Artículos de revisión
Review articles

Cyberloafing: A mapping of recent literature

Ciberpereza: un mapeo de la literatura reciente

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Received: April 25, 2024 – Accepted: July 31, 2024 – **Published:** January 15, 2026

APA citation format:
Morales, S., & Morales, O. (2025). Cyberloafing: A mapping of recent literature. *Revista Colombiana de Ciencias Sociales*, *17*(1), 162-191. https://doi.org/10.21501/22161201.4953

Abstract

At the beginning of the century, cyberloafing was defined as the personal use of the Internet during working hours. For two decades, various studies examined its causes and effects. However, in recent years, scholarly interest in this phenomenon has increased markedly. In order to understand its development, this article maps the literature (62 articles) published over the last three and a half years (2021–2024). The main finding is the identification of seven thematic axes: (1) definition and conceptualization, (2) factors and antecedents, (3) effects and consequences, (4) theories, methods, and techniques, (5) fields of study, (6) findings, limitations, and recommendations, and (7) theoretical and practical implications. Unlike previous reviews, this study delves into underexplored topics and underscores the importance of examining one of the most challenging organizational phenomena of recent years.

Keywords

Internet; Work stress; Work; Organization; Occupational psychology; ICT; Mobile phone.

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DOI: https://doi.org/10.21501/22161201.4953

Resumen

A inicio de siglo, la ciberpereza se definió como el uso personal de Internet en horario laboral. Durante dos décadas, diversas investigaciones analizaron sus causas y efectos. No obstante, en los últimos años, su estudio aumentó notablemente. Con el objetivo de comprender su desarrollo, este artículo mapea la literatura (62 artículos) publicada en los últimos tres años y medio (2021-2024). El principal hallazgo es la existencia de siete ejes temáticos: (1) definición y conceptualización, (2) factores y antecedentes, (3) efectos y consecuencias, (4) teorías, métodos y técnicas, (5) campos de estudio, (6) hallazgos, limitaciones y recomendaciones e (7) implicancias teóricas y prácticas. A diferencia de revisiones previas, esta profundiza en tópicos poco atendidos y destaca la importancia de estudiar uno de los fenómenos organizacionales más difíciles de los últimos años.

Palabras clave

Internet; Estrés laboral; Trabajo; Organización; Psicología ocupacional; TIC; Teléfono móvil.

DOI: https://doi.org/10.21501/22161201.4953

Introduction

The Internet is essential to the functioning of any organization. Although its use has produced mostly positive outcomes, some effects have been negative. Perhaps the most emblematic of these is cyberloafing. At the beginning of the century, cyberloafing was defined as the personal use of the Internet during working hours. At a time when Internet access was not widespread, this phenomenon was marginal. However, with the mass adoption of information and communication technologies (ICT), the Internet has become indispensable in companies, schools, and universities, turning into a "double-edged sword" (Sarfraz et al., 2024).

For two decades, numerous studies have examined cyberloafing, identifying it as a growing trend. This body of literature not only explores its conceptualization, but also its causes and effects. Despite being a relatively recent phenomenon—particularly following the health crisis caused by COVID-19—extensive scientific literature has investigated its links to multiple psychological and organizational factors using diverse theoretical frameworks and methodological approaches. Such plurality is synthesized in several reviews that have been published to date.

Numerous studies show that cyberloafing is a phenomenon linked to multiple factors and capable of producing different outcomes depending on the context in which it occurs. In an era marked by the increasing presence of the Internet, the widespread use of smartphones, and the expansion of artificial intelligence, cyberloafing demands greater scholarly attention. A simple search in Mendeley shows that research on cyberloafing has increased substantially after 2020, the year in which the pandemic began. Given that recent studies and reviews continue to cite literature from previous years, updating the state of the art is essential.

Method

This article maps the literature on cyberloafing from the last three years (2021–2024) and identifies seven thematic axes: (1) definition and conceptualization, (2) factors and antecedents, (3) effects and consequences, (4) theories, methods, and techniques, (5) fields of study, (6) findings, limitations, and recommendations, and (7) theoretical and practical implications. The search was conducted in Mendeley using the term *cyberloafing*, yielding a total of 62 studies (some published prior to 2021, which are not counted in the total, were included to provide better contextualization). Preference was given to articles published in high-impact journals. Although this paper does not constitute a systematic review, it does offer an in-depth examination of topics that have received limited attention in prior research.

DOI: https://doi.org/10.21501/22161201.4953

Cyberloafing

Definition and Conceptualization

In the 1990s, Kamins (1995) coined the term *cyberloafing* to refer to the personal use of the Internet during working hours. However, it was Lim (2002) who formulated its first definition: explains cyberloafing as "the act of employees using their companies' Internet access for personal purposes during work hours" (p. 675). Using a two-factor measure (web browsing and email use), Lim (2002) proposed that cyberloafing emerges and becomes legitimized when employees perceive unfair treatment. Based on this definition, Blau et al. (2004) employed a three-factor measure (web browsing, email use, and interaction) and concluded that employees who perceived unfair treatment engaged in higher levels of cyberloafing.

Lim's (2002) definition is the most frequently cited in recent studies (Alyahya & Alqahtani, 2022; Chavan et al., 2022; Çolak & Çetin, 2021; Fahad & Kistyanto, 2021; Giordano & Mercado, 2023; Güngör & Ustabulut, 2024; Hu et al., 2023; Kamila & Muafi, 2023; Korzynski & Protsiuk, 2024; Liang et al., 2022; Lu et al., 2024; Metin-Orta & Demirtepe Saygılı, 2023; Metin-Orta & Demirutku, 2022; Nweke et al., 2024; Ohana et al., 2024; Peng et al., 2023; Reizer et al., 2022; Sarfraz et al., 2024; Sijabat, 2021; Song et al., 2021; Toker & Baturay, 2021; Tsai, 2023; Usman et al., 2021; Wu et al., 2021b; Zhang et al., 2022; Zhong et al., 2022; Zhu & Zhao, 2024).

Another influential definition is that of Blanchard and Henle (2008): "cyberloafing is the personal use of email and the Internet at work" (p. 1067). This definition is also cited in recent studies (Kamila & Muafi, 2023; Metin-Orta & Demirtepe Saygılı, 2023; Metin-Orta & Demirutku, 2022; Reizer et al., 2022; Toker & Baturay, 2021; Zhou et al., 2022). As research progressed, cyberloafing became known by other terms, such as *cyberslacking*, *online loafing*, *cyberbludging*, *non-work-related computing*, *personal web usage at work*, *internet abuse*, or *internet addiction* (Alyahya & Alqahtani, 2022; Kim & Byrne, 2011; Ozler & Polat, 2012; Tandon et al., 2022).

Cyberloafing is a complex and multifaceted phenomenon (Andel et al., 2019; Blanchard & Henle, 2008), which explains why theory has produced conflicting results. Initially, it was treated as a form of deviant workplace behavior (Lim, 2002). Although this label was later shown to be inadequate, cyberloafing continues to be viewed negatively due to its harmful effects (Aqagoli et al., 2024; Korzynski & Protsiuk, 2024; Mazidi et al., 2020; Zappalà et al., 2022). It has been described as "the most common method by which employees waste their working hours" (Çolak & Çetin, 2021, p. 18).

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A central issue concerns cyberloafing behaviors and their typologies. On the one hand, such behaviors do not only refer to browsing, sending emails, or interacting via social media or messaging platforms, but also include chatting, reading news, gambling, shopping, accessing adult websites, joining forums, job searching, downloading music, blogging, sharing multimedia content, or watching videos (Chavan et al., 2022; Mazidi et al., 2020; Metin-Orta & Demirutku, 2022; Sao et al., 2020). Because cyberloafing encompasses a wide range of behaviors, the literature reveals a certain degree of conceptual confusion (Kim & Byrne, 2011).

On the other hand, in order to organize such a wide range of behaviors, several typologies have been proposed. The most widely known is that of Blanchard and Henle (2008), who argued that cyberloafing manifests in two forms: *minor* (sending and receiving emails) and *serious* (gambling, downloading music, or visiting adult websites). This classification depends on the specific behavior analyzed, as not all actions are considered inappropriate. In fact, some forms of minor cyberloafing reduce stress, help balance work and family domains, or stimulate the generation of new ideas (Blanchard & Henle, 2008).

Establishing dimensions also contributes to its conceptualization. For some scholars, cyberloafing consists of four types of actions—social (sharing information), informational (searching for information), leisure-related (playing games or downloading music), and emotional (online shopping)—and four types of behaviors: developmental, recovery, diversion, and addiction (Van Doorn, 2011). This analytical approach has been adopted in several studies (Krishna & Agrawal, 2023). For these reasons, cyberloafing is considered a multidimensional phenomenon (Krishna & Agrawal, 2023; Van Doorn, 2011; Zhong et al., 2022).

Factors and Antecedents

The literature offers several ways of organizing the factors and antecedents of cyberloafing: individual, interpersonal, and environmental (Lim & Teo, 2024a); personal, individual, demographic, work-related, and situational (Zhang et al., 2022); or individual and organizational (Liang et al., 2022). Among the former are psychological factors related to the individual, such as commitment and self-control (Mercado et al., 2017) or mental health (Demirtepe-Saygılı & Metin-Orta, 2020), among others (Mazidi et al., 2020; Sheikh et al., 2019).

In recent years, numerous studies have explored how multiple personality traits influence cyberloafing (Çolak & Çetin, 2021; Giordano & Mercado, 2023; Koay & Poon, 2023; Lim & Teo, 2024a; Margaretha et al., 2022; Ötken et al., 2023; Toker & Baturay, 2021; Zhang et al., 2022). Likewise, research has examined how cyberloafing affects employees' emotions, attitudes, and behaviors (Korzynski & Protsiuk, 2024; Rahaei & Salehzadeh, 2020; Sao et al., 2020; Zhong et al., 2022), as well as their mental health (Liu & Zhang, 2023). A key element involves the cognitive mechanisms that minimize, justify, or normalize this behavior (Batabyal & Bhal, 2020; Lim & Teo, 2005).

DOI: https://doi.org/10.21501/22161201.4953

Demographic variables such as gender, age, education, and socioeconomic status have also been examined (Lim & Teo, 2024a; Zhang et al., 2022). Among these, gender is the most frequently addressed; some studies include it as a variable, while others analyze cyberloafing from a gender perspective (Lim & Teo, 2024a). For example, early studies by Lim and Chen (2009) and Durak (2020) found that men engage in cyberloafing more than women. This finding has been confirmed in recent research (Alyahya & Alqahtani, 2022; Metin-Orta & Demirtepe Saygılı, 2023; Toker & Baturay, 2021).

This pattern may be explained by the fact that men experience higher levels of stress (Sijabat, 2021), that most studies rely on predominantly male samples (Tandon et al., 2022), or by other factors (Lim & Teo, 2024a; Metin-Orta & Demirutku, 2022; Sijabat, 2021; Tandon et al., 2022; Toker & Baturay, 2021). Age is also relevant; younger employees engage in more cyberloafing because they possess greater knowledge of Internet use (Lim & Teo, 2024a). This explains why millennials tend to hold more positive views of cyberloafing (Chavan et al., 2022; Nurhidayah & Wahyanti, 2021). With regard to status, higher-income employees engage in more cyberloafing (Şimşek & Şimşek, 2019).

Educational level also plays a role. Lim and Teo (2005) pointed out that the Internet has a "dark side" insofar as it serves as an antecedent of cyberloafing (Aghaz & Sheikh, 2016; Huma et al., 2017). Currently, many studies emphasize that the use of social media and smartphones characterizes cyberloafing behavior (Chavan et al., 2022; Fu et al., 2021; Gökçearslan et al., 2023; Metin-Orta & Demirtepe Saygılı, 2023; Metin-Orta & Demirutku, 2022; Mihelič et al., 2023; Nurhidayah & Wahyanti, 2021; Ozdamli & Ercag, 2021; Reizer et al., 2022; Sao et al., 2020; Song et al., 2021; Syed et al., 2020).

Within this context of technological dependence, proficiency in Internet use is a key factor in the increase of cyberloafing. Such proficiency encompasses various forms, ranging from informational to operational and interactive skills (Van Deursen et al., 2012). Previous research has shown that individuals with greater Internet knowledge engage in more cyberloafing (Sawitri, 2012). At present, both educational level (Toker & Baturay, 2021) and Internet-use skills (Sarfraz et al., 2024) have a substantial impact on this phenomenon.

On the other hand, several organizational factors shape cyberloafing, including corporate culture (Zoghbi Manrique de Lara & Viera Armas, 2017), job embeddedness (Mazidi et al., 2020), a positive work environment (Hensel & Kacprzak, 2021), commitment (Fahad & Kistyanto, 2021), work meaningfulness (Usman et al., 2021), supervision (Liang et al., 2022; Lim et al., 2021), communicative incivility (Zhou et al., 2022), ostracism (Hu et al., 2023), overqualification (Khan et al., 2023), conflict (Giordano & Mercado, 2023), leadership (Peng et al., 2023; Zhang et al., 2022; Zhu & Zhao, 2024), work overload (Korzynski & Protsiuk, 2024), emotional exhaustion (Lu et al., 2024), and corporate social responsibility (Ohana et al., 2024).

DOI: https://doi.org/10.21501/22161201.4953

In addition, certain cultural traits have been shown to influence cyberloafing (Ugrin et al., 2018). In specific contexts, observing others engaging in cyberloafing shapes individuals' perceptions of norms, which may mediate the relationship between observing cyberloafing and engaging in it oneself (Song et al., 2021). Within this framework, some recent studies suggest that workplace social norms associated with culture may increase cyberloafing rather than reduce it (Lim & Teo, 2024a).

In addition to the above, several recent studies demonstrate that cyberloafing is associated with multiple variables (Alyahya & Alqahtani, 2022; Aqagoli et al., 2024; Chavan et al., 2022; Çolak & Çetin, 2021; Fu et al., 2021; Giordano & Mercado, 2023; Khan et al., 2023; Batabyal & Bhal, 2023; Lim & Teo, 2024a; Metin-Orta & Demirtepe Saygılı, 2023; Mercado et al., 2017; Metin-Orta & Demirutku, 2022; Sijabat, 2021; Toker & Baturay, 2021; Tsai, 2023; Weissenfeld et al., 2019).

In light of all the above, early studies asserted that cyberloafing was difficult to manage (Blanchard & Henle, 2008; Zoghbi Manrique de Lara et al., 2006). Although the literature proposes various measures and mechanisms (Huma et al., 2017; Khansa et al., 2018), such as punitive approaches (Hensel & Kacprzak, 2021), computer-use monitoring rules (Jiang et al., 2020), or Internet-use policies (Lim & Teo, 2024a), a certain consensus suggests that cyberloafing should not be eliminated but rather controlled, as some of its effects are positive.

Effects and Consequences

Cyberloafing generates negative effects, but also positive ones (Alyahya & Alqahtani, 2022; Korzynski & Protsiuk, 2024; Lim et al., 2021; Metin-Orta & Demirtepe Saygılı, 2023; Sijabat, 2021; Song et al., 2021; Syed et al., 2020; Şimşek & Şimşek, 2019; Tandon et al., 2022; Zhong et al., 2022). Because it can foster the recovery of employees' resources, it has been described as a "mixed blessing" (Zhong et al., 2022) or a "dualistic" act (Lim & Teo, 2024a) with a "dual nature" (Spector, 2024).

Negative effects occur at both the individual and organizational levels. Initially, Lim and Teo (2005) pointed out that cyberloafing disrupts work–life balance. Other studies have highlighted that it affects job performance (Kamila & Muafi, 2023) and promotes Internet addiction (Sarfraz et al., 2024). In addition, there are organizational effects. Early studies showed that its main negative consequence is damage to productivity (Blanchard & Henle, 2008; Lim & Teo, 2005; Zoghbi Manrique de Lara et al., 2006).

DOI: https://doi.org/10.21501/22161201.4953

Because it affects the entire organization, addressing cyberloafing requires attention to organizational factors (Ozler & Polat, 2012; Zoghbi Manrique de Lara, 2012). Accordingly, this phenomenon has been described as a "significant threat to organizational performance" (Sheikh et al., 2015, p. 173), a "serious problem for an organization" (Huma et al., 2017, p. 98), an "epidemic phenomenon" (Baskaran et al., 2019, p. 297), or a "serious problem that currently hinders organizational development" (Pariyanti et al., 2022, p. 2022). Its organizational impact has been confirmed by recent research (Chavan et al., 2022; Mazidi et al., 2020; Sao et al., 2020).

Cyberloafing is also a global problem (Aqagoli et al., 2024). The expansion of the Internet and ICT highlights the need to explore its prevalence, origins, and effects. This situation becomes more acute in contexts of health crises. Due to the massive adoption of virtual education formats, cyberloafing increased considerably during the COVID-19 pandemic (Çolak & Çetin, 2021; Doğru & Kabasakal, 2023; Gökçearslan et al., 2023; Güngör & Ustabulut, 2024; Koay & Poon, 2023; Lu et al., 2024; Reizer et al., 2022; Zhong et al., 2022).

On the other hand, cyberloafing also shows positive effects, functioning as a coping mechanism in stressful environments (Lim & Chen, 2009). For this reason, the phenomenon has also been valued as an "antidote" (Aghaz & Sheikh, 2016). Perhaps the most widely studied positive effect is that cyberloafing alleviates work-related stress (Andel et al., 2019). Since employees engage in cyberloafing to recover from emotional and physical fatigue, eliminating it entirely would remove its potential benefits. For this reason, some scholars recommend allowing it at minimal levels (Messarra et al., 2011).

According to recent literature, cyberloafing facilitates recovery from fatigue, learning new skills, regaining attention, generating new ideas, experiencing enthusiasm, and enhancing productivity (Sao et al., 2020), as well as promoting innovative behavior (Rahman et al., 2022), improving psychological well-being (Krishna & Agrawal, 2023; Liu & Zhang, 2023), and increasing creativity and proactivity (Tsai, 2023). All of these outcomes have an impact on organizational well-being (Metin-Orta & Demirtepe Saygılı, 2023). Thus, while cyberloafing constitutes a major problem, it is also a tool that leaders must know how to manage.

There is a fundamental link between cyberloafing and work-related stress. Stress is the negative physical and psychological reaction experienced by employees in adverse work environments. Early studies highlighted that stress increased the likelihood of cyberloafing (Mahatanankoon et al., 2004; Mastrangelo et al., 2006; Zoghbi Manrique de Lara et al., 2006). Subsequently, other studies found that stress was positively related to certain forms of cyberloafing (Ghani et al., 2018; Güğerçin, 2019; Koay et al., 2017), becoming a key determinant (Aghaz & Sheikh, 2016).

DOI: https://doi.org/10.21501/22161201.4953

It is known that browsing the Internet helps individuals relieve stress (Leung, 2015) or boredom (Pindek et al., 2018). In this regard, cyberloafing is no exception. Recent studies show that in many contexts employees use the Internet during working hours to alleviate boredom or stress (Aladwan et al., 2021; Chavan et al., 2022; Kamila & Muafi, 2023; Lu et al., 2024; Nweke et al., 2024; Nurhidayah & Wahyanti, 2021; Reizer et al., 2022; Sijabat, 2021; Suari & Rahyuda, 2022). For this reason, it is not unreasonable to assume that higher stress levels lead to higher levels of cyberloafing.

This explains why stress is considered a predictor of cyberloafing (Chen et al., 2021), as well as a mediating factor (Reizer et al., 2022). Along these lines, other scholars have noted that the practice of certain philosophies or forms of spirituality can help cope with stress and prevent cyberloafing (Liu & Zhang, 2023; Pariyanti et al., 2022). Nevertheless, the relationship between cyberloafing and stress is not consistent (Pariyanti et al., 2022), as the impact of stressors depends on their specific nature (Zhou et al., 2023).

Theories, Methods, and Techniques

With regard to the theoretical frameworks underpinning studies on cyberloafing, a wide variety can be identified, including interpersonal behavior theory (Huma et al., 2017), social cognitive theory (Zhang et al., 2019), affective events theory (Jiang et al., 2020), reactance theory (Mazidi et al., 2020), deterrence theory (Hensel & Kacprzak, 2021; Song et al., 2021), and conservation of resources theory (Liu & Zhang, 2023; Lu et al., 2024; Tsai, 2023; Zhu & Zhao, 2024), among others (J-Ho et al., 2017; Lim & Teo, 2024a; Metin-Orta & Demirtepe Saygılı, 2023; Tandon et al., 2022; Weissenfeld et al., 2019).

With respect to methods, one of the earliest approaches was the use of scales. In addition to those proposed by Lim (2002) and Lim and Teo (2005), Mahatanankoon et al. (2004) developed a scale based on three factors (personal business, socialization, and personal information seeking), and Mastrangelo et al. (2006) proposed a scale grounded in two factors (nonproductive activities that are not destructive to the organization and counterproductive activities that prevent the achievement of organizational goals). In this regard, Blanchard and Henle's (2008) scale is frequently cited (Coşkun & Gökçearslan, 2019).

In terms of research approaches, most studies are bivariate quantitative studies, with relatively few employing multivariate models (Giordano & Mercado, 2023). On the other hand, although they are in the minority, there are also qualitative studies that conduct content analysis (Coşkun & Gökçearslan, 2019; Piotrowski, 2012), explore perceptions (Aqagoli et al., 2024; Chavan et al., 2022; Varol & Yıldırım, 2019), or use descriptive methods (Nurhidayah & Wahyanti, 2021).

DOI: https://doi.org/10.21501/22161201.4953

Regarding research designs, most are cross-sectional and nonexperimental; however, there are also some longitudinal studies (Durak, 2020), field experiments (Jiang et al., 2020), quasi-experimental studies (Hensel & Kacprzak, 2021), and comparative designs (Turan et al., 2021). Other designs examine cyberloafing as mediating the relationship between workload and commitment (Aladwan et al., 2021), or as negatively moderating the relationship between aggression and withdrawal behavior during the pandemic (Khawaja et al., 2022).

With respect to techniques, the most commonly used is the survey (Alyahya & Alqahtani, 2022; Tandon et al., 2022). Although this tool has generated the greatest scientific output, many surveys are self-reports that have been characterized as imprecise (Hensel & Kacprzak, 2021). In summary, it can be observed that, despite the wide variety of theoretical frameworks, methodological approaches remain limited, and the technical dimension is reduced to virtually a single instrument.

On the other hand, theoretical studies have also been reported. Although some empirical studies map the theory (Chavan et al., 2022; Lu et al., 2024; Metin-Orta & Demirtepe Saygılı, 2023; Ozler & Polat, 2012; Song et al., 2021; Toker & Baturay, 2021), the first systematic effort was carried out by Mercado et al. (2017), who conducted a meta-analysis and found that boredom, commitment, and self-control were strongly associated with cyberloafing, in contrast to other demographic variables such as sex or age.

Subsequently, systematic reviews addressed the factors associated with cyberloafing (Weissenfeld et al., 2019) or its impact on performance (Syed et al., 2020). More recently, in an initial general review, Wu et al. (2021b) analyzed 116 studies (published between 1997 and 2019) to illustrate the field's scientific progress and identify the main studies, research streams, institutions, and authors. To that end, they used bibliometric techniques, which established that cyberloafing research is currently in a flourishing stage after passing through emerging and exploratory stages.

For their part, Tandon et al. (2022) reviewed 87 studies and identified four areas: conceptualization (terms and definitions), operationalization (use of scales and dimensions), antecedents and stakeholders (organizational traits and the impact of the employee, coworkers, and supervisor), and consequences (negative or positive). From a comprehensive perspective, Tandon et al. (2022) developed a framework to guide future research by identifying gaps within these areas and highlighting their theoretical and practical implications regarding how organizations can manage adverse effects.

Shortly thereafter, Lim and Teo (2024a) reviewed 203 studies and proposed a model integrating the literature. Arguing that Tandon et al.'s (2022) work considered a limited number of studies, Lim and Teo (2024a) examined in greater depth the positive and negative antecedents

DOI: https://doi.org/10.21501/22161201.4953

and consequences of cyberloafing (in fields such as education and telework), policies regarding Internet use, as well as theoretical gaps and future research directions. To date, this is the most comprehensive review on the topic and it has already generated some debates (Henle, 2024; Lim & Teo, 2024b; Spector, 2024; Zoghbi Manrique de Lara, 2024).

Fields of Study

One aspect that has not been examined in depth in reviews is the study of cyberloafing across different fields or occupational groups (Aghaz & Sheikh, 2016). This also includes analyses of differences in cyberloafing between the private and public sectors (Fahad & Kistyanto, 2021; Huma et al., 2017; Mazidi et al., 2020), in developing countries (Mazidi et al., 2020), or in telework (Lim & Teo, 2024a). At present, various factors present in multiple organizations lead cyberloafing to exhibit different effects (Metin-Orta & Demirutku, 2022).

Among these fields, education is the most extensively studied. Regarding basic education, some studies in secondary schools confirm that men, students in higher grade levels, and those with greater experience and Internet skills engage in more cyberloafing (Toker & Baturay, 2021). Gender and experience are key variables, as are unauthorized access to school networks, continuous use of social media, and smartphone addiction (Güngör & Ustabulut, 2024; Mihelič et al., 2023; Saritepeci, 2020). However, among all fields, higher education is the most widely explored.

In these settings, studies are methodologically diverse. Some conducted in public and private universities found that cyberloafing affects effectiveness in Internet use (Zoghbi Manrique de Lara, 2012) and that its most common forms include sharing information (Koay, 2018) and checking email, searching for course-related information, reading news, or reading blogs (Varol & Yıldırım, 2019). Likewise, among its motives are the lack of innovative pedagogical methods, communication skills, and engaging content (Varol & Yıldırım, 2019).

More recently, research on cyberloafing in this field has increased. Some studies have identified links between cyberloafing and creativity (Akar & Coskun, 2020), psychological symptoms (Demirtepe-Saygılı & Metin-Orta, 2020), experience and time using ICT, time and frequency of online activities, academic self-efficacy, motivation, and cognitive absorption (Durak, 2020), job embeddedness and job satisfaction (Mazidi et al., 2020), and psychological entitlement (Rahaei & Salehzadeh, 2020).

Other studies conducted in universities in Turkey, China, or Pakistan have shown associations between cyberloafing and stress (Chen et al., 2021; Reizer et al., 2022; Suari & Rahyuda, 2022), smartphone use (Ozdamli & Ercag, 2021), social media addiction (Turan et al., 2021), work

DOI: https://doi.org/10.21501/22161201.4953

meaningfulness (Usman et al., 2021), disengagement, psychological relaxation, and academic performance (Wu et al., 2021a), a stimulation–hedonistic value orientation (Metin-Orta & Demirutku, 2022), spirituality (Pariyanti et al., 2022), and procrastination (Margaretha et al., 2022).

More recent research has found relationships between cyberloafing and intolerance of uncertainty (Reizer et al., 2022), workplace ostracism (Hu et al., 2023), academic stress (Doğru & Kabasakal, 2023; Nweke et al., 2024; Simatupang & Margaretha, 2023; Zakharia & Widoatmodjo, 2024), extraversion, conscientiousness, neuroticism, and apathy (Koay & Poon, 2023), psychological well-being and social media learning (Krishna & Agrawal, 2023), gender and affect (Metin-Orta & Demirtepe Saygılı, 2023), moral disengagement, subjective norms, psychological detachment, and cognitive engagement (Mihelič et al., 2023), as well as academic engagement (Zakharia & Widoatmodjo, 2024).

Advancement in this field has been such that several systematic reviews have already been published. One of them analyzed 28 studies (2013–2018) and found that most were published in *Computers in Human Behavior*, emphasized variables such as gender or educational level, focused on university students and faculty (mostly with samples ranging from 200 to 300 participants), employed quantitative designs and scales—such as that of Blanchard and Henle (2008)—and highlighted Turkey as the leading country in scientific production (Coşkun & Gökçearslan, 2019).

A second review analyzed 26 studies (2001–2019) and found that most were quantitative, emphasized students and faculty, and again identified Turkey as the leading contributor to scientific output (Alyahya & Alqahtani, 2022). Unlike the former, this review examined antecedents, effects, mediating factors, research gaps, limitations (such as sample biases or the use of self-reports), and recommendations, as well as the urgency of updating the definition of cyberloafing given technological evolution (Alyahya & Alqahtani, 2022).

Findings, Limitations, and Recommendations

Recent literature presents three key findings. First, cyberloafing is a multifactorial behavior, as it is linked to individual, organizational, and social factors. Second, its study reveals clear progress, given that scientific production on the topic has increased in recent years (Lim & Teo, 2024a; Tandon et al., 2022; Wu et al., 2021b). Third, there is a substantial body of literature, reflected in the publication of systematic reviews, which confirms that cyberloafing constitutes an active and current field of research.

DOI: https://doi.org/10.21501/22161201.4953

Regarding limitations, these are varied. Early studies highlighted the presence of biases stemming from the use of self-reports in which participants described their own behaviors (Blanchard & Henle, 2008; Lim, 2002; Lim & Chen, 2009; Mastrangelo et al., 2006; Zoghbi Manrique de Lara et al., 2006). The distribution of surveys via the Internet also raised concerns that they might have been answered primarily by individuals who engaged in cyberloafing (Lim, 2002; Lim & Teo, 2005).

Other limitations included the difficulty of establishing causality due to the use of cross-sectional designs (Lim, 2002; Lim & Chen, 2009), the neglect of certain variables and constructs (Lim, 2002; Zoghbi Manrique de Lara et al., 2006), challenges in generalization resulting from the study of specific groups (Blanchard & Henle, 2008; Sheikh et al., 2019; Varol & Yıldırım, 2019; Zoghbi Manrique de Lara et al., 2006), limited attention to cultural variables (Aghaz & Sheikh, 2016; Lim & Teo, 2005), and the lack of studies addressing the motives and mechanisms underlying cyberloafing (Lim & Chen, 2009).

In recent years, the literature has revealed three major limitations: the difficulty of establishing causality due to the reliance on cross-sectional designs, the presence of biases resulting from the use of self-reports, and limited generalizability arising from the study of specific occupational groups and populations (Table 1). Difficulties in theory development are also evident in the emphasis on certain variables over others (Hensel & Kacprzak, 2021) and in the use of particular methods and techniques (Chen et al., 2021; Hensel & Kacprzak, 2021; Khan et al., 2023; Liang et al., 2022; Metin-Orta & Demirtepe Saygılı, 2023; Zhang et al., 2022; Zhou et al., 2022; Zhou et al., 2023).

Table 1. *Main limitations*

Difficulty in establishing causality due to the use of cross-sectional designs	Chen et al. (2021), Giordano and Mercado (2023), Hu et al. (2023), Korzynski and Protsiuk (2024), Krishna and Agrawal (2023), Lu et al. (2024), Metin-Orta and Demirtepe Saygılı (2023), Metin-Orta and Demirutku (2022), Nweke et al. (2024), Ohana et al. (2024), Pariyanti et al. (2022), Peng et al. (2023), Usman et al. (2021), Zhang et al. (2022), Zhong et al. (2022), and Zhou et al. (2023)
Presence of biases due to the use of self-reports	Chavan et al. (2022), Fu et al. (2021), Giordano and Mercado (2023), Gökçearslan et al. (2023), Hu et al. (2023), Khan et al. (2023), Korzynski and Protsiuk (2024), Krishna and Agrawal (2023), Lu et al. (2024), Margaretha et al. (2022), Metin-Orta and Demirutku (2022), Mihelič et al. (2023), Nweke et al. (2024), Ohana et al. (2024), Reizer et al. (2022), Saritepeci (2020), Toker and Baturay (2021), Usman et al. (2021), Zhong et al. (2022), and Zhou et al. (2023)
Difficulty in generalizing due to the study of specific occupational groups and populations	*Occupational groups:* Aqagoli et al. (2024), Korzynski and Protsiuk (2024), Metin-Orta and Demirtepe Saygılı (2023), Metin-Orta and Demirutku (2022), Ötken et al. (2023), Reizer et al. (2022), Toker and Baturay (2021), Turan et al. (2021), and Zhou et al. (2022) *Populations:* Chavan et al. (2022), Chen et al. (2021), Gökçearslan et al. (2023), Hensel and Kacprzak (2021), Hu et al. (2023), Liang et al. (2022), Pariyanti et al. (2022), Peng et al. (2023), Syed et al. (2020), Wu et al. (2021a), and Zhang et al. (2022)

DOI: https://doi.org/10.21501/22161201.4953

Reviews also present limitations, such as selection bias in the literature reviewed (Alyahya & Alqahtani, 2022; Wu et al., 2021b; Syed et al., 2020; Tandon et al., 2022) or insufficient depth in analyzing how cyberloafing may vary among groups within the same occupational field (Alyahya & Alqahtani, 2022). Regarding the general literature, Lim and Teo (2024a) emphasized the need to integrate methods and techniques and highlighted that scales must yield consistent results.

Other limitations include the overrepresentation of male samples, the lack of distinction between antecedents and effects, difficulties in conceptualizing cyberloafing, sample size issues, cross-sectional designs, and the selective analysis of certain variables (Alyahya & Alqahtani, 2022). Another review identified problems in the conceptualization and operationalization of cyberloafing, in its antecedents (such as employees' personality traits, organizational culture, or leadership style) and effects, as well as the widespread use of cross-sectional designs (Tandon et al., 2022).

On the other hand, the literature suggests four main recommendations: conducting longitudinal and experimental studies to establish causality; employing new techniques to complement self-reports; studying different occupational groups and populations; including additional variables, analyzing other constructs and theories; and developing qualitative approaches to obtain "a more holistic understanding of the organization" (Sheikh et al., 2019, p. 1220) (Table 2).

Other studies also recommend extracting data from additional sources (Syed et al., 2020; Usman et al., 2021), examining the most relevant variables in greater depth (Giordano & Mercado, 2023), including a broader range of cyberloafing behaviors (Krishna & Agrawal, 2023; Syed et al., 2020; Zhong et al., 2022), and studying other generations (Chavan et al., 2022).

Table 2. *Main Recommendations*

Conduct longitudinal and experimental research	Chen et al. (2021), Fu et al. (2021), Giordano and Mercado (2023), Hu et al. (2023), Metin-Orta and Demirtepe Saygılı (2023), Metin-Orta and Demirutku (2022), Nweke et al. (2024), Ohana et al. (2024), Pariyanti et al. (2022), Peng et al. (2023), Syed et al. (2020), Usman et al. (2021), Zhong et al. (2022), Zhou et al. (2022), Zhou et al. (2023), and Zhu and Zhao (2024)
Employ new techniques	Hu et al. (2023), Korzynski and Protsiuk (2024), Krishna and Agrawal (2023), Mihelič et al. (2023), Nweke et al. (2024), and Zhou et al. (2023)
Study different occupational groups and populations	*Occupational groups:* Pariyanti et al. (2022), Reizer et al. (2022), and Toker and Baturay (2021) *Populations:* Aqagoli et al. (2024), Chen et al. (2021), Gökçearslan et al. (2023), Hensel and Kacprzak (2021), Hu et al. (2023), Korzynski and Protsiuk (2024), Krishna and Agrawal (2023), Liang et al. (2022), Lu et al. (2024), Mihelič et al. (2023), Peng et al. (2023), Syed et al. (2020), Wu et al. (2021a), Zhang et al. (2022), and Zhu and Zhao (2024)
Include additional variables	Chen et al. (2021), Hu et al. (2023), Liang et al. (2022), Lim (2002), Metin-Orta and Demirutku (2022), Ohana et al. (2024), Pariyanti et al. (2022), Zakharia and Widoatmodjo (2024), Zhang et al. (2022), and Zhong et al. (2022)
Analyze other constructs and theories	Gökçearslan et al. (2023), Şahin (2021), Usman et al. (2021), Zhang et al. (2022), Zhou et al. (2022), and Zhou et al. (2023)
Develop qualitative approaches	Korzynski and Protsiuk (2024), Mihelič et al. (2023), Ötken et al. (2023), and Rahaei and Salehzadeh (2020)

DOI: https://doi.org/10.21501/22161201.4953

Finally, reviews suggest linking cyberloafing to other harmful behaviors (Mercado et al., 2017), examining more deeply its relationship with smartphone use, student performance, and mental health, using more direct measures, and drawing on psychological theories (Wu et al., 2021b); employing more objective measures, balanced samples, and exploring its impact on occupational subgroups (Alyahya & Alqahtani, 2022); considering additional search terms, including studies published in other outlets, and applying more objective evaluation criteria (Tandon et al., 2022); as well as analyzing its relationship with well-being and the impact of Internet-use policies, using alternative designs, developing more objective scales, and examining its effects in telework contexts (Lim & Teo, 2024a).

Theoretical and Practical Implications

The literature on cyberloafing also reveals both theoretical and practical implications. Early studies indicated that its analysis had implications for theory development as well as for the creation of environments that promote acceptable Internet use (Blanchard & Henle, 2008; Khansa et al., 2018; Kim & Byrne, 2011; Lim, 2002; Lim & Teo, 2005; Zoghbi Manrique de Lara et al., 2006). Over time, it was established that "researchers should attempt to understand cyberloafing behavior and generate useful suggestions so that management can reduce the negative effects of cyberloafing while benefiting from its positive effects" (Derin & Gökçe, 2016, p. 695).

Recent research shows theoretical implications in the study of topics such as work-related stress, mental health, leadership, globalization, social responsibility, creativity, innovation, and the development of theoretical frameworks. Likewise, it presents practical implications for managing work stress, protecting mental health, regulating smartphone use, controlling Internet use, exercising leadership and supervision, managing organizational culture, personnel selection, creating positive work environments, and conflict management, among others (Table 3).

DOI: https://doi.org/10.21501/22161201.4953

Table 3. *Theoretical and Practical Implications*

Theoretical Implications	Practical Implications
Development of theoretical frameworks: Hensel and Kacprzak (2021); Mazidi et al. (2020) Psychological entitlement: Rahaei and Salehzadeh (2020) Mental health: Krishna and Agrawal (2023); Lim et al. (2021); Liu and Zhang (2023); Metin-Orta and Demirtepe Saygılı (2023); Turan et al. (2021); Wu et al. (2021a) Self-efficacy, habit, and consumption value: Fu et al. (2021) Affective commitment: Usman et al. (2021) Supervision: Liang et al. (2022) Innovation: Rahman et al. (2022) Globalization: Reizer et al. (2022); Zhong et al. (2022) Leadership: Peng et al. (2023); Zhang et al. (2022); Zhu and Zhao (2024) Communication and emotions: Zhou et al. (2022) Workplace ostracism: Hu et al. (2023) Overqualification: Khan et al. (2023) Social responsibility: Ohana et al. (2024) Work-related stress: Lu et al. (2024); Zhou et al. (2023) Time management: Ötken et al. (2023) Technological self-efficacy: Sarfraz et al. (2024) Creativity: Tsai (2023) Work overload and job satisfaction: Korzynski and Protsiuk (2024)	Supervision: Liang et al. (2022); Lim et al. (2021) Punishment mechanisms: Hensel and Kacprzak (2021) Employee retention: Mazidi et al. (2020) Organizational justice: Rahaei and Salehzadeh (2020) Smartphone use: Fu et al. (2021) Stress management: Lu et al. (2024); Toker and Baturay (2021); Wu et al. (2021a) Learning processes: Turan et al. (2021) Work meaningfulness: Usman et al. (2021) Management of younger employees: Chavan et al. (2022) Performance: Rahman et al. (2022) Management of health crises: Reizer et al. (2022); Zhong et al. (2022) Promotion of a people-oriented philosophy: Zhang et al. (2022) Communication management: Zhou et al. (2022) Leadership practice: Peng et al. (2023); Zhu and Zhao (2024) Organizational culture management and personnel selection: Hu et al. (2023) Job autonomy and empowerment: Khan et al. (2023) Management of social responsibility: Ohana et al. (2024) Creation of positive environments: Liu and Zhang (2023); Tsai (2023); Zhou et al. (2023) Internet control: Aqagoli et al. (2024); Batabyal and Bhal (2023); Mihelič et al. (2023); Sarfraz et al. (2024) Conflict management: Giordano and Mercado (2023) Job satisfaction: Korzynski and Protsiuk (2024)

Reviews also highlight theoretical and practical implications related to the need for further research and the urgency for organizations to understand cyberloafing factors (Mercado et al., 2017); the learning and design of technology-use policies in educational settings (Alyahya & Alqahtani, 2022); the integrated study of cyberloafing factors and their links to well-being, policy design, telework, and management (Lim & Teo, 2024a); and work–life balance, personnel selection, and the design of ICT-use policies (Tandon et al., 2022).

Conclusions: findings, limitations, and recommendations

This study mapped the cyberloafing literature from the last three years and identified seven thematic axes: definition and conceptualization; factors and antecedents; effects and consequences; theories, methods, and techniques; fields of study; findings, limitations, and recommendations; and theoretical and practical implications. Unlike other reviews (Alyahya & Alqahtani, 2022;

DOI: https://doi.org/10.21501/22161201.4953

Lim & Teo, 2024a; Tandon et al., 2022; Wu et al., 2021b), this mapping analyzed underexplored topics such as fields of study and the use of theories and methods. On this basis, several findings, limitations, and recommendations can be outlined.

A first finding is that the study of cyberloafing relies on a basic definition: that proposed by Lim (2002). Both pioneering and recent studies continue to reference it. This does not contradict the fact that the evolution of ICT will require updating this definition (Alyahya & Alqahtani, 2022). A second finding reveals that the most extensively studied relationship involving cyberloafing is with work-related stress, although this relationship takes different forms depending on the field in which it occurs. This does not negate the importance of other predictors (Giordano & Mercado, 2023), but rather highlights the central role of work-related stress in these findings.

A third finding indicates that cyberloafing occurs across diverse fields, particularly in education. In this area, the publication of reviews reflects a greater volume of studies and deeper analytical approaches. Given their results and implications—which are highly relevant to educational development—cyberloafing in both basic and higher education should continue to be explored. A fourth finding shows that the theoretical and methodological frameworks used to study cyberloafing are diverse, as the literature reveals quantitative, qualitative, and theoretical studies (systematic reviews).

Finally, a fifth finding highlights the notable increase in research on cyberloafing. Just a couple of years ago, China, the United States, the United Kingdom, and Australia were the countries leading research in this field (Wu et al., 2021b). However, only a few years later, Turkey now leads scientific production, followed by the United States and China (Alyahya & Alqahtani, 2022; Tandon et al., 2022). This shifting landscape reveals that cyberloafing constitutes a dynamic and active field of research.

With regard to limitations, a lack of methodological and technical plurality is evident, as the vast majority of studies rely on cross-sectional designs. As a result, surveys have become the most widely used technique. Another limitation is the difficulty of generalization and theory building. Because most studies examine only a small number of predictors, the cyberloafing literature has been described as "shallow" (Giordano & Mercado, 2023). Finally, a lack of disciplinary diversity is also apparent. Although cyberloafing is a theoretically rich field, it has largely been developed within only two disciplines: psychology and organizational behavior. Other disciplines such as economics, sociology, political science, or anthropology have had little impact to date.

In light of the above, the most important recommendation is to analyze cyberloafing from other disciplinary perspectives. While its connection to psychology and organizational behavior is essential, other fields could make valuable contributions: sociology could assess the regional-level impact of cyberloafing; anthropology could delineate how national or organizational culture

DOI: https://doi.org/10.21501/22161201.4953

fosters cyberloafing; and behavioral economics could examine decision-making processes related to Internet use. Such approaches could foster greater methodological and technical diversity and reduce the current dependence on quantitative, cross-sectional designs.

Finally, although this article does not analyze a very large number of studies nor does it constitute a systematic review, it maps the cyberloafing literature as presented, revealing its main thematic axes more clearly than previous systematic reviews. This approach makes it possible to understand the complexity of an individual and organizational phenomenon that continues to evolve (Sijabat, 2021) as global contexts change, in ways that will become increasingly difficult to explain, predict, and control.

Author contributions

Oswaldo Morales (principal investigator): data analysis, theoretical framework, drafting, and review of the final version of the manuscript.

Sergio Morales (co-investigator): data analysis, theoretical framework, drafting, and review of the final version of the manuscript.

Conflict of interest

The authors declare that there is no conflict of interest with any institution or commercial association of any kind.

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