing debates on whether cyberloafing should be strictly curtailed or managed more flexibly as part of contemporary workplace practices.

Several theoretical frameworks have been employed to explain cyberloafing behaviour, including the Theory of Planned Behaviour (TPB), which highlights the role of attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991), and Neutralization Theory, which emphasizes cognitive rationalizations used by employees to justify deviant acts (Sykes & Matza, 1957). Additionally, the Job Demands-Resources (JD-R) model has been applied to understand how workplace stressors and resource imbalances trigger coping behaviours such as cyberloafing (Bakker & Demerouti, 2007).

Despite the expanding body of research, gaps remain in understanding the antecedents and mechanisms driving cyberloafing. Prior studies have identified personal traits (e.g. self-control, personality) job related stressors (e.g. role ambiguity, role conflict, workplace ostracism), and organizational factors (e.g. internet policies, monitoring) as key predictors (Koay et al., 2017; Mercado

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et al., 2017a). However, inconsistent findings, particularly across cultural and demographic contexts, underscore the need for a comprehensive synthesis.

The purpose of this systematic literature review is to consolidate and critically examine existing studies on cyberloafing, with particular attention to workplace antecedents and behavioural theories. By mapping the antecedents, moderators, and outcomes reported in the literature, this review aims to clarify conceptual ambiguities, highlight research gaps, and propose directions for future investigation. In doing so, it contributes to the broader discourse on managing employee behaviour in digitally connected workplaces while balancing organizational productivity and employee autonomy.

II. METHODOLOGY

This review adopts a systematic literature review (SLR) approach to synthesize existing research on cyberloafing, with a particular focus on workplace antecedents and behavioural theories. The SLR method was chosen for its structured and transparent process, enabling comprehensive coverage and minimizing bias (Tranfield et al., 2003). The review follows standard guidelines including the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework.

A. Search Strategy

A comprehensive search was conducted across multiple academic databases to identify relevant literature. The databases included Scopus, Web of Science, ScienceDirect, Emerald Insight, and Google Scholar. The search covered articles published between 2000 and 2025, reflecting the period when cyberloafing emerged as a topic of academic interest.

The following keywords and Boolean operators were used:

- ("cyberloafing" OR "cyberslacking" OR "internet loafing" OR "non-work internet use") AND ("workplace" OR "employee" OR "organizational behaviour")
- ("cyberloafing" OR "counterproductive work behaviour") AND ("antecedents" OR "stressors" OR "moderators" OR "theory")

Additionally, reference list of key articles was manually screened to capture studies not indexed in the selected databases.

B. Inclusion and Exclusion Criteria

To ensure the relevance and quality of the selected literature, specific inclusion and exclusion criteria were established for this review. Studies were included if they met the following conditions: they were published in peer-reviewed journals, written in English, and focused on the phenomenon of cyberloafing within workplace settings. Both empirical studies (quantitative, qualitative, and mixed methods) and theoretical papers that examined cyberloafing, its antecedents, moderators, or outcomes were considered. To capture the development of this research area, the publication period was limited to studies between 2000 and 2025, reflecting the emergence and evolution of cyberloafing as a recognized organizational behaviour.

Conversely, studies were excluded if they did not align with the scope of workplace behaviour. Specifically, conference proceedings, book chapters, editorials, commentaries, and dissertations were excluded to maintain the peer-reviewed standard. Additionally, studies that focused exclusively on student populations, such as internet use among university students, were omitted unless their findings were explicitly linked to workplace cyberloafing. Articles that lacked empirical data or theoretical grounding, such as opinion pieces or general discussions without a clear analytical framework, were also excluded from this review. By applying these criteria, the review ensured that only rigorous, workplace-relevant studies formed the basis of the analysis.

C. Study Selection

The initial search yielded 170 articles. After removing duplicates and screening titles and abstracts, 50 articles remained. Full-text screening based on the inclusion and exclusion criteria resulted in a final sample of 20 articles for detailed analysis. A PRISMA flow diagram (Figure 1) summarizes the article selection process.

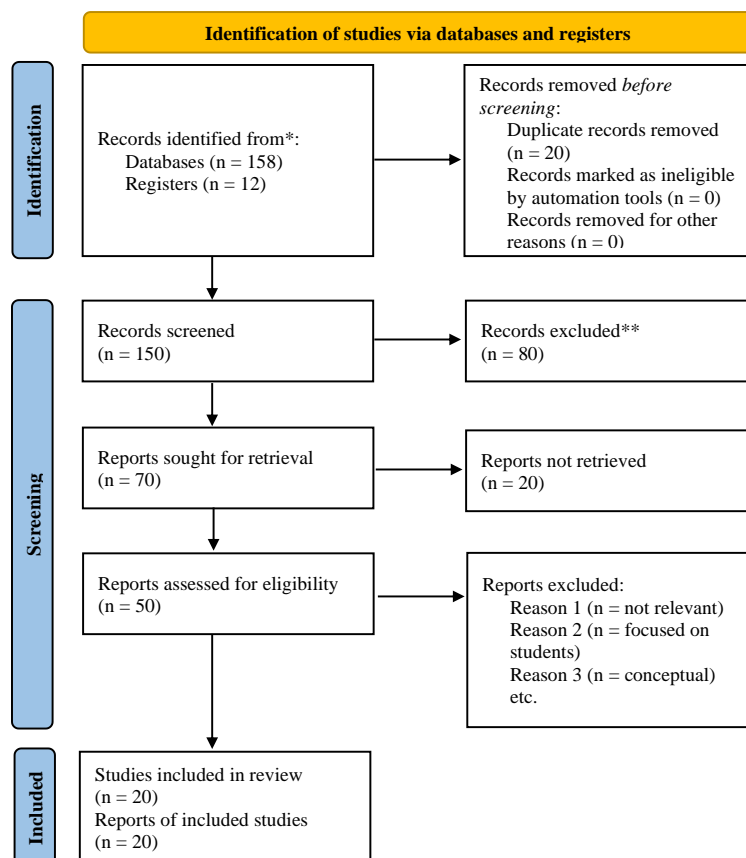


Figure 1: PRISMA Flow Diagram Showing the Selection Process for Studies Included in the Systematic Review

D. Data Extraction and Analysis

For each study selected through the screening process, relevant data were systematically extracted to facilitate thematic analysis. Key information recorded included the author(s) and year of publication, the research context such as the country, sample size, and industry, and the theoretical framework employed, including models like the Theory of Planned Behaviour (TPB), Neutralization Theory, and the Job Demands-Resources (JD-R) Model. Particular attention was given to identifying the specific antecedents, moderators, and outcomes of cyberloafing behaviour that were examined in each study, as well as the key findings and conclusions drawn by the researchers.

Following data extraction, the studies were analysed thematically to identify recurring patterns and conceptual groupings. Antecedents of cyberloafing were categorised into personal factors, such as personality traits and self-control; job-related stressors, including role ambiguity, role conflict, role overload, and workplace ostracism; and organizational variables, such as policy enforcement and internet monitoring practices. Moderators and mediators, including cognitive mechanisms like the Metaphor of the Ledger (MoTL), were also identified and grouped. Narrative synthesis was employed to critically compare and contrast the studies, highlight areas of consensus and divergence, and uncover gaps in the existing literature. This structured approach enabled a comprehensive and coherent synthesis of the cyberloafing research landscape.

III. FINDINGS AND THEMATIC SYNTHESIS

This section synthesizes the findings from the reviewed literature, organizing them into five key themes; theoretical foundations, antecedents of cyberloafing, moderators and mediators, positive and negative aspects, demographic, and cultural factors. Together, these themes provide a comprehensive understanding of the drivers and dynamics of cyberloafing behaviour in workplace settings. Table I summarizes the 20 empirical studies included in this review, detailing their research context, theoretical framework, antecedents, moderators or mediators, and key findings related to cyberloafing behaviour in workplace settings. The table provides an overview of the diversity of research designs, geographical coverage, and conceptual approaches employed across the studies.

Table I: Summary of Empirical Studies Reviewed on Cyberloafing (2000-2024)

Author(s), Year	Country	Sample	Theory / Framework	Antecedents	Moderators / Mediators	Key Findings
(Lim, 2002)	Singapore	250 employees	Neutralization Theory	Organizational justice	Neutralization techniques	Neutralization mediates cyberloafing behaviour
(Koay et al., 2017)	Malaysia	423 employees	JD-R Model	Job stressors	Job stress	Stress leads to cyberloafing via job stress
(Koay & Soh, 2018)	Malaysia	401 employees	TPB, JD-R Model	Job stressors	Mindfulness	Mindfulness buffers cyberloafing
(Arshad et al., 2016)	Malaysia	277 academicians	JD-R Model	Role ambiguity, role conflict, role overload	Internet monitoring	Stressors predict cyberloafing
(Akbulut et al., 2016)	Turkey	339 employees	TPB	Personal attitudes	Social desirability bias	Cyberloafing linked to attitudes and bias
(Henle & Blanchard, 2008)	USA	339 employees	Work stress and sanction framework	Work stressors	Organizational sanctions	Sanctions reduce cyberloafing
(Mercado et al., 2017)	USA	355 employees	Personality frameworks	Self-control, emotional stability	Engagement levels	Low self-control predicts cyberloafing
(Jamaluddin et al., 2015)	Malaysia	150 employees	N/A	Policy enforcement	Smartphone use	Cyberloafing circumvents policy using phones
(Lieberman et al., 2011)	USA	299 employees	Job attitudes framework	Job involvement, intrinsic motivation	Organizational characteristics	Low job involvement leads to cyberloafing
(Hadlington & Parsons, 2017)	UK	406 employees	CWB & security framework	Cyberloafing frequency	Security awareness	Poor cybersecurity leads to cyberloafing
(Pindek et al., 2018)	USA	368 employees	Boredom and stress framework	Boredom	N/A	Boredom is a key trigger for cyberloafing
(Ahmad & Omar, 2017)	Malaysia	250 public sector employees	Self-control theory	Self-control	N/A	Low self-control predicts cyberloafing
(Ferris et al., 2008)	USA	2672 employees	Workplace ostracism	Ostracism	N/A	Ostracism predicts disengagement behaviours
(Klockars, 1972)	USA	Theoretical paper	Metaphor of the Ledger (MoTL)	Past contributions (ledger)	Moral justification	Employees rationalize deviance via ledger metaphor
(Korzynski & Protsiuk, 2024)	Poland	217 employees	JD-R Model	Workload, self-efficacy, time management	Job satisfaction	Job satisfaction mediates workload and cyberloafing

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(Chandak et al., 2022)	India	172 employees	N/A	Cyberloafing activities	N/A	Cyberloafing positively impacts recovery and learning
(Zou, 2024)	China	350 employees	Self Determination Theory	Empowerment leadership	Psychological needs, power distance	Empowerment leadership reduces cyberloafing via need satisfaction
(Koay et al., 2022)	Malaysia	301 ICT employees	TPB	Perceived consequences, affect, social factors	Habit, facilitating conditions	Intention and habit predict cyberloafing behaviour
(Lee et al., 2023)	UK	206 employees	TPB, GDT	Psychological contract breach	Intrinsic / extrinsic motivation	PCB reduces ISP compliance via intrinsic motivation
(Chan et al., 2024)	Malaysia	318 employees	Uses and Gratification Theory	Cyberloafing activities	Social media addiction	Ostracism leads to cyberloafing via moral disengagement

Source: Author's construct

Based on the reviewed studies presented in Table I, five key thematic categories were identified. Theoretical foundations, antecedents, moderators or mediators, positive versus negative aspects, demographic, and cultural factors were the key thematic categories and are discussed in the following subsections.

A. Theoretical Foundations

Cyberloafing research is underpinned by several behavioural theories that explain employee's engagement in non-work-related internet use. The Theory of Planned Behaviour (TPB) is among the most widely applied, positing that attitudes, subjective norms, and perceived behavioural control influence intentions and behaviours (Ajzen, 1991). Studies employing TPB have demonstrated that favourable attitudes towards cyberloafing and perceived social acceptance within the workplace predict higher engagement in such behaviour (Koay & Soh, 2018).

Neutralization Theory offers another explanatory lens, focusing on cognitive justifications that employees use to rationalize deviant acts. Techniques such as denial of harm, appeal to higher loyalties, and the Metaphor of The Ledger (MoTL) have been identified as mechanisms through which individuals neutralize guilt associated with cyberloafing (Hollinger, 1991; Lim, 2002). Additionally, the Job Demands-Resources (JD-R) Model has been applied to highlight how workplace stressors and lack of resources may trigger cyberloafing as a coping strategy (Bakker & Demerouti, 2007).

B. Antecedents of Cyberloafing

A broad range of antecedents to cyberloafing behaviour has been identified in the literature, falling into personal, job-related, and organizational categories. Personal factors include personality traits such as low self-control, emotional instability, and dark triad characteristics (Lowe-Calverley & Grieve, 2017; Mercado et al., 2017a). These traits are associated with higher tendencies towards counterproductive work behaviours, including cyberloafing.

Job related stressors have also emerged as significant predictors. Workplace ostracism, defined as the perception of being ignored or excluded, has been linked to increased cyberloafing as employees disengage from organizational norms (Ferris et al., 2008). Similarly, role ambiguity, role conflict, and role overload have been consistently associated with higher cyberloafing, suggesting that when job expectations are unclear, conflicting, or excessive, employees may turn to internet use as a form of psychological escape (Arshad et al., 2016; Koay et al., 2017).

At the organizational level, factors such as the presence or absence of internet use policies, monitoring practices, and overall workplace culture have been shown to influence cyberloafing. Weak enforcement of internet policies and permissive environments tend to encourage higher rates of personal internet use during work hours (Henle & Blanchard, 2008; Jamaluddin et al., 2015).

C. Moderators and Mediators

The relationship between antecedents and cyberloafing is often moderated or mediated by psychological and organizational factors. The Metaphor of the Ledger (MoTL) has been identified as a key cognitive moderator, wherein employees justify deviant behaviours by referencing their past positive contributions to the organization (Hollinger, 1991; Klockars, 1972). Studies have found that MoTL can either amplify or attenuate the impact of workplace stressors on cyberloafing, depending on the context (Lim & Chen, 2012).

Organizational policies and monitoring systems also function as moderating variables. Environments with explicit, consistently enforced rules tend to experience lower rates of cyberloafing, while ambiguous or lax enforcement encourages such behaviour (Hadlington & Parsons, 2017). Moreover, job autonomy and control over work schedules have been identified as mediators that can either suppress or facilitate cyberloafing, depending on how employees exercise their discretion (Arshad et al., 2016).

D. Positive and Negative Aspects of Cyberloafing

Cyberloafing has traditionally been viewed as counterproductive work behaviour with negative consequences for organizational productivity and cybersecurity (Hadlington & Parsons, 2017; Henle & Blanchard, 2008). Excessive internet use during work hours has been linked to reduced task performance, lower job commitment, and increased vulnerability to information security breaches.

However, recent research has highlighted potential positive aspects of cyberloafing. Moderate engagement in personal internet use has been found to serve as a coping mechanism for stress, helping employees manage job demands and maintain focus (Koay & Soh, 2018; Lim & Chen, 2012). Cyberloafing has also been associated with enhanced digital literacy, creative thinking, and social connectedness among employees (Page, 2015; Wu et al., 2019). These findings suggest that cyberloafing operates along a continuum, with both detrimental and adaptive outcomes depending on frequency and context.

E. Demographic and Cultural Factors

Demographic variables such as gender and age have shown inconsistent associations with cyberloafing behaviour. While some studies report that male employees are more prone to cyberloafing, particularly in online gaming and shopping activities (Ahmad & Omar, 2017b; Akbulut et al., 2017), others find no significant gender differences (Mercado et al., 2017a). Similarly, age has not consistently emerged as a predictor, with some evidence suggesting that younger employees are more engaged in cyberloafing due to greater digital familiarity (Jamaluddin et al., 2015).

Cultural context has also been highlighted as an important factor shaping cyberloafing patterns. Studies conducted in Western settings often emphasize individual autonomy and self-regulation, while research in Asian contexts, including Malaysia, points to collectivist values and social norms as influential drivers (Koay et al., 2017). Despite the growing body of literature, there remains a scarcity of cross-cultural comparative studies that systematically examine how national culture moderates cyberloafing behaviour.

IV. DISCUSSION

The synthesis of existing literature on cyberloafing reveals a complex and evolving phenomenon that transcends simple categorizations of workplace deviance. While early studies predominantly framed cyberloafing as counterproductive work behaviour that undermines organizational productivity and security (Hadlington & Parsons, 2017; Henle & Blanchard, 2008), more recent research has adopted a nuanced perspective that recognizes its potential adaptive functions (Koay, 2018; Lim & Chen, 2012). This duality reflects broader debates in organizational behaviour regarding the boundaries between necessary recovery activities and detrimental work disengagement.

One notable pattern emerging from the literature is the central role of job-related stressors such as role ambiguity, role conflict, role overload, and workplace ostracism as key antecedents of cyberloafing. These findings align with the Job Demands-Resource (JD-R) model, which posits that employees facing high demands and inadequate resources are more likely to engage in coping behaviours, including cyberloafing (Bakker & Demerouti, 2007). However, while the antecedent role of job stressors is well supported, inconsistencies arise in relation to personal and demographic predictors. For example, while some studies report significant gender differences (Ahmad & Omar, 2017b; Akbulut et al., 2016), others fail to find consistent associations (Mercado et al., 2017a). These discrepancies highlight the need for further investigation into the moderating effects of cultural norms, industry context, and technological access.

A particularly underexplored dimension is the cognitive mechanisms that justify cyberloafing behaviour. The application of Neutralization Theory, and specifically the Metaphor of the Ledger (MoTL), offers promising explanatory power but remains limited to a handful of studies (Hollinger, 1991; Lim, 2002). The dual moderating role of MoTL, whereby it can either amplify or attenuate the impact of workplace stressors on cyberloafing suggests that employee's moral rationalizations are central to understanding when and why cyberloafing occurs. Yet, empirical research testing these cognitive models remains scarce, particularly in non-Western contexts.

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Furthermore, the review reveals a geographical concentration of studies in Western and East Asian settings, with comparatively limited research conducted in developing countries such as Malaysia and other ASEAN nations. Given the distinct cultural, economic, and technological environments in these regions, there is a pressing need for cross-cultural comparative studies to assess the generalizability of existing findings. Additionally, much of the existing research relies on cross-sectional survey designs, limiting the ability to infer causality or examine dynamic changes in cyberloafing behaviour over time. Longitudinal and experimental designs would enrich the field by capturing the temporal and situational variability of cyberloafing.

Emerging trends in workplace digitalization, such as hybrid work models, bring further complexity to the cyberloafing discourse. As employees increasingly blur the lines between personal and professional internet use in flexible work arrangements, the definition and measurement of cyberloafing may require re-examination. Existing scales, many of which were developed prior to the widespread adoption of mobile technologies and remote work, may no longer fully capture the multifaceted nature of contemporary cyberloafing.

In sum, while significant progress has been made in understanding cyberloafing's antecedents and theoretical underpinnings, substantial gaps remain. Future research must address these gaps by expanding cultural scope, incorporating longitudinal designs, and refining conceptual frameworks to account for evolving digital work environments. Such efforts will be essential in advancing both theoretical understanding and practical interventions for managing cyberloafing in modern organizations.

V. FUTURE RESEARCH DIRECTIONS

Based on the synthesis and critical analysis of existing literature, several key avenues for future research on cyberloafing are proposed. Addressing these gaps will advance theoretical understanding and support more effective organizational interventions.

A. Expand Cross-Cultural Comparative Studies

Existing research on cyberloafing is predominantly concentrated in Western and East Asian contexts, with limited representation from developing economies such as Malaysia, Indonesia and the broader ASEAN region. Future studies should conduct cross-cultural comparisons to examine how national culture, societal norms, and technological infrastructure shape cyberloafing behaviour. Such studies will help establish the generalizability of existing theories and identify culturally specific predictors and outcomes.

B. Employ Longitudinal and Experimental Designs

Much of the current evidence is derived from cross-sectional survey designs, which limit causal inference and fail to capture the dynamic nature of cyberloafing. Longitudinal research is needed to explore how cyberloafing behaviour evolves over time in response to changing job demands, organizational policies, and technological developments. Additionally, experimental and quasi-experimental studies can help test the effectiveness of interventions, such as internet use policies and stress management programs, in mitigating cyberloafing.

C. Integrate Cognitive and Moral Mechanisms

While Neutralization Theory and the Metaphor of the Ledger (MoTL) offer valuable insights into the cognitive rationalizations behind cyberloafing, empirical research in this area remains scarce. Future studies should develop and test integrative models that combine job stressor, personal traits, and cognitive justifications to provide a more comprehensive understanding of cyberloafing behaviour. Incorporating psychological constructs such as moral disengagement and self-regulation may further enrich theoretical models.

D. Update Measurement Scales for Digital Work Environments

Many existing cyberloafing scales were developed prior to the widespread adoption of smartphones, social media, and hybrid work arrangements. Researchers should revisit and update measurement instruments to capture contemporary forms of cyberloafing, including mobile device use, social media engagement, and cyberloafing in remote or flexible work settings. Refining measurement tools will improve the accuracy and relevance of future studies.

E. Examine Cyberloafing in Hybrid and Remote Work Contexts

The shift towards hybrid and remote work models, accelerated by global events such as the COVID-19 pandemic, has blurred the boundaries between work and personal internet use. Future research should explore how cyberloafing manifests in these new work arrangements and whether traditional antecedents and moderators retain their explanatory power. Investigating the role of digital monitoring, virtual team norms, and work-life boundary management in shaping cyberloafing will be particularly valuable.

VI. CONCLUSION

This systematic literature review has synthesized two decades of research on cyberloafing, offering a comprehensive examination of its workplace antecedents, behavioural theories, and evolving dynamics. The findings highlight cyberloafing as a complex phenomenon that operates along a continuum, encompassing both counterproductive and adaptive dimensions. While early studies

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largely framed cyberloafing as a form of workplace deviance detrimental to organizational productivity and security, more recent scholar acknowledges its potential role as a coping mechanism that supports employee well-being and resilience.

The review identified key antecedents of cyberloafing, including job-related stressors such as role ambiguity, role conflict, role overload, and workplace ostracism, as well as personal traits and organizational factors. Theoretical frameworks such as the Theory of Planned Behaviour, Neutralization Theory, and the Job Demands-Resources Model have provided valuable insights, yet gaps remain in fully capturing the cognitive and contextual mechanisms that drive this behaviour.

Notably, the existing literature is limited by geographical concentration, reliance on cross-sectional designs, and outdated measurement tools that may not fully reflect the realities of digitalized and hybrid workplaces. Addressing these gaps through cross-cultural, longitudinal, and experimental research will be critical for advancing understanding and informing effective organizational strategies.

By consolidating and critically analysing the current state of knowledge, this review contributes to the growing discourse on managing cyberloafing in contemporary organizations. It offers a foundation for future research and practical interventions that balance the need for productivity with recognition of employees' psychological needs in an increasingly connected work environment.

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