

Cyberloafing and cyberslacking in the workplace: systematic literature review of past achievements and future promises

Cyberloafing
and
cyberslacking in
the workplace

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Received 15 June 2020
Revised 13 November 2020
23 June 2021
Accepted 24 June 2021

Abstract

Purpose – Scholars are increasingly focusing on the adverse effects of digitization on human lives in personal and professional contexts. Cyberloafing is one such effect and digitization-related workplace behavior that has garnered attention in both academic and mainstream media. However, the existing literature is fragmented and needs to be consolidated to generate a comprehensive and contemporary overview of cyberloafing research and map its current intellectual boundaries. The purpose of this paper is to shed some light on systematic literature review (SLR) in cyberloafing and cyberslacking in the workplace.

Design/methodology/approach – A SLR is conducted to assimilate the existing research. A total of 87 studies selected through a robust protocol are analyzed through content analysis.

Findings – A total of four thematic research areas and inherent gaps are identified, including conceptualization, operationalization, antecedents and stakeholders and consequences. Results are used to assimilate thematic gaps and potential research questions (RQs) to be addressed by future scholars. To advance cyberloafing research, the authors propose a theoretically grounded comprehensive framework based on the SLR findings.

Originality/value – Our study's novelty rests in its state-of-the-art synthesis of cyberloafing research, which encompasses a broader scope than prior SLRs. Furthermore, developing a theoretically grounded comprehensive framework for advancing future research is a unique contribution of this study.

Keywords Cyberloafing, Cyberslacking, Systematic literature review, Workplace deviance, Counterproductive behavior

Paper type Research paper

1. Introduction

The digitization of workplaces and the consequent utilization of Internet-based communication (ICT) platforms have transformed contemporary organizations (Wu *et al.*, 2020; Zhang *et al.*, 2019). Due to this, academic and mainstream media have also discussed

Disclosure of potential conflicts of interest: No potential conflicts.

The authors acknowledge the generous support from the Finnish Cultural Association (85201721 Varsinais-Suomi Regional Fund) and Foundation for Economic Education (200288).



that employees extensively use these technologies for personal and non-work-related activities or benefits (Batabyal and Bhal, 2020). This behavior is referred to by various terminologies, such as workplace Internet deviance (Zoghbi-Manrique-De-Lara, 2006), cyberslacking (Lavoie and Pychyl, 2001) and cyberloafing (Lim, 2002). Formally, cyberloafing or cyberslacking is understood to be employees' use of ICT technologies, including devices (e.g. laptops, desktop computers and smartphones) (Askew *et al.*, 2019; Lowe-Calverley and Grieve, 2017) and the Internet (provided by the organization) to access social media and other websites (Andreassen *et al.*, 2014a) during work hours (Zhang *et al.*, 2019) for personal or non-work reasons. While there is a nuanced difference between cyberloafing and cyberslacking (see Section 2), we consider these terms synonymous and refer to them as cyberloafing in this study.

The academic and mainstream discussion on cyberloafing has been gaining ground in the recent past, with concerns raised about increasing amounts of time spent by employees on personal activities and the potential implications of this trend. For example, according to Statista (2019), 52% of surveyed respondents checked their personal e-mails during work hours. Another survey showed that individuals utilized employer-issued devices, including laptops and smartphones, for personal activities, such as checking personal e-mails, browsing or posting on social media and shopping online (Johnson, 2021). Furthermore, Jeong *et al.* (2020) estimated that employees' proportion of smartphone use for work purposes is approximately 38.16% during formal work hours compared to non-work purposes. Such estimates have raised grave concerns among organizations and scholars about the impact of cyberloafing on employee and organizational productivity (Alharthi *et al.*, 2021 [1]; Andreassen *et al.*, 2014a, b; Askew and Buckner, 2017). Subsequently, cyberloafing has drawn increasing academic attention in the past two decades.

Despite this attention, the existing literature on cyberloafing has been constrained by distinct limitations. First, the literature discusses cyberloafing from a dual perspective. Scholars have posited that cyberloafing may help employees relieve technostress (Gügerçin, 2020) [2] and job stress (Koay *et al.*, 2017) and find a work-life balance (Jian, 2013), thereby creating a positive impact. Concurrently, they also discussed cyberloafing's potential for causing decrements in employee productivity (Andreassen *et al.*, 2014a) and efficiency (Farivar and Richardson, 2020; Khansa *et al.*, 2018). However, there is limited empirical evidence for cyberloafing's impact on organizational and employee productivity, which creates a knowledge gap as a result. We posit that this lacuna limits our holistic understanding of cyberloafing as a phenomenon and its implications for modern workplaces. We argue that a comprehensive examination of the existing literature is required to reconcile this lacuna. Second, while the prior literature has extensively focused on identifying the precursors of cyberloafing, its consequences, such as distributed work effectiveness (O'Neill *et al.*, 2014b) and employees' information security awareness (Hadlington and Parsons, 2017), have been comparatively less investigated.

Furthermore, there is inconsistent knowledge of certain variables, for example, socio-demographics, on cyberloafing. For instance, while some scholars have found gender-based differences in cyberloafing (Sheikh *et al.*, 2015), others find no such differences (Hadlington and Parsons, 2017). We argue that such a skewed focus on identifying cyberloafing's antecedents and inconsistencies in the existing literature represents a vital knowledge gap, because it limits a comprehensive understanding of cyberloafing as a phenomenon. Lastly, due to the use of multiple terminologies that refer to the same behavior, i.e. the use of the Internet and mediated devices, we argue that the existing literature offers a fragmented outlook on cyberloafing. We contend that the existing literature needs to be reconciled to propose a contemporary and reconciled perspective of this behavior. We argue that it is critical to address these three knowledge gaps to derive

effective practical measures to counteract cyberloafing's potential negative impact on employees and organizations.

Thus, we contend that to advance our understanding of cyberloafing holistically, it is vital to cohesively synthesize and identify the intellectual structure of existing research on cyberloafing. We address this need by conducting a rigorous systematic literature review (SLR) (Webster and Watson, 2002) on cyberloafing. In the past five years, few scholars have conducted SLRs on cyberloafing. However, these SLRs have been limited to reporting previously utilized theories to study cyberloafing (J-Ho *et al.*, 2017), its antecedents (Weissenfeld *et al.*, 2019) and examining the effect of these antecedents through meta-analysis (Mercado *et al.*, 2017). In another recent SLR, Burleson and Greenbaum (2019) reviewed only the multitasking literature to suggest that the personal use of technology at work should encompass the content and manner of its use. The authors (Burleson and Greenbaum, 2019) presented a research framework to direct attention to three antecedents (task-, individual- and interruption-related factors) and two consequences (work-related effects and overall effects) of such personal technology use during work. We contend that these studies have adopted a narrow approach that does not provide a comprehensive overview of past research on cyberloafing. Our study transcends these prior SLRs to contribute to the literature in two key ways. First, we adopt a broader perspective and assimilate more recent literature, unconstrained to specific disciplines or fields (e.g. multitasking), to present more contemporary insights on cyberloafing. We offer a state-of-the-art research profile, major themes and theme-specific gaps in extant research through our SLR. Second, following recent SLRs (Kaur *et al.*, 2020; Khanra *et al.*, 2020a; Tandon *et al.*, 2021), we propose a comprehensive framework to guide future research on cyberloafing by delineating the lesser-investigated aspects and associations of this phenomenon. This SLR offers significant implications for theory and critical insights for practitioners, e.g. human resource (HR) managers, who can utilize the findings while developing measures for effectively managing cyberloafing.

The rest of the manuscript is structured to present the following information. Section 2 presents the background literature on the concept and existing theoretical grounding of cyberloafing. Section 3 presents the methodology and protocols utilized to plan and execute this SLR. Sections 4 and 5 cover the key findings of the SLR in terms of the emergent research themes and the gaps identified therein. Section 6 then details a research framework developed based on the results, especially the theme-specific gaps, thereby highlighting potential areas for further research. Lastly, in Section 7, we present the concluding remarks, along with the limitations of our study and the implications for theory and practice.

2. Background literature

This section draws attention to the main gaps related to the current conceptualization of cyberloafing and the theoretical grounding of the prior research. These gaps highlight the importance of identifying the current status of cyberloafing research and the avenues for advancing it, which forms the present study's motivation.

2.1 Cyberloafing

Lim (2002) originally operationalized the concept of cyberloafing to refer to personal e-mailing and browsing activities that an employee voluntarily undertakes during work hours. Extending this conceptualization, Henle and Blanchard (2008) proposed that cyberloafing encompassed minor (e.g. browsing, e-mailing or shopping) and major (e.g. blogging, gambling and surfing adult websites) activities. This classification was based on the organization's legal liabilities for the specific activities that employees may engage in. While the prior research has referred to both forms of operationalization (Henle and

Blanchard, 2008; Lim, 2002), there is a debate about whether cyberloafing can be considered a purely deviant workplace behavior (Lowe-Calverley and Grieve, 2017). Indeed, some scholars have suggested that cyberloafing may be a withdrawal behavior (Askew *et al.*, 2014) and even a form of workplace procrastination (Lowe-Calverley and Grieve, 2017), which can result in diminished work satisfaction (Batabyal and Bhal, 2020; Farivar and Richardson, 2020).

However, an alternative school of thought proposes that cyberloafing can act as a coping mechanism for employees, which allows them to relieve their work-related stress (Andel *et al.*, 2019). For example, many employees have begun to use enterprise social media (ESM) (Nusrat *et al.*, 2021) and public social media platforms like WhatsApp during work hours for interpersonal communication. This increased connectivity can be argued to increase employee responsiveness (Lowe-Calverley and Grieve, 2017). Thus, while scholars concur that cyberloafing, a phenomenon resulting from continually increasing human–computer interaction, can affect employee work and emotions (Zoghbi-Manrique-de-Lara and Viera-Armas, 2017), there is a lack of consensus on its characterization as a serious counterproductive work behavior (Mercado *et al.*, 2017).

Furthermore, there also seems to be a disparity in individual employees' perspectives of cyberloafing as either a deviant or acceptable behavior. For instance, Anandarajan *et al.* (2006) characterized employees in three categories: (1) cyber-adventurer, (2) cyber-bureaucrat and (3) cyber-humanist. A cyber-adventurer believes that employees must be granted the liberty to use the Internet for their personal purposes at work to facilitate performance. A cyber-bureaucrat, meanwhile, believes that employees must not engage in cyberslacking during work hours. In comparison, a cyber-humanist believes that using the Internet for personal reasons during work hours helps them maintain a work–life balance and considers cyberslacking to be a means of relaxation. Mainstream media discussions have also indicated that similar differences also exist among employers. While some organizations entail strict control and monitoring strategies to curb cyberloafing, some employers believe that the brief detachment from work resulting from loafing can allow employees to relax momentarily, which would yield better results in the long term (Stokel-Walker, 2020).

As workplaces become increasingly digitized, it is essential to address these disparities and develop a contemporary understanding of cyberloafing. This entails a critical understanding of the current intellectual boundaries of the research, identifying existing gaps and developing a more focused approach toward the study of cyberloafing in the future. Due to this reason, we believe that this study marks a significant contribution to literature.

2.2 Theoretical grounding and contextual differences

The concept of cyberloafing has been examined through multiple theoretical lenses, such as the general theory of crime (Restubog *et al.*, 2011), social learning theory (Khansa *et al.*, 2017), conservation of resources theory (Agarwal and Avey, 2020; Koay *et al.*, 2017; Karimi Mazidi *et al.*, 2020; Zhou *et al.*, 2021) and theory of interpersonal behavior (Betts *et al.*, 2014; Moody and Siponen, 2013). Some scholars have also utilized dual theoretical lenses to examine this behavior. For example, Wu *et al.* (2020) determined that cyberloafing can cause employee fatigue using ego-depletion theory and the effort-recovery model. These prior approaches to theoretical grounding from varied fields indicate the multi-faceted nature of cyberloafing. However, to the best of our knowledge, there has been limited application of theories from fields like psychology, information systems and communications, which can further improve understanding in the area and lead to appropriate measures being developed to manage cyberloafing. Adopting an interdisciplinary approach in future cyberloafing research may

yield critical insights into the psychology, communication norms, media preferences and mechanisms that underlie an employee's engagement with this behavior.

Furthermore, the theoretical underpinnings of cyberloafing research show that significant differences inundate the existing knowledge regarding the effect of its precursors and organizational and socio-demographic indicators. However, knowledge on the impact of the contextual and personal differences on the associations of cyberloafing with its antecedents and consequences is scarce. For instance, the effect of cyberloafing on individual, team and organizational performance has warranted limited attention from scholars and remains a pertinent gap in the academic literature. Moreover, while a recent meta-analysis has reported negligible relationships between cyberloafing and gender (Mercado *et al.*, 2017), some studies have reported significant gender differences in the cyberloafing behavior (Garrett and Danziger, 2008a; Vitak *et al.*, 2011), while still others have shown no gender differences at all (Garrett and Danziger, 2008b; Hadlington and Parsons, 2017). Such inconsistent results may be attributed to contextual differences. Still, we argue that there is a need to consolidate the existing knowledge on cyberloafing to gain a comprehensive understanding of this phenomenon and its influencers. Such extensive and consolidated knowledge can help scholars identify pertinent gaps and directions through which cyberloafing research can be advanced to yield maximal benefits.

3. Methodology

SLRs are well-regarded methods that can assist scholars in consolidating the available literature and identifying primary areas of study and inherent gaps in a field of research (Dhir *et al.*, 2020; Khanra *et al.*, 2020b; Talwar *et al.*, 2020). To conduct this SLR, we adopted stringent protocols in line with prior SLRs on technology (Behera *et al.*, 2019) and associated deviant experiences, such as the fear of missing out (FoMO) (Tandon *et al.*, 2021) and behaviors like cyberstalking (Kaur *et al.*, 2020). We also utilized robust quality evaluation (QE) criteria for assimilating the appropriate literature in line with prior SLRs in the fields of technology (Behera *et al.*, 2019; Tandon *et al.*, 2020) and consumer behavior (Dhir *et al.*, 2020; Talwar *et al.*, 2020).

3.1 Scope of the study

Our objective was to offer a contemporary, synthesized and comprehensive overview of the existing research on cyberloafing to identify the current knowledge gaps and potential directions that future research can explore. We formulated two RQs that are in consonance with prior SLRs in the management and social media research domains (Kaur *et al.*, 2021; Tandon *et al.*, 2021),

RQ1. What is the current state of cyberloafing literature regarding the research profile, thematic foci and inherent gaps?

RQ2. What avenues of future research can be addressed to expand current knowledge?

We leveraged Cooper's taxonomy (1988) to determine our study's protocols and structure. Cooper (1988) proposed six aspects to be considered during reviews: goals, focus, perspective, organization, audience and coverage.

Considering the suggestions of Cooper (1988) for conducting systematic reviews, we use these RQs to address (1) the goal of synthesizing prior literature and identify central issues to be addressed in future research and (2) focus on integrating previous research outcomes to delineate the thematic foci of the existing literature. We adopt the perspective of "neutral representation" (Cooper, 1988) and attempt to distill the existing information and present it as originally intended. We draw attention to the specific themes and issues prominently

addressed by scholars through the presentation of integrated themes. Our coverage of the literature may be termed exhaustive, but with selected citations that draw attention to the central ideas have been discussed by scholars so far. In our attempt to provide thorough coverage of the existing research, we ensured that our chosen keyword search focused on the central theme of cyberloafing (see [Section 3.2](#)). For the manuscript organization, we adopted “the conceptual organization” ([Cooper, 1988](#)), through which we grouped articles covering similar ideas under specific themes. Lastly, we view specialized scholars, researchers and industry practitioners as the audience for our study.

To answer [RQ1](#), we developed a state-of-the-art research profile, which is a complementary element of SLRs ([Seth et al., 2020](#)). The research profile is used to reveal the current state of the literature regarding annual publication trends, sample characteristics and the geographic scope of the study, etc. Furthermore, a content analysis of the reviewed articles was undertaken to derive the emergent research themes and extant gaps in the domain. This RQ was aimed at identifying the current boundaries and inherent lacunas in the existing research.

[RQ2](#) aimed at identifying avenues for advancing cyberloafing research. We utilized the insights gained from the themes and incumbent gaps to develop a proposed research framework to guide future scholars that leverages behavioral reasoning theory (BRT) and social context theory (SCT). Our reason for considering BRT is that it covers aspects of numerous information systems theories (such as the theory of planned behavior, interpersonal behavior and so on) that can explain the manifestation of certain behaviors (in this case, cyberloafing). Furthermore, we argue that cyberloafing is contingent upon situational work factors, such as leader–member exchange ([Usman et al., 2021 \[3\]](#)). Due to this reason, we utilized SCT ([Ferris et al., 1998](#)) to ground our proposed framework.

3.2 Study protocol

The implementation of the current review included three phases: database curation, analysis and reporting. First, we determined the keywords, selection criteria and article search databases. Both direct search and citation chaining techniques ([Tandon et al., 2021](#)) were employed to put forth an organized and extensive review to ensure high methodological rigor ([Kitchenham et al., 2009](#); [Webster and Watson, 2002](#)). This stage concluded with the identification of appropriate studies to be included in the dataset. In the second phase, we developed the research profile and utilized content analysis to derive the research themes, extant gaps and scope for future research. The third phase pertained to reporting the results, including the developed research framework.

3.2.1 Database curation. We constituted a panel including the authors, three academicians and two doctoral students to review seminal papers on cyberloafing ([Lavoie and Pychyl, 2001](#); [Lim, 2002](#)) and assist authors in identifying appropriate search terms for the review. Following their review, a total of eight search terms were identified. We performed a database search in May 2021 with five recommended keywords “Personal Internet use,” “non-work-related Internet use,” “Cyberloaf*,” “Cyberslack*,” and “Mobile loaf*.” The panel also recommended “counterproductive behavior,” “counterproductive work behavior,” and “counterproductive work” as keywords. However, these were excluded since they have a broad scope related to deviant workplace behaviors other than cyberloafing.

We performed the keyword search on the Scopus and Web of Science databases to identify relevant articles published between 2001 and 2021. These two databases are multidisciplinary and reliable in encompassing an extensive range of articles in domains, such as management, technology, information systems science, psychology and consumer behavior ([Mongeon and Paul-Hus, 2016](#)). This choice of databases is consistent with prior SLRs that have been published in the fields of technology ([Behera et al., 2019](#)) and users’

behaviors in cyberspace (Kaur *et al.*, 2020; Tandon *et al.*, 2021). Each author used the same keywords to independently perform the database search and identified a total of 327 studies from both databases. Articles duplicated in both datasets, i.e. with the same digital object identifier (DOI), were eliminated, narrowing the dataset to 219 articles. We then examined the title, abstract and keywords of these articles to shortlist 137 articles focusing on employees (including full-time and part-time employees or working graduate students). The panel was re-invited to review these selections and discuss their inclusion in the final dataset. At this stage, the panel recommended the inclusion of only empirical articles published in peer-reviewed journals for which the full text was available. Thus, we excluded articles if they were not available in full-text, were published in a source other than a peer-reviewed journal and did not conduct an empirical analysis for cyberloafing, which yielded a shortlist of 82 articles.

Next, citation chaining (forward and backward) was executed to reduce the probability of missing relevant articles and ensure the robustness of the search protocol (Tandon *et al.*, 2021). The panel examined eight articles extracted through citation chaining, of which two did not meet the article selection criteria and were subsequently excluded from consideration. A QE process for the remaining articles was conducted using pre-specified QE criteria suggested by prior SLRs (Behera *et al.*, 2019; Seth *et al.*, 2020; Tandon *et al.*, 2021). Each panel member individually rated the articles based on the QE criteria leading to the selection of 87 articles. One article was dropped during the QE process for failure to meet the threshold, that is, a minimum of 4.5 out of a total of 9 points. The panel ratings were then checked for inter-rater reliability through the Kappa statistic, which was found to be 0.86, implying that the process was appropriate (Landis and Koch, 1977). We financially compensated the panel members for their feedback and support. Figure 1 graphically represents the procedure utilized for database curation.

3.2.2 Database analysis. We utilized research profiling and content analysis to analyze the articles curated in the database. Following the results of these methods, we derive and report the emergent research themes, identify theme-specific gaps and propose directions for future research.

3.2.3 Research profiling. Research profiling is done to augment systematic reviews and adopts a macro focus for analyzing the extant literature to present specific details, e.g. the variables and methods used (Pei and Porter, 2011). In the current study, we present statistics about the annual trend of publication, their country-wise distribution, previously adopted research designs, etc. in line with recently published SLRs in other domains, such as food waste (Dhir *et al.*, 2020), the dark side of social media (Kaur *et al.*, 2020, 2021) and Big Data analytics (Khanra *et al.*, 2020a). The research profile is discussed in Section 4.

3.2.4 Content analysis. We executed the content analysis in five steps: open coding, coding sheets, grouping, categorization and abstraction (Elo and Kyngäs, 2008). Considering the content of the reviewed articles (Hsieh and Shannon, 2005), open codes were assigned to each article by the authors, for example, conceptual, demographics and antecedents (individual and organizational), to name a few. After setting the open codes, we grouped them into common categories to create overarching and sub-themes; for example, organizational antecedent and work factors were grouped together. Two authors independently conducted the coding and grouping processes. These grouped themes were then abstracted into four main categories, which were finalized as conceptualization, operationalization, antecedents and stakeholders and consequences. We undertook a mutual discussion to resolve the differences in the individual coding process. The inter-rater reliability for this process was acceptable with a Fleiss' kappa value of 0.81 (Landis and Koch, 1977).

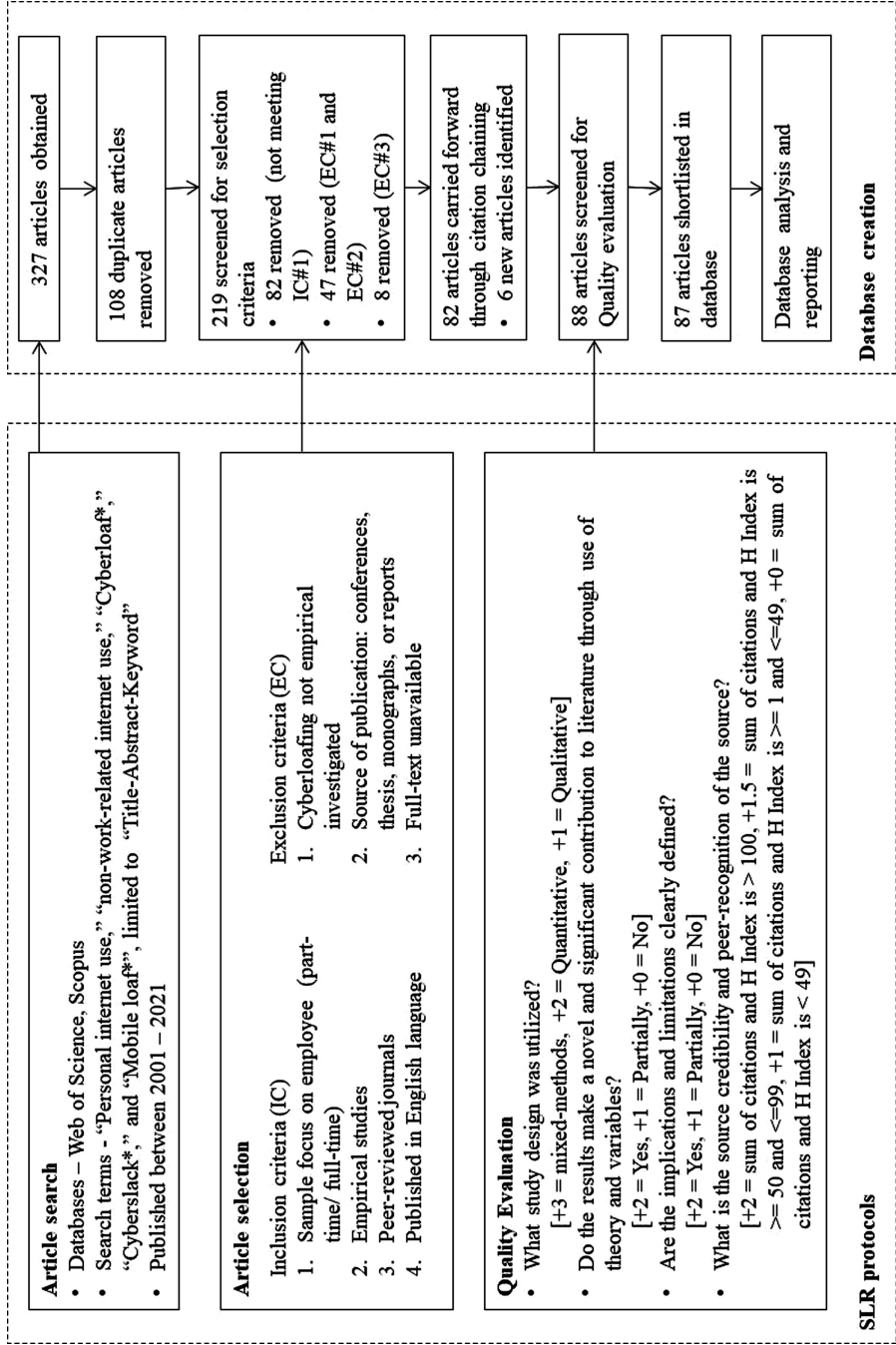
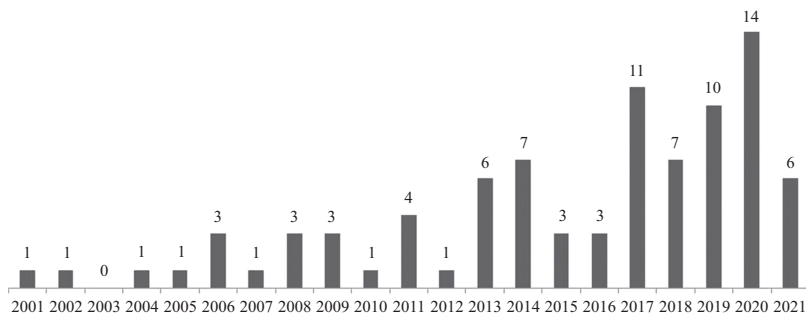


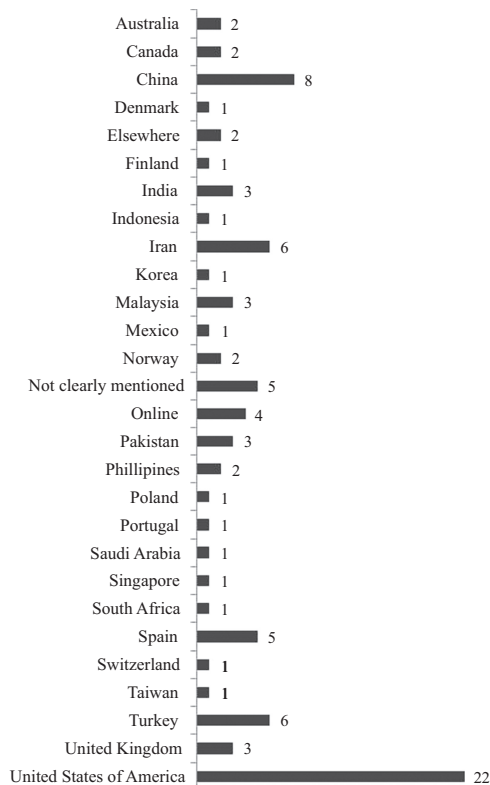
Figure 1. Procedure for database curation

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Note(s): The figure indicates the year articles were published online

Figure 2.
Year-wise publication trend

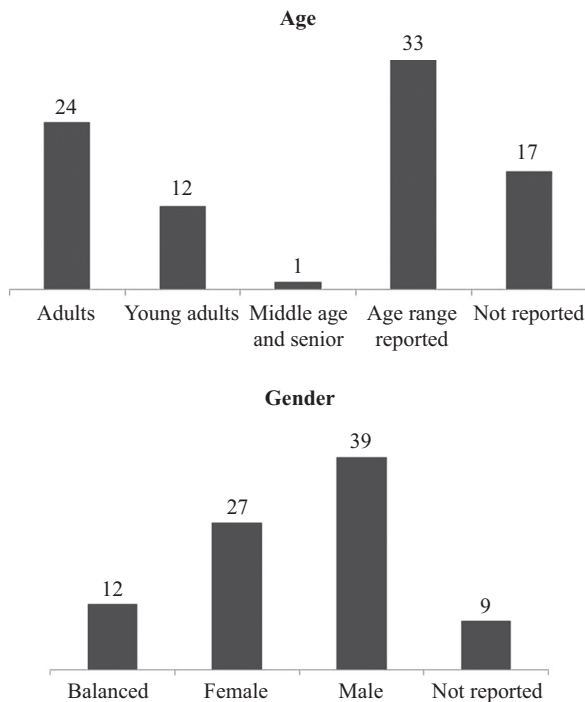


Note(s): Online = data collected through Qualtrics, MTurk, and social media. Elsewhere = those studies that reported major data collection in one country in conjunction with minor data collection from multiple other countries without mentioning specific sites

Figure 3.
The geographic scope of the study

4. Research profile

The profiling of the reviewed articles indicates that research on cyberloafing has gained momentum in the past seven years (Figure 2) wherein most studies have examined this phenomenon in the context of the developed economies, like the USA ($n = 22$, Figure 3). In terms of sample characteristics, the reviewed articles include more male-dominant samples and have included a varied age range (Figure 4). The dataset indicates an overwhelming use of quantitative data analysis techniques ($n = 83$), with surveys being the most prevalent form of data collection ($n = 72$, Figure 5).



Note(s): Age profile is based on a subjective grouping based on the reported mean age, wherein 20-30 years = Young Adults, 30-45 years = Adults, 45-60 years = Middle age and senior. Some articles reported the age range with percentage distributions, which have been similarly presented in the figure. For gender, balanced = 49-51%, while the female and male statistics presented in the figure represent the predominant gender represented in the sample

Figure 4.
Sample characteristics

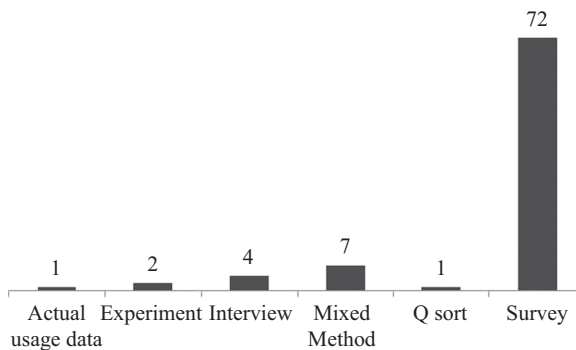


Figure 5.
Data collection
approach

5. Discussion: thematic foci of prior research

We identified four themes on which prior research has focused attention through the content analysis, including conceptualization, operationalization, antecedents and stakeholders and consequences of cyberloafing. The content analysis was also used to identify theme-specific gaps and research avenues that future scholars can explore.

5.1 Conceptualization

Many terminologies have been used to describe the personal use of the Internet (Zoghbi-Manrique-de-Lara and Viera-Armas, 2017) and ICT-enabled devices (Askew *et al.*, 2019) during work hours, including cyberloafing and cyberslacking. According to Garrett and Danziger (2008a), cyberslacking may refer to actions that reflect intentional misconduct, whereas personal Internet use at work may reflect more neutral actions. Concurrently, cyberloafing has been conceptualized as using an organization's Internet for purposes unrelated to employees' assigned work (Lim, 2002). Still, in tandem with changes in the technological environment, its definition has evolved to encompass the use of electronic devices (Askew *et al.*, 2019) and increased attention to the role of social media (Andreassen *et al.*, 2014a, b; Hu *et al.*, 2021). Moreover, studies have questioned what constitutes the appropriate use of these technologies (Whitty, 2004). For instance, according to Batabyal and Bhal (2020), cyberloafing includes the use of both employer-issued and personal devices as well as Internet resources. Sawitri and Mayasari (2017) proposed cyberloafing to encompass four main dimensions: e-mailing, surfing, leisure and serious browsing activities. Farivar and Richardson (2020) proposed the new concept of "spillover social media," which amalgamates employees' use of social media and online enterprise networking. Thus, the review suggests that the differences among these terminologies are indistinct and only clarifies that cyberloafing pertains to the wastage of organizational resources (e.g. Internet) or employees' work hours in pursuit of personal activities, whether on organizational premises or during distributed work-task arrangements.

Scholars have also extensively discussed the possibility that employers and employees adopt a different perspective toward cyberloafing. For employees, cyberloafing acts as a micro-break that allows them to cope with stressors arising from their work tasks or roles (Syrek *et al.*, 2018; Varghese and Barber, 2017; Wu *et al.*, 2020) and their private lives (König and Caner De La Guardia, 2014). Contrarily, for employers, cyberloafing is a counterproductive behavior that limits employee productivity (Andel *et al.*, 2019; Glassman *et al.*, 2015; Pindek *et al.*, 2018). Recent studies also indicate that different types of cyberloafing (minor or major) may show different prevalence rates contingent on the status

of the individual (e.g. student or full-time employee) (Akbulut *et al.*, 2017). Moreover, studies also indicate a potential multi-dimensional nature for cyberloafing (Akbulut *et al.*, 2017). For instance, Baskaran *et al.* (2019) examined four dimensions of cyberloafing: recovery, deviant, development and addiction, and found three dimensions (recovery, deviant and development behaviors) to be significantly associated with employees' job performance. Thus, prior studies indicate that the nature of cyberloafing behaviors is ambivalent. This disparity of perspective and conceptualization places some limitations on a holistic understanding of cyberloafing as a phenomenon.

5.1.1 Research gaps and future scope. The review led to the identification of three knowledge gaps in the conceptualization of cyberloafing. First, ICT use has exponentially increased, and concurrently, the social norms regarding the use of ICT, e.g. smart devices like smartwatches and smartphones, in organizations are evolving rapidly. It is possible that activities seminally conceptualized as minor cyberloafing behaviors may be considered normal behavior in current times, leading to the need to identify what type of use of social media, e-mail, Internet and other technologies is inappropriate in modern workplaces (Batabyal and Bhal, 2020; Hu *et al.*, 2021; Whitty, 2004). Thus, we argue that contemporary conceptualization and the development of an overarching conceptual definition of cyberloafing is a critical need that must address the fragmented use of multiple terminologies that conceptually refer to cyberloafing activities.

Secondly, we found limited research that concurrently examines the disparate perspectives for cyberloafing, wherein employees consider it positive behavior and employers consider it a negative one. Moreover, it is critical to address this disparity among employees as a recent study showed that some employees could also think cyberloafing to be unethical due to reasons like the perceived negative impact on productivity/efficiency, injustice to company remuneration and risks to safety/security (Batabyal and Bhal, 2020). Drawing from the study of other Internet and social media-related user behaviors, we venture to posit that cyberloafing may also have a "dual nature" (Mäntymäki and Islam, 2016) and argue that future research needs to study both positive and negative aspects concurrently to gain a holistic understanding of cyberloafing (Sawitri and Mayasari, 2017; Wu *et al.*, 2020). Thus, efforts toward developing a contemporary definition should arguably involve qualitative studies, including employees and employers (e.g. immediate supervisors and top management representatives) to reconcile their perspectives. For this purpose, scholars should also consider the *intent* behind employees' engagement in cyberloafing. Our argument is based on studies that have suggested that employees may sometimes purposefully engage in cyberloafing to harm the organization (Agarwal and Avey, 2020), e.g. in retaliation to perceived inequalities in organizational justice.

Lastly, we posit the need to investigate the possibility of determining a threshold point at which employee and employer perspectives of cyberloafing converge in terms of its adverse effects. The determination of such a threshold would clarify when an employee's use of organizational resources to engage in non-work-related activities through employer-issued or personal devices becomes disruptive, rather than rejuvenating, for employees and adversely affects their performance. This would also resolve existing disparate perspectives of cyberloafing and allow practitioners, such as HR managers, to develop viable control strategies.

5.2 Operationalization

The review highlights that the operationalization of cyberloafing has rested mainly in three previously developed scales. The majority of the studies have utilized measures developed by Lim (2002), Lim and Teo (2005) or Henle and Blanchard (2008) to investigate cyberloafing. Few scholars have developed and used individual scales to measure this behavior

(Andreassen *et al.*, 2014a; Jian, 2013; O'Neill *et al.*, 2014b; Vitak *et al.*, 2011) while leveraging the activity categorization proposed by Lim (2002) and Henle and Blanchard (2008). This suggests that the extant literature concurs on the activities initially included under the purview of cyberloafing despite using different terminologies to reflect the behavior.

5.2.1 Research gaps and future scope. The review indicates that in the past two decades, the conceptualization of cyberloafing has evolved to address prevalent ICTs, such as social media. For example, Aghaz and Sheikh (2016) discussed that cyberloafing might reflect four forms of activities, including social, informational, leisure and pursuance of the wants of the virtual-self. This extends the original conceptualization by accounting for the rising importance given by individuals to their virtual lives. However, few studies in the dataset have highlighted the role of social media and personal networking sites (Andreassen *et al.*, 2014a, b; Farivar and Richardson, 2020) in measuring cyberloafing. This indicates a gap in measuring cyberloafing regarding the contemporary activities, e.g. using instant messaging apps, that cyberloafing may meaningfully entail. This gap can be attributed to the need for and resolved by modernizing the concept of cyberloafing as discussed in the preceding section. Our argument is in line with propositions of prior scholars who have argued for the need to develop more accurate and reliable measures for cyberloafing (Zhang *et al.*, 2019).

Furthermore, we found limited studies to have addressed the point of access, e.g. mobiles and smartphones (Batabyal and Bhal, 2020; Vitak *et al.*, 2011), in their operationalization of cyberloafing. We argue this is a gap since the recent past has witnessed a proliferate integration of ICT-enabled devices like laptops and smartphones in human lives. Even employer-issued devices are increasingly used for personal activities like reading the news and playing games during work hours (Johnson, 2021). For instance, Jeong *et al.* (2020) suggested that 85.04% of employees used smartphones for non-work purposes compared to work purposes across all workdays and hours. Subsequently, we recommend that the operationalization of cyberloafing should include an evaluation of the point of access, smart devices like smartphones, smartwatches, activity trackers and source of the resource (device and Internet), i.e. personal or employer-issued, that may be used for cyberloafing.

5.3 Antecedents and stakeholders

Based on the review, we identified three main stakeholders – the individual employee, supervisors and peer co-workers – who seem to be involved in cyberloafing. Literature has examined multiple variables associated with these stakeholders as correlates and antecedents of cyberloafing. Additionally, studies have also explored various variables related to the organization and job or work tasks to study their influence on cyberloafing. Based on the review, we categorize and present information on the antecedents and correlates of cyberloafing under four classifications, including stakeholders (employee, supervisor and peer) and organization (organizational environment and job characteristics).

5.3.1 Employee. Prior scholars have attempted to develop employee profiles based on their perception of cyberloafing (Alharthi *et al.*, 2021; Anandarajan *et al.*, 2006; O'Neill *et al.*, 2014a), and the research has investigated several antecedents related to an individual employee, such as psychological and personality traits, motives, socio-demographics and justifications (i.e. neutralization strategies). While some of them have been less investigated than others, the literature has unequivocally indicated the importance of these variables in determining employees' cyberloafing behavior.

5.3.1.1 Reasons, values and ethical decision-making. Employees may engage in cyberloafing for various reasons or motives that also influence their perception of cyberloafing as ethical or unethical behavior (Batabyal and Bhal, 2020). According to Khansa *et al.* (2017), employees may be driven by their habits, like past cyberloafing

(Khansa *et al.*, 2018), and their tendency to engage in non-Internet loafing (Lieberman *et al.*, 2011), rather than an in-depth evaluation of the advantages and disadvantages of cyberloafing. Employees may also engage in cyberloafing to pursue short-term gratifications, such as creating work–life balance (Jian, 2013), entertainment (Lavoie and Pychyl, 2001), enticements from social media (Batabyal and Bhal, 2020) and relieving boredom (Pindek *et al.*, 2018). These gratification motives can also be argued as reasons due to which employees may consider cyberloafing to be ethical. Another reason employees have cited for cyberloafing is their perception of its perceived utility in positively influencing their work (Garrett and Danziger, 2008a; Vitak *et al.*, 2011). Furthermore, Zhang *et al.* (2019) suggested that moral identity may be a boundary condition, whereas Lieberman *et al.* (2011) found employees' attitudes (i.e. their job involvement and intrinsic involvement) to predict cyberloafing. Recently, Arciniega *et al.* (2019) [4] studied the effect of values (conservation, openness to change, transcendence and self-enhancement) on cyberloafing to determine that employees who give more importance to power (i.e. high self-enhancement value) are more likely to cyberloaf, despite the awareness of control and monitoring systems. However, few studies have investigated employees' motivation (Elrehail *et al.*, 2021), the factors driving them (Batabyal and Bhal, 2020) and the reasons why they perceive cyberloafing to be ethical or unethical. For instance, Elrehail *et al.* (2021) determined the moderating influence of employee motivations on the relationship between job stress and cyberloafing, while Hensel and Kacprzak (2020) determined a non-significant influence of motivation on cyberloafing.

5.3.1.2 Psychological disposition: personality, attitude and emotions. Researchers have mainly considered the Big Five personality traits (Andreassen *et al.*, 2014a, b; Varghese and Barber, 2017; Yildiz Durak and Saritepeci, 2019), but some have also investigated the traits of external locus of control (Chen *et al.*, 2011), honesty, procrastination (O'Neill *et al.*, 2014b) and emotional stability (Kim *et al.*, 2016). For example, O'Neill *et al.* (2014a) found cyberloafing to relate to procrastination positively and negatively with honesty, agreeableness and conscientiousness. Varghese and Barber (2017) determined conscientiousness and agreeableness to be negatively associated and neuroticism and extraversion to be positively associated with cyberloafing. Kim *et al.* (2016) found conscientiousness to be negatively associated with cyberloafing. Lastly, Sheikh *et al.* (2019) found a positive association of neuroticism, extraversion and openness to experience with both cyberloafing activities and behaviors and the negative impact of agreeableness on only cyberloafing activities.

Scholars also posit that employees' tendency to engage in cyberloafing can be influenced, positively or negatively, by other psychological variables (Zoghbi-Manrique-De-Lara *et al.*, 2006), such as state of mind or workplace anomia (Zoghbi-Manrique-De-Lara, 2007), technostress (Gügerçin, 2020), ability to hide (Askew *et al.*, 2014) or deceive (Lowe-Calverley and Grieve, 2017), entertainment (Chen *et al.*, 2011), a high need for achievement (Cheng *et al.*, 2020) [5], lack of self-control (Restubog *et al.*, 2011), future orientation (Zhang *et al.*, 2015) and emotional exhaustion (Koay, 2018). In a recent study, Otken *et al.* (2020) determined that employees' attitudes toward time management had a differential impact on the type of cyberloafing wherein the dimension of time wasters negatively explained variance in serious activities, while time planning and attitude positively explained the same for minor activities of cyberloafing.

Additionally, emotions, like empathetic concern (Zoghbi-Manrique-de-Lara *et al.*, 2019) and emotional stability (Jia *et al.*, 2013; Kim *et al.*, 2016), have also been investigated for their effect on cyberloafing, albeit in a limited manner. For instance, Stratton (2010) determined that employees who engage in personal web use at work were emotionally ambivalent about their behavior and efforts applied to balance the emotions of pleasure and guilt. Stratton (2010) further discussed that pleasure could emerge as the dominant emotion due to the employees' use of rationalization strategies. Zhang *et al.* (2019) found that an employee's

anger toward an organization mediates a positive association between perceived overqualification and cyberloafing. Scholars have also found that emotional conflicts (Zoghbi-Manrique-de-Lara *et al.*, 2019) and exhaustion (Koay, 2018) can act as mediators for cyberloafing's antecedents.

5.3.1.3 Socio-demographic differences. The review suggests that most scholars have utilized socio-demographic indicators, like education (Agarwal and Avey, 2020), marital status (Wu *et al.*, 2020), organizational tenure (Cheng *et al.*, 2020), age and gender (Hensel and Kacprzak, 2020; Zoghbi-Manrique-de-Lara *et al.*, 2019), as control variables. However, few studies have also found socio-demographic-related differences in cyberloafing (Sheikh *et al.*, 2015), the results have been inconsistent. For instance, Lavoie and Pychyl (2001) determined significant occupation-based and insignificant gender-based differences. Garrett and Danziger (2008b) found insignificant differences, whereas Garrett and Danziger (2008a), as well as Akbulut *et al.* (2017), found significant gender-based differences in cyberloafing behavior. Furthermore, Garrett and Danziger (2008b) also found occupational classification, education and household income to be related to higher cyberloafing. According to Alharthi *et al.* (2021), older employees, women, employees with high education levels, and more experience with a firm exhibit lesser cyberslacking. Yildiz Durak and Saritepeci (2019) and Lim and Chen (2012) also determined that men tend to cyberloaf more than women. Andreassen *et al.* (2014b) reported that top-level managers and single employees also engage more in cyberloafing.

5.3.1.4 Neutralizing cyberloafing. Employees may defend cyberloafing as acceptable behavior through normalization tactics (Khansa *et al.*, 2017), such as condoning through majority (Batabyal and Bhal, 2020), minimization and super-ordination (Lim and Teo, 2005). Employees also justify cyberloafing through the idea of it being necessary and unavoidable due to the integral nature of online media (Batabyal and Bhal, 2020). According to Batabyal and Bhal (2020), employees can leverage combinations of nine neutralization and six cognitive logics to evaluate whether cyberloafing is ethical or unethical. However, the review indicates that the metaphor of ledger (Betts *et al.*, 2014; Kim *et al.*, 2016; Lim, 2002) and denial of injury (Khansa *et al.*, 2017) are common neutralization tactics or justifications utilized by employees.

5.3.2 Supervisors. The research has investigated multiple variables associated with supervisors, such as communication style (Agarwal, 2019) [6], abusive supervision (Agarwal and Avey, 2020), their decision about Internet access, supervisors' proximity (Zoghbi-Manrique-De-Lara *et al.*, 2006; Zoghbi-Manrique-De-Lara and Olivares-Mesa, 2010), own cyberloafing and approval of the same (Askew *et al.*, 2019), as antecedents of this behavior. For instance, Askew *et al.* (2019) determined that supervisors' cyberloafing as a descriptive norm enacts influence as a distal predictor for cyberloafing, wherein the perception of subordinates for this norm mediates the association. The authors suggested that supervisors' perception of cyberloafing was an integral part of this component. In another study, Lim *et al.* (2020) determined that abusive supervision predicts cyberloafing through employees' experienced emotional exhaustion only when they have a low level of organizational commitment.

Furthermore, supervisors' mindfulness can reduce cyberloafing through compassion and empathetic concern (Zoghbi-Manrique-de-Lara *et al.*, 2019). Usman *et al.* (2021) suggested that employees perceive their work as more meaningful when the leader-member exchange is high, thereby decreasing their engagement in cyberloafing. Koch and Nafziger (2016) determined that the level of reciprocity between managers and employees regulates cyberloafing behaviors, such that fewer reciprocal employees tend to engage more in cyberloafing. Along similar lines, O'Neill *et al.* (2014b) determined that regular upward communication of employees with supervisors acts as a significant linkage variable for the associations of conscientiousness with cyberslacking and engagement.

König and Caner De La Guardia (2014) tested supervisors' support for work–family border-crossing as a direct antecedent as well as a moderator for cyberloafing but found it to be insignificant.

5.3.3 Peer co-worker. Compared with individual employees and supervisors, peer co-workers are the least investigated stakeholder in cyberloafing research. This is a surprising finding as prior scholars have suggested social factors (e.g. approval of others) (Betts *et al.*, 2014) to be a significant predictor for cyberloafing. For instance, Restubog *et al.* (2011) included co-worker-rated cyberloafing along with self-reported cyberloafing and found both to be negatively correlated to self-control. Askew *et al.* (2019) found co-worker cyberloafing as a descriptive norm and co-worker approval as a prescriptive norm to be related to cyberloafing. Moreover, Khansa *et al.* (2017) found cyberloafing by others to influence employees' own cyberloafing.

5.3.4 Organization. Prior research has investigated the role of several factors related to the organizational environment (Zoghbi-Manrique-de-Lara and Sharifiatashgah, 2020), which we classify in four main aspects: (1) organizational structure and infrastructure, (2) organizational culture, justice and social norms, (3) control and monitoring strategies and (4) job roles and work tasks.

5.3.4.1 Structure and infrastructure. Few studies have investigated cyberloafing with respect to organizational infrastructure and work-structure, such as individual vs team-based jobs (Jian, 2013) and a distributed work environment, i.e. working away from the office or remote working (O'Neill *et al.*, 2014a). For instance, cyberslacking was found to be negatively related to employees' satisfaction and perceived performance in a distributed work environment (O'Neill *et al.*, 2014a). Zoghbi-Manrique-de-Lara and Sharifiatashgah (2020) found that physical aspects of organizations, i.e. perceived crowding was linked to cyberloafing, wherein the association was mediated by the individual affective traits of trust and experienced compassion. In another study, Askew and Buckner (2017) explored the influence of physical workstation factors like the visibility of one's computer screen, shared vs assigned work stations and the ability to detect a co-worker's approach on cyberloafing. Their study determined that an employee's computer screen's visibility influenced cyberloafing through increased self-efficacy levels to hide this behavior and posited workstation visibility as a distal predictor of cyberloafing.

5.3.4.2 Organizational culture, justice and social norms. Organizational culture is a lesser investigated aspect of cyberloafing research. Zoghbi-Manrique-de-Lara and Viera-Armas (2017) found that clan, adhocracy, market and hierarchy culture types acted as partial mediators for ethical leadership and e-citizenship, but only adhocracy fully mediated the association of ethical leadership with cyberloafing. Contrarily, organizational justice (including distributive, procedural and interactional) (Lim, 2002; Zoghbi-Manrique-De-Lara, 2006), employees' perceived fairness (Khansa *et al.*, 2018) and perceived injustice (Garrett and Danziger, 2008a) have been well investigated in the existing research. For example, Oosthuizen *et al.* (2018) found that employees' work engagement acted as a mediator for the association between organizational trust and cyberloafing, wherein organizational justice was positively related to both trust and engagement as an antecedent. Oğüt *et al.* (2013) and Zoghbi-Manrique-De-Lara (2007) also determined organizational justice to be negatively related to cyberloafing activities. However, Zoghbi-Manrique-De-Lara (2009) determined procedural justice to predict cyberloafing, wherein normative conflict acts as a mediator. This brings attention to the role of interpersonal relationships (Chen *et al.*, 2011), social factors (Huma *et al.*, 2017; Moody and Siponen, 2013) and subjective norms (Askew *et al.*, 2014; Sheikh *et al.*, 2015) in promulgating cyberloafing. Moreover, few studies also indicate that variables associated with interpersonal behavior at work, such as workplace ostracism (Hu *et al.*, 2021; Koay, 2018) and exposure to physical or verbal aggression (Andel *et al.*, 2019), influenced cyberloafing. For instance, Hu *et al.* (2021) suggest that employees may engage in social

cyberloafing (i.e. use of social media for cyberloafing) as a coping measure for dealing with workplace ostracism.

5.3.4.3 Control and monitoring. Many studies have considered whether control and monitoring strategies (Hensel and Kacprzak, 2021; Zoghbi-Manrique-De-Lara *et al.*, 2006) can deter cyberloafing, although most of these have explored coercive forms of control, such as perceived sanctions (Henle and Blanchard, 2008) or punishment (Hensel and Kacprzak, 2021), perceived abusiveness (past enforcement for less abusive behaviors) (Ugrin and Pearson, 2013) and utilization of blocking and confirmation modules to ensure appropriate Internet use (Glassman *et al.*, 2015). Scholars have discussed that the presence of formal Internet use and monitoring policies and their enforcement (Ugrin and Pearson, 2013) can influence the prevalence of cyberloafing (Askew and Buckner, 2017; Khansa *et al.*, 2018; Zoghbi-Manrique-De-Lara and Olivares-Mesa, 2010). Thus, their accounting in theoretical frameworks can assist in accurately predicting cyberloafing (Khansa *et al.*, 2017). For instance, Hensel and Kacprzak (2021) determined that formal punishment had a strong effect on unpunished employees who violated organizational Internet usage policies, which were more closely integrated into organizational structure compared to punished employees. According to Wang *et al.* (2013), employees may be deterred from cyberloafing through the presence of Internet use policies and electronic monitoring; however, these mechanisms are more effective for employees with higher self-esteem and job satisfaction, respectively. Zoghbi-Manrique-De-Lara and Olivares-Mesa (2010) suggested that control system design and components may interact to create a deterring effect on cyberloafing, for example, by influencing employees' perception of organizational justice. Henle *et al.* (2009) have also studied various dimensions of policy characteristics as deterrents of cyberloafing.

However, scholars have also raised concerns about the possibility that such formal control policies may backfire (Jiang *et al.*, 2020; Khansa *et al.*, 2017) and elicit adverse responses, such as mistrust (Jian, 2013) and reduced commitment (Jiang *et al.*, 2020) from employees who may perceive such controls to result in a loss of freedom (Gügerçin, 2020). Such concerns have turned scholars' attention toward less intrusive measures based on technologies like ESM for controlling cyberloafing. For instance, Nivedhitha and Sheik Manzoor (2020) found that ESM affordances (self-expression via micro-blogging, network externality and recognition from paralinguistic digital affordances) reduce cyberloafing through increased workplace bonding. Similarly, Luqman *et al.* (2020) also determined that four ESM-related psychological effects, including persistence, editability, visibility and association, could reduce cyberloafing through the mediating influence of social bonding at the workplace.

5.3.4.4 Job and work-related variables. Scholars have examined employees' engagement with work (Elrehail *et al.*, 2021; Oosthuizen *et al.*, 2018; Soral *et al.*, 2020), along with various aspects of work tasks and job characteristics, for their influence on cyberloafing. According to Vitak *et al.* (2011), there is a differential effect of antecedents like socio-demographic factors, Internet utility and routine Internet use on the jobs that require repetitive actions *vis-à-vis* creativity. Studies have determined that cyberloafing is predicted by an employee's organizational commitment (Hensel and Kacprzak, 2020), job embeddedness (Karimi Mazidi *et al.*, 2020; Saghieh and Nosrati, 2020) and identification with the job characteristics and stressors (Zhou *et al.*, 2021), such as role conflict (Henle and Blanchard, 2008), job (Hensel and Kacprzak, 2020) or role overload (Varghese and Barber, 2017) and underload (Pindek *et al.*, 2018). For instance, Elrehail *et al.* (2021) found job demands, as well as stress, increased cyberloafing, while job resources and work engagement decreased this behavior. The authors also determined that job stress and resources mediate the association between job demands and cyberloafing. At times, employees may even consider themselves to be over-qualified for a work task, which may subsequently induce them to engage in cyberloafing (Zhang *et al.*, 2019). Contrarily, meaninglessness can reduce cyberloafing contingent on employees'

perception of organizational justice (Zoghbi-Manrique-De-Lara, 2007). Garrett and Danziger (2008a) studied job disaffection factors, such as job dissatisfaction and stress, but found them to be insignificant in explaining the model variance for cyberloafing. Yet, job autonomy was found to be related to increased cyberloafing by Garrett and Danziger (2008b). Employees have also been found to engage in cyberloafing due to perceived over-qualification (Cheng *et al.*, 2020), which reflects a job–employee mismatch and the possible perception of being “too good for the job.”

5.3.5 Research gaps and future scope. The review suggests that specific knowledge gaps exist concerning the antecedents discussed in the preceding section, which we discuss with respect to the concerned stakeholder.

5.3.5.1 Employee. First, the extant literature has given little consideration toward extending the scope of motives due to which employees’ cyberloaf. We argue this to be a critical gap since these motives can influence the kind of cyberloafing activities (major or minor) that employees may engage in. In this regard, we highlight the lacuna pertaining to employees’ needs in maintaining their digital social lives and their desire for virtual community (Chen *et al.*, 2011). For example, Aghaz and Sheikh (2016) discussed that cyberloafing might reflect four forms of activities: (1) social, (2) informational, (3) leisure and (4) pursuance of wants of the virtual-self. This extends the original conceptualization by accounting for the rising importance given by individuals to their virtual lives. However, few studies in the dataset have highlighted the role of social media and personal networking sites (Andreassen *et al.*, 2014a, b; Farivar and Richardson, 2020) as well as the gratifications resulting from their use as antecedents of cyberloafing. The past five years have witnessed growing research on other drivers of deviant online behaviors like FoMO, nomophobia and Internet addiction, which have received little attention in the cyberloafing research (Hadlington and Parsons, 2017). We argue this to be a gap since the use of social media and smartphones has exponentially increased in recent years. Psychological stressors associated with their use, like FoMO and nomophobia, could potentially drive employees to engage in cyberloafing as suggested by the problem behavior theory (Lai and Kwan, 2017), which posits that one deviant or problematic behavior can often promulgate another.

Second, although the review indicates the importance of personality, the extant research has primarily studied the Big Five personality traits. Accordingly, there is limited understanding of how darker personality traits such as Machiavellianism and narcissism (Lowe-Calverley and Grieve, 2017) influence cyberloafing. In line with the reviewed studies (e.g. Chen *et al.*, 2011), we argue for the need to extend the current knowledge by examining the dark triad or tetrad and other personality traits, such as entitlement, self-interest, impulsiveness and arrogance, on cyberloafing. Future research may also consider a cross-cultural validation of these personality traits to develop more general profiles of employees who may be psychologically predisposed to cyberloaf, as formal monitoring strategies may not be sufficient control measures for them (Arciniega *et al.*, 2019). Thus, a nuanced study of these traits may form a basis for explaining cyberloafing and assist in identifying individuals who may engage in such behavior.

Third, we argue for the need to explore the association of emotions and values in promulgating cyberloafing further as existing studies have paid inconsistent and little attention to their role. For instance, Khansa *et al.* (2017) controlled for affect (anger), while Zoghbi-Manrique-de-Lara and Sharifiatashgah (2020) studied experienced compassion as an antecedent. Moreover, only one article in the dataset addressed the role of values. We base our argument on the prior scholars’ supposition that employees’ cyberloafing intentions may be driven by the desire to harm organizations or their superiors. Such intentions may be caused by negative emotions, such as anger, frustration and jealousy. Hence, a concurrent examination of negative emotions along with motives and personality traits may yield nuanced insights into the mechanisms that drive cyberloafing.

Fourth, inconsistent findings for the influence of socio-demographic factors bring attention to the role of contextual and situational factors in affecting individual employees. We argue that more studies, specifically those examining the role of gender differences in cross-cultural, cross-industry contexts in both developing and developed countries, are required to clarify their influence. For this purpose, we propose that future scholars consider examining the moderating role of variables like education, occupation, gender and age to investigate their influence since most prior studies have controlled their effect. Fifth, relatively little focus has rested on concurrently examining employee attitude, intentions and behavior (Askew *et al.*, 2014; Moody and Siponen, 2013). Since the literature on ethical consumption and the use of technological products indicate a significant attitude-intention-behavior gap (O'Driscoll *et al.*, 2013), we propose to study whether such a gap also exists in the case of ethical workplace behavior. Thus, a more concurrent examination of these factors may lend deeper insights into the employees' ethical behaviors and clarify the underlying mechanisms through which employee motives translate into actual cyberloafing. Lastly, while neutralization techniques have received some attention in the existing literature, they have mainly been examined as antecedents. Scholars have suggested investigating the tactics through which employees justify cyberloafing as moderators or mediators (Lim, 2002). Moreover, a study of evolving justification and compensation logics (Batabyal and Bhal, 2020), along with elements of neutralization, may yield more actionable insights into cyberloafing.

5.3.5.2 The organization, supervisor and peer co-worker. While research has considered many factors associated with the organizational environment, the review leads us to suggest that the most critical gap in the context of these stakeholders is the disproportionate focus on self-reported cyberloafing from the employees' perspectives. Limited studies have included two or more stakeholders, for example, employee-peer co-worker dyads (Restubog *et al.*, 2011). We urge future scholars to consider a 360-degree appraisal of cyberloafing by including reports and observations of organizational stakeholders, i.e. peers and supervisors, perhaps through dyadic studies.

Second, the extant research has paid relatively less focus on peer co-worker-related variables when compared with individual-level employees.

Third, the review suggests a lacuna in considering the impact of leadership style, communication and the technology use norms prevalent in modern workplaces. We argue for the need to explore phenomena associated with an anxiety-driven smartphone (due to nomophobia) and social media use (e.g. due to FoMo and Internet addiction), such as phubbing, to understand their association with cyberloafing's prevalence and frequency. Our argument is aligned with prior scholars who have also suggested the need to explore problematic Internet and technology use behaviors as correlates of cyberloafing (Hadlington and Parsons, 2017).

Fourth, future studies should also give more attention to organizational culture and communication norms (e.g. ease of bidirectional communication and use of electronic media for communication) to explore their influence on cyberloafing. Lastly, the literature discusses the potential of control and monitoring to create adverse consequences. For example, according to Khansa *et al.* (2018), while technological interventions may be perceived as unfair by employees, they can curb cyberloafing, albeit at the expense of employee loyalty. It may be beneficial for future scholars to further explore more non-intrusive control strategies and the potential for the extensive use of ESM as a deterrent for cyberloafing. Scholars should also make efforts to understand whether the posited adverse consequences arise from control and monitoring policies in general or from specific characteristics of these policies since few scholars have considered the specificities of such policies. Scholars may also use experimental studies to understand how such policies may be implemented to circumvent and avoid any potential adverse consequences or backlash in the form of decreased employee

loyalty and commitment. Such knowledge would assist practitioners in developing more targeted strategies in moderating and counteracting cyberloafing.

5.4 Consequences

The review confirms that research has given minimal attention to the consequences of cyberloafing compared with other themes discussed in the preceding sections. [Sawitri and Mayasari \(2017\)](#) determined that different cyberloafing activities have a differential effect on employee creativity wherein e-mailing and leisure activities increase creativity, surfing has no effect, and serious browsing activities hinder creativity. Moreover, while the literature has extensively discussed the potential of cyberloafing to negatively influence employee behavior, performance and organizational productivity ([Alharthi et al., 2021](#); [Askw and Buckner, 2017](#); [Yildiz Durak and Saritepeci, 2019](#)), few studies have empirically examined these posited effects. For instance, [Kaptangil et al. \(2021\)](#) determined a partial and relatively low influence of cyberloafing on employees' organizational identification and motivation in the tourism sector. [Andel et al. \(2019\)](#), meanwhile, found cyberloafing to moderate the association between exposure to verbal and physical aggression with job satisfaction and turnover intention in the workplace. Three dimensions of cyberloafing (recovery, deviant and development behaviors) were also found to be significantly related to job performance by [Baskaran et al. \(2019\)](#). [Hadlington and Parsons \(2017\)](#) determined Internet addiction and cyberloafing to be significant predictors of employee's information security awareness, whereas [Yildiz Durak and Saritepeci \(2019\)](#) found cyberloafing to predict job burnout. [Farivar and Richardson \(2020\)](#), who conceptualized cyberloafing to reflect spillover social media, determined that it positively impacted the work satisfaction of single and childless employees and non-work satisfaction among childless but married men. [Wu et al. \(2020\)](#) determined that employees' engagement with online social activities, or social cyberloafing, to be positively related to psychological detachment, which, in turn, led to fatigue. Furthermore, the authors also found psychological detachment to positively mediate and fatigue to negatively mediate the association of cyberloafing with the mental health of employees, thereby calling attention to the fact that cyberloafing may have positive consequences for employee well-being in some situations. Lastly, [Syrek et al. \(2018\)](#) found that social media use for non-work or personal reasons during working hours was related to lower work engagement, but work engagement increased an hour after such cyberloafing activity, which gives some credence to the supposition that cyberloafing may act as a micro-break for employees in some instances.

5.4.1 Research gaps. First and foremost, the limited empirical investigation of cyberloafing's consequences is a critical gap that is imperative to address due to the ongoing debate about whether it positively or negatively influences the organization and employees. The study of [Syrek et al. \(2018\)](#) shows that cyberloafing may have positive implications in some situations, so it is important for scholars to explore the contexts in which such positive consequences may arise.

Second, the existing studies have mainly focused on psychological consequences, such as motivation ([Kaptangil et al., 2021](#)) and burnout ([Yildiz Durak and Saritepeci, 2019](#)). We thus argue for the need to study how cyberloafing influences employees' behaviors (e.g. task procrastination and timely achievement of objectives) and their relationships with their supervisors and peers (e.g. alienation).

Third, since the literature has posited that cyberloafing can also positively influence employees, we urge scholars to explore the causality between cyberloafing and its consequences through longitudinal, objective-data-based and experimental studies. Additionally, scholars may benefit from investigating the influence of temporality on

cyberloafing's associations to understand how this behavior influenced employee and organizational performances over time.

We contend that a concurrent consideration of temporality and the dual nature (i.e. both positive and negative) of cyberloafing's consequences may generate more profound insights into how this behavior influences an employee's well-being or satisfaction with their professional and personal lives. We argue that it may not be possible to devise effective control or regulatory strategies to manage cyberloafing without such a comprehensive understanding.

We contend that scholars' addressing of these theme-based research gaps and proposed directions for future research may significantly add to the existing knowledge. [Table 1](#) presents a summarized mapping of the thematic gaps, proposed questions to address them and the contributions that their address may make to the current body of literature. However, we would also encourage researchers to explore other potential directions for research in the future based on these gaps since the RQs proposed in the table are only indicative of the directions in which cyberloafing research may be advanced, and thus present a broad scope.

6. Comprehensive cyberloafing framework

This SLR indicates an extensive yet fragmented investigation of cyberloafing's antecedents and a relatively limited examination of its consequences. The identified research gaps in the preceding sections indicate the need for a more focused research approach to undertake an advanced investigation of cyberloafing. Based on these gaps, we propose a comprehensive framework (see [Figure 6](#)) by leveraging the tenets of two theories: BRT ([Claudy et al., 2015](#)) and SCT ([Ferris et al., 1998](#)), which can serve as a guide for future scholars. We propose five major aspects through the framework that require scholarly attention, including (1) methodology, (2) concept and operationalization, (3) stakeholders and environment, (4) consequences and (5) interactions between environment and stakeholders. The discussion on each aspect is grounded in the identified gaps and possible future avenues of research as discussed in the preceding sections.

6.1 Methodology

Since cross-sectional surveys (e.g. [Koay et al., 2017](#); [Wu et al., 2020](#)) were the predominant form of data collection method adopted by previous scholars, there is a lacuna in understanding the directionality and causality of the investigated associations. Subsequently, an overwhelming number of studies in the dataset have called for the need to adopt more robust and advanced methodological approaches to investigate cyberloafing ([Agarwal and Avey, 2020](#)). We, therefore, posit the need to adopt experimental, longitudinal and observational (i.e. log data) research designs. Such an approach can help determine the causality of associations (e.g. through experiments) and study how temporality affects these associations over a specific period (e.g. through longitudinal studies). Furthermore, the use of observational research designs can help determine the prevalence and impact of actual cyberloafing behavior, which remains a lesser-understood aspect in this field. Future scholars may also consider utilizing mixed-method designs and qualitative studies to gain more nuanced insights into cyberloafing, such as why employees engage in cyberloafing and the gratifications derived from this behavior. Next, on the basis of the insights derived from the review, we suggest that future scholars utilize more diverse samples comprising individual employees, supervisors and peer workers to garner a 360-degree view and macro-perspective of cyberloafing by evaluating the responses of all these stakeholders. Additionally, scholars should endeavor to include both employees and top-management representatives as respondents (i.e. dyadic responses) to attempt to reconcile their apparent disparate

Table 1.
Summary of thematic
gaps, thematic RQs
and implications

Research gaps	Potential research questions (RQs) for future	Contribution
<p><i>Theme 1: Conceptualization</i></p> <ol style="list-style-type: none"> (1) Classification of cyberloafing activities in contemporary organizations (2) Reconciling employee and employer perspectives (3) The duality of nature (4) The threshold for negative effect 	<p>RQ1: What are the activities that constitute cyberloafing from the perspective of employers and employees of contemporary organizations?</p> <p>RQ2: Does cyberloafing have a dual nature encompassing both positive and negative aspects? What is the role of an employee's intent in determining the nature of cyberloafing?</p> <p>RQ3: What is the threshold at which cyberloafing becomes detrimental for employees?</p>	<ol style="list-style-type: none"> (1) Conceptual advancement in defining and understanding its nature (2) Classifying activities for modern organizations (3) Threshold point for the detrimental effect
<p><i>Theme 2: Operationalization</i></p> <ol style="list-style-type: none"> (1) Development of a contemporary measure and updating seminal scales (2) Contribution of including point of access and resource source in improving operationalization 	<p>RQ4: Would the inclusion of point of access and resource source offer a better operational characterization and measurement of cyberloafing and its prevalence?</p>	<ol style="list-style-type: none"> (1) Inclusion of contemporary activities for state-of-the-art measurement (2) Extending the operational measurement/concept
<p><i>Theme 3: Antecedents and stakeholders</i></p> <ol style="list-style-type: none"> (1) Limited investigation of gratifications derived from online media use and specific phobias related to social media and smartphone use 	<p>RQ5: What is the association of cyberloafing with psychological stressors associated with problematic use of ICT and online media like FoMO and nomophobia?</p> <p>RQ6: What are the specific gratifications related to the use of online media that may act as antecedents of cyberloafing?</p>	<ol style="list-style-type: none"> (1) Developing a nuanced understanding of the mechanism-of-effect and novel factors that directly or indirectly predict cyberloafing (2) Study of factors related to all stakeholders to develop a comprehensive understanding of cyberloafing

(continued)

Research gaps	Potential research questions (RQs) for future	Contribution
Employee		
<p>(1) Limited focus on emotions and Big Five present a need to explore in detail the role of negative emotions and the influence of other personality traits, including the dark triad and tetrad</p> <p>(2) Inconsistent findings for socio-demographic differences</p> <p>(3) Limited study of the role of neutralization techniques</p> <p>(4) Limited concurrent examination of employee attitude, intention and behavior</p> <p>Organization, supervisor and peer co-worker</p> <p>(1) Multiple stakeholders for reporting cyberloafing lack inclusion in the research, creating a skewed perspective and limited knowledge</p> <p>(2) Lacuna in studying the relationship of cyberloafing with contemporary technology use-related anxieties</p> <p>(3) Limited investigation of organizational culture, technology use and communication norms</p> <p>(4) The potential adverse effect of technological interventions, control and monitoring strategies on employees</p>	<p>RQ7: How is cyberloafing related to negative emotions and dark personality traits? Would a cross-cultural validation of extended-personality traits assist in developing a profile for an employee who is psychologically predisposed toward cyberloafing?</p> <p>RQ8: Would the concurrent examination of employee attitude-intention-behavior, in conjunction with the moderating or mediating effect of socio-demographics and neutralization techniques, clarify existing inconsistencies in the knowledge on cyberloafing?</p> <p>RQ9: How would the inclusion of reports from multiple stakeholders (employee, peer and supervisor) improve the current understanding of cyberloafing?</p> <p>RQ10: How do anxieties associated with smartphone (nomophobia) and social media use (FoMO or Internet addiction) influence cyberloafing?</p> <p>RQ11: How do organizational culture, technology use and the communication norms prevalent in modern organizations influence cyberloafing's prevalence?</p> <p>RQ12: Which control and monitoring policy characteristics are effective in controlling cyberloafing? How can these policies be implemented without adversely affecting employee loyalty and causing other forms of backlash?</p>	
<p><i>Theme 4: Consequences of cyberloafing</i></p> <p>(1) Limited attention on cyberloafing's consequences</p> <p>(2) Limited attention on psychological consequences and lack of attention to behavioral and relational consequences</p> <p>(3) Lack of empirical support for the negative impact of cyberloafing on employee and organizational productivity</p> <p>(4) Lack of consideration for temporality and potential duality of consequences</p>	<p>RQ13: What are the positive and negative consequences of cyberloafing on individual employees?</p> <p>RQ14: How does cyberloafing influence employee well-being, workplace behavior, and relationships with other organizational stakeholders (i.e. supervisors and peers)?</p> <p>RQ15: How do the associations of cyberloafing with its consequences change over time?</p>	<p>(1) Establishing a comprehensive understanding of cyberloafing consequences (both positive and negative) on employee well-being, professional and personal life satisfaction, and organizational productivity concerning temporality</p>

Table 1.

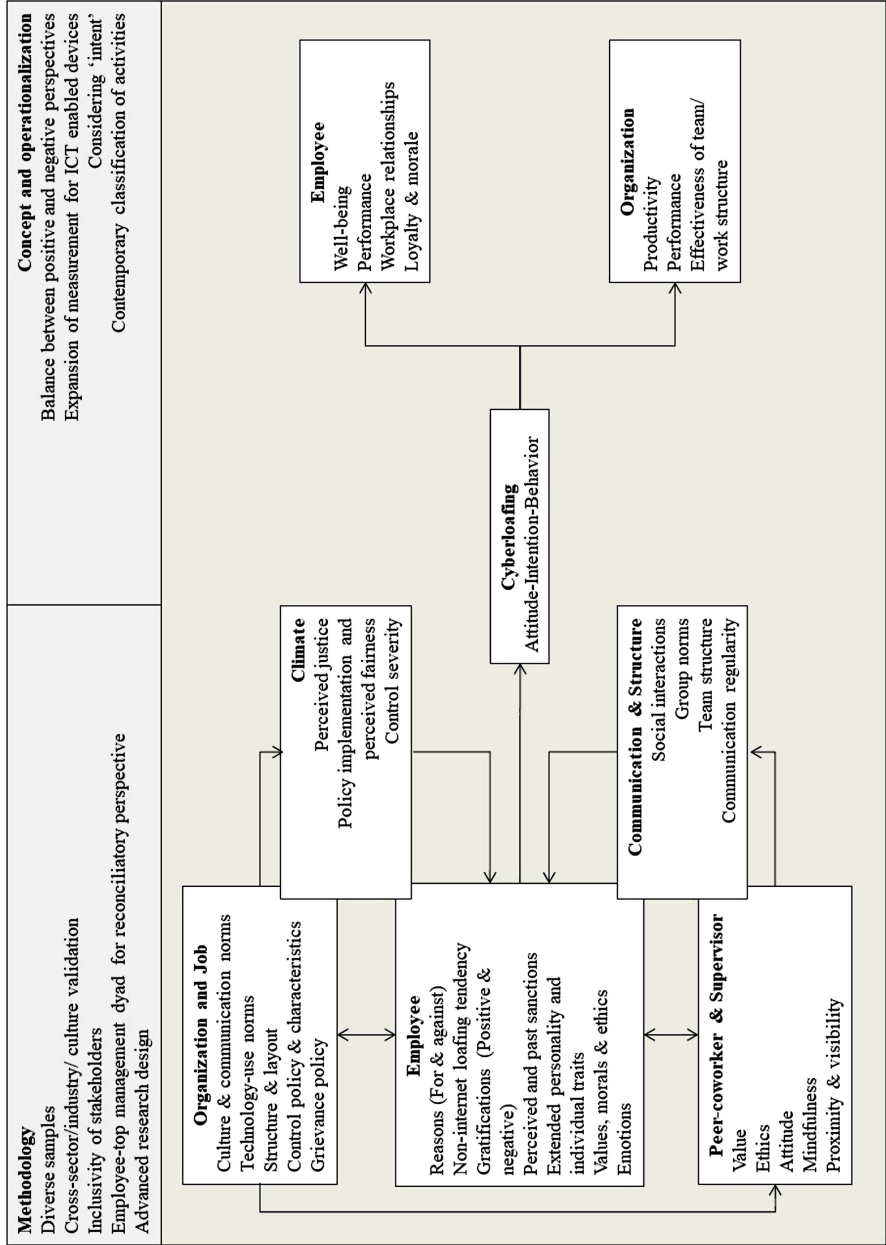


Figure 6.
 Comprehensive cyberloafing framework – a graphical representation

perspectives on cyberloafing (Khansa *et al.*, 2018). Lastly, we implore future scholars to validate the studied associations across multiple cultural, sectoral and industrial contexts to build a generalizable understanding of the antecedents and consequences of cyberloafing.

6.2 Concept and operationalization

The findings indicate that it is imperative to develop a holistic understanding of cyberloafing as a phenomenon by concurrently studying its anticipated negative and positive impacts on employees. Several studies in the review imply the need to understand the positive form of cyberloafing (Kim *et al.*, 2016; Varghese and Barber, 2017) and gain a balanced perspective of its effect (Ugrin and Pearson, 2013). Furthermore, we build upon the SLR findings to suggest the need for contemporizing the measurement of cyberloafing by including scale items specifically for the use of ICT-enabled devices, such as smartphones, personal laptops and tablets (Gügerçin, 2020; Sheikh *et al.*, 2019). Such updated operationalization of cyberloafing will yield novel insights into their influence on cyberloafing's prevalence and frequency. Furthermore, future scholars should consider developing a new dimensionality of cyberloafing to account for current technology use norms to reclassify cyberloafing activities and investigate their roles in determining employees' behavior. Finally, we implore scholars to study the effect of "intent" on employees' cyberloafing activities to assess whether cyberloafing arises from an employee's need for refreshment and micro-breaks (Andel *et al.*, 2019) or from their targeted intent to harm the organization (Lowe-Calverley and Grieve, 2017).

6.3 Stakeholders and environment

The review suggests that most of the existing studies have adopted a micro-perspective of cyberloafing to study variables related to an individual employee. However, we argue that such a perspective is skewed on the basis of the review findings. To gain a realistic understanding of cyberloafing, scholars need to concurrently examine variables associated with the individual employee, the organization and the job or work profile and the supervisors and peer co-workers. We put forth our proposition based on SCT, which indicates that various aspects of an organizational environment may influence employees. Consequently, we argue that the environment would encompass not only organizational climate and culture but also the co-workers (peers and supervisors) whose behaviors may influence an employee's cyberloafing tendencies.

6.3.1 Individual employee. Since research has shown inconsistent findings for the influence of individual variables, we leverage BRT to posit the need to consider the situational specificity of these variables and examine them as context-specific reasons for and against cyberloafing. Furthermore, while the existing research has paid significant attention to individual traits, such as personality, we argue for the need to extend research on dark personality traits and additional personal characteristics like their emotions, work-life ethics and values. Scholars should also consider investigating factors related to socio-demographic factors and organizational status as potential moderators, as prior studies have mainly considered these variables as controls (e.g. Zhang *et al.*, 2019). Additionally, we argue for the need to investigate how, or even whether, an employee's inclination to be involved in non-Internet loafing activities (e.g. taking extended coffee breaks or engaging in non-work conversations), as well as past sanctions for non-Internet or cyberloafing activities, may influence their cyberloafing attitude-intention-behavior. Lastly, we leverage BRT to implore future scholars to delve deeper into the nuanced differences between attitude, intention and actual behavior through advanced methodological approaches to study these behavioral parameters simultaneously.

6.3.2 Organization and job. While prior research has given some attention to organizational factors, job-related factors are relatively under-researched in the literature. Based on the SLR and our leveraging of SCT, we argue for the need to consider more varied aspects of both the organization and job while investigating cyberloafing. For instance, scholars should focus attention on understanding the influence of organizational structure and control policy characteristics on deterring or enabling cyberloafing. Scholars may also study the comparative prevalence of cyberloafing and its associations in private *vis-à-vis* public organizations. Such investigations should consider situational and contextual factors related to the organizational climate, such as the severity of the control policy implementation and its fairness, as potential moderators or mediators for cyberloafing's associations. Furthermore, scholars should pay attention to how job-related factors, such as work structure, work alienation and the type of activities involved in a job (creative or routine), may influence an employee's tendency to cyberloaf. Investigating such organizational and job-related factors can lend deeper insights into cyberloafing as a phenomenon.

6.3.3 Supervisor and co-worker. Extant research has investigated how some aspects related to supervisors, such as their compassion or mindfulness (Zoghbi-Manrique-de-Lara *et al.*, 2019), and those related to peers, like their approval (Askew *et al.*, 2019), can influence cyberloafing. Yet, on the basis of the review, we posit the need to extend this investigation to understand how supervisors' and co-workers' work ethics, values and attitudes influence an individual employee's tendency to cyberloaf. Scholars should also consider the moderating or mediating influence of variables related to organizational communication structure, such as team or individual work tasks, social interactions and the regularity of communications, and how these can influence cyberloafing and its associations. We believe that studying factors related to these under-researched stakeholders can yield more holistic insights on cyberloafing and their influence on employees' cyberloafing behavior.

6.4 Consequences

Since this is the least-researched aspect of cyberloafing, future scholars can investigate the varied consequences of cyberloafing that relate to both employees and organizations. In the context of organizations, we suggest that scholars objectively and subjectively investigate how cyberloafing impacts the productivity and performance of the overall organization and the team in which a cyberloafing employee is present. For instance, scholars may explore how an employee's cyberloafing impacts their individual or team-based task achievement. Regarding employees, we imply the need to study both positive and negative influences of cyberloafing on well-being based on the findings of the SLR. Furthermore, while prior scholars have suggested the need to explore the association of cyberloafing with an employee's productivity and loyalty (Khansa *et al.*, 2017), we extend the boundaries of the prior studies by proposing the detrimental impact of workplace relationships as a possible consequence of cyberloafing. We contend that it is possible that an employee who cyberloafs may experience peer alienation due to co-workers' and supervisors' disapproval of this behavior.

6.5 Interactions between environment and stakeholders

Prior research has indicated that it is imperative to investigate both the situational variables and dispositional traits (e.g. Jia *et al.*, 2013) of an individual employee and the organizational environment, including stakeholders. Subsequently, leveraging both BRT and SCT, we propose that future scholars consider the potential interactive effects of these variables by considering them as potential mediators, moderators and antecedents through different theoretically-grounded frameworks. It is possible that the interactive indirect impact of

individual and organizational factors may be context-specific and exert a differential influence on an employee across varied settings.

Scholars may utilize this framework and proposed associations to extend the boundaries of cyberloafing research. Still, we also urge scholars to use our findings to explore other variables and correlations that may also be examined.

7. Conclusion

While cyberloafing has been acknowledged as a significant online deviant behavior in contemporary organizations, the existing academic literature offers fragmented information on cyberloafing. The present study delivers an extensive and critical review of the empirical research published over last two decades to provide a comprehensive discussion on this phenomenon. We assimilated the findings from 87 articles to address the RQs raised by this SLR, wherein in response to *RQ1*, we identified the thematic foci and incumbent gaps in the existing knowledge. To address *RQ2*, we leverage the identified gaps to propose theme-specific RQs that future scholars may answer and consequently developed a comprehensive cyberloafing framework to guide them in exploring the under-investigated aspects of this phenomenon. Our findings offer significant implications and future agendas to advance the existing literature. The results may also be used by practitioners, for example, HR professionals, to develop strategies for inhibiting or controlling cyberloafing.

7.1 Implications for theory

The current review makes four significant contributions to theory. First, this SLR presents a systematically organized and contemporary structure of existing studies on cyberloafing to denote the current intellectual boundaries in this research domain. Our contribution extends beyond prior SLRs to offer a more holistic discussion on the existing literature through the developed thematic foci.

Second, identifying the thematic gaps and proposing, albeit broad, theme-specific RQs are a significant contribution of this SLR. Our findings and thorough discussion on each theme offer a robust foundation for scholars interested in investigating cyberloafing.

Third, our proposed framework recognizes the under-investigated associations and variables in the existing research to present avenues that may be explored in the future. To the best of our knowledge, the theories used to ground the proposed framework have not yet been utilized to study cyberloafing. They may offer new insights into this phenomenon, thereby advancing theoretical knowledge.

Fourth, based on the research profile (see [Section 4](#)), we identify the potential for methodological advancement to help scholars determine the causality and temporality of the investigated associations. For instance, scholars may consider utilizing objective or log data and expanding the geographic scope of the study. Lastly, the findings may have implications for studying other contemporary issues related to the use of online media, like nomophobia and FoMO. The inclusive research on such behaviors with cyberloafing may expand the theoretical boundaries of cyberloafing research, in particular, and the dark side of technology use and online deviant behaviors, in general.

7.2 Implications for practice

This SLR proffers five significant implications for practitioners, such as HR managers, organizational policymakers, and supervisors, to address cyberloafing.

First, the review suggests that it may not be possible to eliminate cyberloafing due to blurring work–personal life boundaries completely. The findings imply that practitioners need to consider practical solutions for reducing cyberloafing by enlightening and

instructing employees on using online media for personal reasons, e.g. during break times, in an appropriate manner. This is especially relevant for organizations in the current scenario operating on distributed work environments and remote working structures due to the COVID-19 pandemic.

Second, the review indicates that some employees may be psychologically pre-disposed to cyberloafing, which has implications for recruitment and selection procedures. We recommend that employers consider evaluating potential candidates based on their extended psychological profiles, accounting for dark personality traits and the possible effect of pre-existing issues like FoMO and Internet addiction. Additionally, HR managers should ensure a job–person match so that employees do not feel over-or-under-burdened and certify that an employee’s qualifications and experiences are adequately utilized in their current work roles.

Third, practitioners should address employees’ motives and intent (i.e. individual reasons) to cyberloaf by counseling them. Such counseling should make employees aware of the importance of creating work–life balance through the appropriate use of ICT and online media. Practitioners should also ensure that such counseling is aimed toward alleviating the negative emotions that may drive employees to purposefully engage in cyberloafing with the intent of harming the organization or supervisors due to perceived injustice. Moreover, supervisors’ training programs and counseling should be conducted to help them create mindful and challenging work environments that could potentially address the organizational-related antecedents of cyberloafing.

Fourth, supervisors must also be trained to implement or enforce control and monitoring policies with fairness and compassion so that employees retain a positive outlook of organizational justice. HR managers and policymakers should consider introducing a fair grievance and appeal process for sanctions related to cyberloafing, which would also impact employees’ perceived organizational justice and fairness of organizational climate.

Lastly, control strategies may be developed to introduce blocking modules and a white-list of approved websites for employee use through personal and employer-issued devices. However, to reduce the potential backlash from employees’ perceived loss of freedom arising from the implementation of such strategies, HR managers and policymakers must ensure that employees are informed about the specifics of such strategies and make them aware of the reason due to which they have been implemented.

7.3 Limitations and directions for future research

Despite following robust SLR protocols, our SLR is constrained by a few shortcomings. First, the search keywords selected for the review were subjectively based on experts’ recommendations and prevalent definitions of cyberloafing. Future studies may consider other keywords to expand the scope of our research. Second, the current review did not include articles published in conference proceedings, dissertations, book chapters and studies in a language other than English. We acknowledge that we may have excluded some relevant studies due to this exclusion criterion and suggest that future scholars consider including these publication sources to address our limitation. Third, we restricted our review to two databases (Web of Science and Scopus), which may also have led to the exclusion of appropriate literature. Future SLRs may consider including other databases, such as PsycINFO, IEEE and ACM. Lastly, we acknowledge that the study may have been affected by subjective bias while reviewing articles for the dataset due to the evident use of multiple terminologies that address personal Internet and device use during work hours. We urge scholars to consider developing more objective evaluative criteria to address this limitation while conducting future SLRs.

Notes

1. First published online in 2019.
2. First published online in 2019.
3. First published online in 2019.
4. First published online in 2017.
5. First published online in 2018.
6. First published 2018.

References

- Agarwal, U.A. (2019), "Impact of supervisors' perceived communication style on subordinate's PsyCap and cyberloafing", *Academy of Management Proceedings*, Vol. 23 No. 1, p. 11337.
- Agarwal, U.A. and Avey, J.B. (2020), "Abusive supervisors and employees who cyberloaf: examining the roles of psychological capital and contract breach", *Internet Research*, Vol. 30 No. 3, pp. 789-809.
- Aghaz, A. and Sheikh, A. (2016), "Cyberloafing and job burnout: an investigation in the knowledge-intensive sector", *Computers in Human Behavior*, Vol. 62, pp. 51-60.
- Akbulut, Y., Dönmez, O. and Dursun, Ö.Ö. (2017), "Cyberloafing and social desirability bias among students and employees", *Computers in Human Behavior*, Vol. 72, pp. 87-95.
- Alharthi, S., Levy, Y., Wang, L. and Hur, I. (2021), "Employees' mobile cyberslacking and their commitment to the organization", *Journal of Computer Information Systems*, Vol. 61 No. 2, pp. 141-153.
- Anandarajan, M., Paravastu, N. and Simmers, C.A. (2006), "Perceptions of personal web usage in the workplace: a Q-methodology approach", *Cyberpsychology and Behavior*, Vol. 9 No. 3, pp. 325-335.
- Andel, S.A., Kessler, S.R., Pindek, S., Kleinman, G. and Spector, P.E. (2019), "Is cyberloafing more complex than we originally thought? Cyberloafing as a coping response to workplace aggression exposure", *Computers in Human Behavior*, Vol. 101, pp. 124-130.
- Andreassen, C.S., Torsheim, T. and Pallesen, S. (2014a), "Use of online social network sites for personal purposes at work: does it impair self-reported performance?", *Comprehensive Psychology*, Vol. 3 No. 1, pp. 1-21.
- Andreassen, C.S., Torsheim, T. and Pallesen, S. (2014b), "Predictors of use of social network sites at work - a specific type of cyberloafing", *Journal of Computer-Mediated Communication*, Vol. 19 No. 4, pp. 906-921.
- Arciniega, L.M., Stanley, L.J., Puga-Méndez, D., Obregón-Schael, D. and Politi-Salame, I. (2019), "The relationship between individual work values and unethical decision-making and behavior at work", *Journal of Business Ethics*, Vol. 158 No. 4, pp. 1133-1148.
- Askew, K.L. and Buckner, J.E. (2017), "The role of the work station: visibility of one's computer screen to coworkers influences cyberloafing through self-efficacy to hide cyberloafing", *Psychologist-Manager Journal*, Vol. 20 No. 4, pp. 267-287.
- Askew, K., Buckner, J.E., Taing, M.U., Ilie, A., Bauer, J.A. and Coovert, M.D. (2014), "Explaining cyberloafing: the role of the theory of planned behavior", *Computers in Human Behavior*, Vol. 36, pp. 510-519.
- Askew, K.L., Ilie, A., Bauer, J.A., Simonet, D.V., Buckner, J.E. and Robertson, T.A. (2019), "Disentangling how coworkers and supervisors influence employee cyberloafing: what normative information are employees attending to?", *Journal of Leadership and Organizational Studies*, Vol. 26 No. 4, pp. 526-544.

-
- Baskaran, S., Nedunselian, N., Mahadi, N. and Mahmood, Z. (2019), "An epidemic phenomenon of workplace cyberloafing: investigations and implications", *International Journal of Work Organisation and Emotion*, Vol. 10 No. 4, pp. 357-371.
- Batabyal, S.K. and Bhal, K.T. (2020), "Traditional cyberloafing, mobile cyberloafing and personal mobile-internet loafing in business organizations: exploring cognitive ethical logics", *Journal of Information, Communication and Ethics in Society*, Vol. 18 No. 4, pp. 631-647.
- Behera, R.K., Bala, P.K. and Dhir, A. (2019), "The emerging role of cognitive computing in healthcare: a systematic literature review", *International Journal of Medical Informatics*, Vol. 129, pp. 154-166.
- Betts, T.K., Setterstrom, A.J., Pearson, J.M. and Totty, S. (2014), "Explaining cyberloafing through a theoretical integration of theory of interpersonal behavior and theory of organizational justice", *Journal of Organizational and End User Computing*, Vol. 26 No. 4, pp. 23-42.
- Burleson, J. and Greenbaum, B.E. (2019), "When spheres collide: a refocused research framework for personal use of technology at work", *Communications of the Association for Information Systems*, Vol. 45 No. 1, pp. 411-432.
- Chen, J.V., Ross, W.H. and Yang, H.H. (2011), "Personality and motivational factors predicting internet abuse at work", *Cyberpsychology*, Vol. 5 No. 1, p. 5.
- Cheng, B., Zhou, X., Guo, G. and Yang, K. (2020), "Perceived overqualification and cyberloafing: a moderated-mediation model based on equity theory", *Journal of Business Ethics*, Vol. 164 No. 3, pp. 565-577.
- Claudy, M.C., Garcia, R. and O'Driscoll, A. (2015), "Consumer resistance to innovation — a behavioral reasoning perspective", *Journal of the Academy of Marketing Science*, Vol. 43 No. 4, pp. 528-544.
- Cooper, H.M. (1988), "Organizing knowledge syntheses: a taxonomy of literature reviews", *Knowledge in Society*, Vol. 1 No. 1, pp. 104-126.
- Dhir, A., Talwar, S., Kaur, P. and Malibari, A. (2020), "Food waste in hospitality and food services: a systematic literature review and framework development approach", *Journal of Cleaner Production*, Vol. 270, p. 122861.
- Elo, S. and Kyngäs, H. (2008), "The qualitative content analysis process", *Journal of Advanced Nursing*, Vol. 62 No. 1, pp. 107-115.
- Elrehail, H., Rehman, S.U., Chaudhry, N.I. and Alzghoul, A. (2021), "Nexus among cyberloafing behavior, job demands and job resources: a mediated-moderated model", *Education and Information Technologies*, pp. 1-21, doi: [10.1007/s10639-021-10496-1](https://doi.org/10.1007/s10639-021-10496-1), available at: <https://link.springer.com/article/10.1007/s10639-021-10496-1#citeas>.
- Farivar, F. and Richardson, J. (2020), "Workplace digitalisation and work-nonwork satisfaction: the role of spillover social media", *Behaviour and Information Technology*, Vol. 40 No. 8, pp. 747-758.
- Ferris, G.R., Arthur, M.M., Berkson, H.M., Kaplan, D.M., Harrell-Cook, G. and Frink, D.D. (1998), "Toward a social context theory of the human resource management-organization effectiveness relationship", *Human Resource Management Review*, Vol. 8 No. 3, pp. 235-264.
- Garrett, R.K. and Danziger, J.N. (2008a), "Disaffection or expected outcomes: understanding personal internet use during work", *Journal of Computer-Mediated Communication*, Vol. 13 No. 4, pp. 937-958.
- Garrett, R.K. and Danziger, J.N. (2008b), "On cyberslacking: workplace status and personal internet use at work", *Cyberpsychology and Behavior*, Vol. 11 No. 3, pp. 287-292.
- Glassman, J., Prosch, M. and Shao, B.B.M. (2015), "To monitor or not to monitor: effectiveness of a cyberloafing countermeasure", *Information and Management*, Vol. 52 No. 2, pp. 170-182.
- Güğercin, U. (2020), "Does techno-stress justify cyberslacking? An empirical study based on the neutralisation theory", *Behaviour and Information Technology*, Vol. 39 No. 7, pp. 824-836.
- Hadlington, L. and Parsons, K. (2017), "Can cyberloafing and internet addiction affect organisational information security?", *Cyberpsychology, Behavior and Social Networking*, Vol. 20 No. 9, pp. 567-571.

- Henle, C.A. and Blanchard, A.L. (2008), "The interaction of work stressors and organizational sanctions on cyberloafing", *Journal of Managerial Issues*, Vol. 20 No. 3, pp. 383-400.
- Henle, C.A., Kohut, G. and Booth, R. (2009), "Designing electronic use policies to enhance employee perceptions of fairness and to reduce cyberloafing: an empirical test of justice theory", *Computers in Human Behavior*, Vol. 25 No. 4, pp. 902-910.
- Hensel, P.G. and Kacprzak, A. (2020), "Job overload, organizational commitment, and motivation as antecedents of cyberloafing: evidence from employee monitoring software", *European Management Review*, Vol. 17 No. 4, pp. 931-942.
- Hensel, P.G. and Kacprzak, A. (2021), "Curbing cyberloafing: studying general and specific deterrence effects with field evidence", *European Journal of Information Systems*, Vol. 30 No. 2, pp. 219-235.
- Hsieh, H.F. and Shannon, S.E. (2005), "Three approaches to qualitative content analysis", *Qualitative Health Research*, Vol. 15 No. 9, pp. 1277-1288.
- Hu, Y., Chen, Y. and Ye, M. (2021), "Eager to belong: social cyberloafing as a coping response to workplace ostracism", *Current Psychology*, pp. 1-10, doi: [10.1007/s12144-021-01690-y](https://doi.org/10.1007/s12144-021-01690-y).
- Huma, Z.E., Hussain, S., Thurasamy, R. and Malik, M.I. (2017), "Determinants of cyberloafing: a comparative study of a public and private sector organization", *Internet Research*, Vol. 27 No. 1, pp. 97-117.
- J-Ho, S.C., Gan, P.L. and Ramayah, T. (2017), "A review of the theories in cyberloafing studies", *Advanced Science Letters*, Vol. 23 No. 9, pp. 9174-9176.
- Jeong, Y., Jung, H. and Lee, J. (2020), "Cyberslacking or smart work: smartphone usage log-analysis focused on app-switching behavior in work and leisure conditions", *International Journal of Human-Computer Interaction*, Vol. 36 No. 1, pp. 15-30.
- Jia, H., Jia, R. and Karau, S. (2013), "Cyberloafing and personality: the impact of the big five traits and workplace situational factors", *Journal of Leadership and Organizational Studies*, Vol. 20 No. 3, pp. 358-365.
- Jian, G. (2013), "Understanding the wired workplace: the effects of job characteristics on employees' personal online communication at work", *Communication Research Reports*, Vol. 30 No. 1, pp. 22-33.
- Jiang, H., Tsohou, A., Siponen, M. and Li, Y. (2020), "Examining the side effects of organizational internet monitoring on employees", *Internet Research*, Vol. 30 No. 6, pp. 1613-1630.
- Johnson, J. (2021), "Adults worldwide using work devices for personal activities 2019, by country share of adults in selected countries using employer-issued devices for personal activities in 2019, by country", in *Statista*, available at: <https://www.statista.com/statistics/1147849/share-adults-worldwide-employer-issued-device-personal-activities/> (accessed 15 May 2021).
- Kaptangil, K., Asan, K. and Kinay, A.G. (2021), "The effect of the cyberloafing behaviors of tourism business employees on business motivations and organizational identification", *Tourism and Management Studies*, Vol. 17 No. 1, pp. 31-43.
- Karimi Mazidi, A., Rahimnia, F., Mortazavi, S. and Lagzian, M. (2020), "Cyberloafing in public sector of developing countries: job embeddedness as a context", *Personnel Review*, Vol. ahead-of-print No. ahead-of-print, doi: [10.1108/PR-01-2020-0026](https://doi.org/10.1108/PR-01-2020-0026).
- Kaur, P., Dhir, A., Tandon, A., Alzeiby, E.A. and Abohassan, A.A. (2020), "A systematic literature review on cyberstalking. An analysis of past achievements and future promises", *Technological Forecasting and Social Change*, Vol. 163, p. 120426.
- Kaur, P., Dhir, A., Alkhalifa, A.K. and Tandon, A. (2021), "Social media platforms and sleep problems: a systematic literature review, synthesis and framework for future research", *Internet Research*, Vol. ahead-of-print No. ahead-of-print, doi: [10.1108/INTR-04-2020-0187](https://doi.org/10.1108/INTR-04-2020-0187).
- Khansa, L., Kuem, J., Siponen, M. and Kim, S.S. (2017), "To cyberloaf or not to cyberloaf: the impact of the announcement of formal organizational controls", *Journal of Management Information Systems*, Vol. 34 No. 1, pp. 141-176.

-
- Khansa, L., Barkhi, R., Ray, S. and Davis, Z. (2018), "Cyberloafing in the workplace: mitigation tactics and their impact on individuals' behavior", *Information Technology and Management*, Vol. 19 No. 4, pp. 197-215.
- Khanra, S., Dhir, A., Islam, N. and Mäntymäki, M. (2020a), "Big data analytics in healthcare: a systematic literature review", *Enterprise Information Systems*, Vol. 14 No. 7, pp. 878-912.
- Khanra, S., Dhir, A. and Mäntymäki, M. (2020b), "Big data analytics and enterprises: a bibliometric synthesis of the literature", *Enterprise Information Systems*, Vol. 14 No. 6, pp. 737-768.
- Kim, K., Trianadel, M.C., Chng, K. and Oh, N. (2016), "When do employees cyberloaf? An interactionist perspective examining personality, justice and empowerment", *Human Resource Management*, Vol. 55 No. 6, pp. 1041-1058.
- Kitchenham, B., Pearl Brereton, O., Budgen, D., Turner, M., Bailey, J. and Linkman, S. (2009), "Systematic literature reviews in software engineering - a systematic literature review", *Information and Software Technology*, Vol. 51 No. 1, pp. 7-15.
- Koay, K.Y. (2018), "Workplace ostracism and cyberloafing: a moderated-mediation model", *Internet Research*, Vol. 28 No. 4, pp. 1122-1141.
- Koay, K.Y., Soh, P.C.H. and Chew, K.W. (2017), "Do employees' private demands lead to cyberloafing? The mediating role of job stress", *Management Research Review*, Vol. 40 No. 9, pp. 1025-1038.
- Koch, A.K. and Nafziger, J. (2016), "Gift exchange, control, and cyberloafing: a real-effort experiment", *Journal of Economic Behavior and Organization*, Vol. 131, pp. 409-426.
- König, C.J. and Caner De La Guardia, M.E. (2014), "Exploring the positive side of personal internet use at work: does it help in managing the border between work and nonwork?", *Computers in Human Behavior*, Vol. 30, pp. 355-360.
- Lai, F.T.T. and Kwan, J.L.Y. (2017), "Socioeconomic influence on adolescent problematic internet use through school-related psychosocial factors and pattern of internet use", *Computers in Human Behavior*, Vol. 68, pp. 121-136.
- Landis, J.R. and Koch, G.G. (1977), "The measurement of observer agreement for categorical data", *Biometrics*, Vol. 33 No. 1, pp. 159-174.
- Lavoie, J.A.A. and Pychyl, T.A. (2001), "Cyberslacking and the procrastination superhighway: a web-based survey of online procrastination, attitudes, and emotion", *Social Science Computer Review*, Vol. 19 No. 4, pp. 431-444.
- Lieberman, B., Seidman, G., McKenna, K.Y.A. and Buffardi, L.E. (2011), "Employee job attitudes and organizational characteristics as predictors of cyberloafing", *Computers in Human Behavior*, Vol. 27 No. 6, pp. 2192-2199.
- Lim, V.K.G. (2002), "The IT way of loafing on the job: cyberloafing, neutralizing and organizational justice", *Journal of Organizational Behavior*, Vol. 23 No. 5, pp. 675-694.
- Lim, V.K.G. and Chen, D.J.Q. (2012), "Cyberloafing at the workplace: gain or drain on work?", *Behaviour and Information Technology*, Vol. 31 No. 4, pp. 343-353.
- Lim, V.K.G. and Teo, T.S.H. (2005), "Prevalence, perceived seriousness, justification and regulation of cyberloafing in Singapore: an exploratory study", *Information and Management*, Vol. 42 No. 8, pp. 1081-1093.
- Lim, P.K., Koay, K.Y. and Chong, W.Y. (2020), "The effects of abusive supervision, emotional exhaustion and organizational commitment on cyberloafing: a moderated-mediation examination", *Internet Research*, Vol. 31 No. 2, pp. 497-518.
- Lowe-Calverley, E. and Grieve, R. (2017), "Web of deceit: relationships between the dark triad, perceived ability to deceive and cyberloafing", *Cyberpsychology*, Vol. 11 No. 2, p. 5.
- Luqman, A., Masood, A., Shahzad, F., Imran Rasheed, M. and Weng, Q. (2020), "Enterprise social media and cyber-slacking: an integrated perspective", *International Journal of Human-Computer Interaction*, Vol. 36 No. 15, pp. 1426-1436.

- Mäntymäki, M. and Islam, A.K.M.N. (2016), "The Janus face of Facebook: positive and negative sides of social networking site use", *Computers in Human Behavior*, Vol. 61, pp. 14-26.
- Mercado, B.K., Giordano, C. and Giordano, C. (2017), "A meta-analytic investigation of cyberloafing", *Career Development International*, Vol. 22 No. 5, pp. 546-564.
- Mongeon, P. and Paul-Hus, A. (2016), "The journal coverage of Web of Science and Scopus: a comparative analysis", *Scientometrics*, Vol. 106 No. 1, pp. 213-228.
- Moody, G.D. and Siponen, M. (2013), "Using the theory of interpersonal behavior to explain non-work-related personal use of the internet at work", *Information and Management*, Vol. 50 No. 6, pp. 322-335.
- Nivedhitha, K.S. and Sheik Manzoor, A.K. (2020), "Get employees talking through enterprise social media! Reduce cyberslacking: a moderated mediation model", *Internet Research*, Vol. 30 No. 4, pp. 1167-1202.
- Nusrat, A., He, Y., Luqman, A., Waheed, A. and Dhir, A. (2021), "Enterprise social media and cyberslacking: a Kahn's model perspective", *Information and Management*, Vol. 58 No. 1, 103405.
- O'Driscoll, A., Claudy, M. and Peterson, M. (2013), "Understanding the attitude-behavior gap for renewable energy systems using behavioral reasoning theory", *Journal of Macromarketing*, Vol. 33 No. 4, pp. 273-287.
- O'Neill, T.A., Hambley, L.A. and Bercovich, A. (2014a), "Prediction of cyberslacking when employees are working away from the office", *Computers in Human Behavior*, Vol. 34, pp. 291-298.
- O'Neill, T.A., Hambley, L.A. and Chatellier, G.S. (2014b), "Cyberslacking, engagement, and personality in distributed work environments", *Computers in Human Behavior*, Vol. 40, pp. 152-160.
- Öğüt, E., Şahin, M. and Demirsel, M.T. (2013), "The relationship between perceived organizational justice and cyberloafing: evidence from a public hospital in Turkey", *Mediterranean Journal of Social Sciences*, Vol. 4 No. 10, pp. 226-233.
- Oosthuizen, A., Rabie, G.H. and De Beer, L.T. (2018), "Investigating cyberloafing, organisational justice, work engagement and organisational trust of South African retail and manufacturing employees", *SA Journal of Human Resource Management*, Vol. 16, pp. 1-12.
- Ötken, A.B., Bayram, A., Beer, S.G. and Kaya, Ç. (2020), "Are time management and cyberloafing related? Investigating employees' attitudes", *Global Business Review*, Vol. 11, pp. 1-13.
- Pei, R. and Porter, A.L. (2011), "Profiling leading scientists in nanobiomedical science: interdisciplinarity and potential leading indicators of research directions", *R&D Management*, Vol. 41 No. 3, pp. 288-306.
- Pindek, S., Krajcevska, A. and Spector, P.E. (2018), "Cyberloafing as a coping mechanism: dealing with workplace boredom", *Computers in Human Behavior*, Vol. 86, pp. 147-152.
- Restubog, S.L.D., Garcia, P.R.J.M., Toledano, L.S., Amarnani, R.K., Tolentino, L.R. and Tang, R.L. (2011), "Yielding to (cyber-)temptation: exploring the buffering role of self-control in the relationship between organizational justice and cyberloafing behavior in the workplace", *Journal of Research in Personality*, Vol. 45 No. 2, pp. 247-251.
- Saghih, A.M.F. and Nosrati, S. (2020), "The antecedents of job embeddedness and their effects on cyberloafing among employees of public universities in eastern Iran", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 14 No. 1, pp. 77-93.
- Sawitri, H.S.R. and Mayasari, D. (2017), "Keeping up with the cyberloafers: how do cyberloafing and creative self-efficacy bear with creativity?", *Journal for Global Business Advancement*, Vol. 10 No. 6, pp. 652-670.
- Seth, H., Talwar, S., Bhatia, A., Saxena, A. and Dhir, A. (2020), "Consumer resistance and inertia of retail investors: development of the resistance adoption inertia continuance (RAIC) framework", *Journal of Retailing and Consumer Services*, Vol. 55, p. 102071.
- Sheikh, A., Atashgah, M.S. and Adibzadegan, M. (2015), "The antecedents of cyberloafing: a case study in an Iranian copper industry", *Computers in Human Behavior*, Vol. 51, pp. 172-179.

-
- Sheikh, A., Aghaz, A. and Mohammadi, M. (2019), "Cyberloafing and personality traits: an investigation among knowledge-workers across the Iranian knowledge-intensive sectors", *Behaviour and Information Technology*, Vol. 38 No. 12, pp. 1213-1224.
- Soral, P., Arayankalam, J. and Pandey, J. (2020), "The Impact of ambivalent perception of bureaucratic structure on cyberloafing", *Australasian Journal of Information Systems*, Vol. 24, pp. 1-44.
- Statista (2019), "Share of workers in the United States who check their personal e-mails during normal work hours", in *Statista*, available at: [statista.com/statistics/911615/frequency-consumers-checking-personal-emails-during-work-hours/](https://www.statista.com/statistics/911615/frequency-consumers-checking-personal-emails-during-work-hours/) (accessed 15 May 2021).
- Stokel-Walker, C. (2020), "Cyberloafing: the line between rejuvenating and wasting time", 7 February, *BBC*, available at: <https://www.bbc.com/worklife/article/20200206-cyberloafing-the-line-between-rejuvenating-and-wasting-time> (accessed 15 May 2021).
- Stratton, M.T. (2010), "Uncovering a new guilty pleasure: a qualitative study of the emotions of personal web usage at work", *Journal of Leadership and Organizational Studies*, Vol. 17 No. 4, pp. 392-410.
- Syrek, C.J., Kühnel, J., Vahle-Hinz, T. and De Bloom, J. (2018), "Share, like, Twitter, and connect: ecological momentary assessment to examine the relationship between non-work social media use at work and work engagement", *Work and Stress*, Vol. 32 No. 3, pp. 209-227.
- Talwar, S., Talwar, M., Kaur, P. and Dhir, A. (2020), "Consumers' resistance to digital innovations: a systematic review and framework development", *Australasian Marketing Journal*, Vol. 28 No. 4, pp. 286-299.
- Tandon, A., Dhir, A., Islam, N. and Mäntymäki, M. (2020), "Blockchain in healthcare: a systematic literature review, synthesizing framework and future research agenda", *Computers in Industry*, Vol. 122, p. 103290.
- Tandon, A., Dhir, A., Almgren, I., AlNemer, G.N. and Mäntymäki, M. (2021), "Fear of missing out (FoMO) among social media users: a systematic literature review, synthesis and framework for future research", *Internet Research*, Vol. 31 No. 3, pp. 782-821.
- Ugrin, J.C. and Pearson, J.M. (2013), "The effects of sanctions and stigmas on cyberloafing", *Computers in Human Behavior*, Vol. 29 No. 3, pp. 812-820.
- Usman, M., Javed, U., Shoukat, A. and Bashir, N.A. (2021), "Does meaningful work reduce cyberloafing? Important roles of affective commitment and leader-member exchange", *Behaviour and Information Technology*, Taylor & Francis, Vol. 40 No. 2, pp. 206-220.
- Varghese, L. and Barber, L.K. (2017), "A preliminary study exploring moderating effects of role stressors on the relationship between big five personality traits and workplace cyberloafing", *Cyberpsychology*, Vol. 11 No. 4, pp. 1-15.
- Vitak, J., Crouse, J. and Larose, R. (2011), "Personal internet use at work: understanding cyberslacking", *Computers in Human Behavior*, Vol. 27 No. 5, pp. 1751-1759.
- Wang, J., Tian, J. and Shen, Z. (2013), "The effects and moderators of cyber-loafing controls: an empirical study of Chinese public servants", *Information Technology and Management*, Vol. 14 No. 4, pp. 269-282.
- Webster, J. and Watson, R.T. (2002), "Analyzing the past to prepare for the future: writing a literature review", *MIS Quarterly*, Vol. 26 No. 2, pp. xiii-xxiii.
- Weissenfeld, K., Abramova, O. and Krasnova, H. (2019), "Antecedents for cyberloafing – a literature review", *14th International Conference on Wirtschaftsinformatik*, Siegen, pp. 1687-1701.
- Whitty, M.T. (2004), "Should filtering software be utilised in the workplace? Australian employees' attitudes towards internet usage and surveillance of the internet in the workplace", *Surveillance and Society*, Vol. 2 No. 1, pp. 39-54.
- Wu, J., Mei, W., Liu, L. and Ugrin, J.C. (2020), "The bright and dark sides of social cyberloafing: effects on employee mental health in China", *Journal of Business Research*, Vol. 112, pp. 56-64.

- Yildiz Durak, H. and Saritepeci, M. (2019), "Occupational burnout and cyberloafing among teachers: analysis of personality traits, individual and occupational status variables as predictors", *Social Science Journal*, Vol. 56 No. 1, pp. 69-87.
- Zhang, H., Zhao, H., Liu, J., Xu, Y. and Lu, H. (2015), "The dampening effect of employees' future orientation on cyberloafing behaviors: the mediating role of self-control", *Frontiers in Psychology*, Vol. 6, pp. 1-10.
- Zhang, J., Akhtar, M.N., Zhang, Y. and Sun, S. (2019), "Are overqualified employees bad apples? A dual-pathway model of cyberloafing", *Internet Research*, Vol. 30 No. 1, pp. 289-313.
- Zhou, B., Li, Y., Hai, M., Wang, W. and Niu, B. (2021), "Challenge-hindrance stressors and cyberloafing: a perspective of resource conservation versus resource acquisition", *Current Psychology*, pp. 1-10, doi: [10.1007/s12144-021-01505-0](https://doi.org/10.1007/s12144-021-01505-0).
- Zoghbi-Manrique-De-Lara, P. (2006), "Fear in organizations: does intimidation by formal punishment mediate the relationship between interactional justice and workplace internet deviance?", *Journal of Managerial Psychology*, Vol. 21 No. 6, pp. 580-592.
- Zoghbi-Manrique-De-Lara, P. (2007), "Relationship between organizational justice and cyberloafing in the workplace: has 'anomia' a say in the matter?", *Cyberpsychology and Behavior*, Vol. 10 No. 3, pp. 464-470.
- Zoghbi-Manrique-De-Lara, P. (2009), "Inequity, conflict, and compliance dilemma as causes of cyberloafing", *International Journal of Conflict Management*, Vol. 20 No. 2, pp. 188-201.
- Zoghbi-Manrique-De-Lara, P. and Olivares-Mesa, A. (2010), "Bringing cyber loafers back on the right track", *Industrial Management and Data Systems*, Vol. 110 No. 7, pp. 1038-1053.
- Zoghbi-Manrique-de-Lara, P. and Sharifiatashgah, M. (2020), "The relationship between perceived crowding and cyberloafing in open offices at Iranian IT-based companies", *Cognition, Technology and Work*, Vol. 23 No. 2, pp. 331-342.
- Zoghbi-Manrique-de-Lara, P. and Viera-Armas, M. (2017), "Corporate culture as a mediator in the relationship between ethical leadership and personal internet use", *Journal of Leadership and Organizational Studies*, Vol. 24 No. 3, pp. 357-371.
- Zoghbi-Manrique-De-Lara, P., Tacoronte, D.V. and Ding, J.M.T. (2006), "Do current anti-cyberloafing disciplinary practices have a replica in research findings?: a study of the effects of coercive strategies on workplace internet misuse", *Internet Research*, Vol. 16 No. 4, pp. 450-467.
- Zoghbi-Manrique-de-Lara, P., Viera-Armas, M. and De Blasio García, G. (2019), "Does supervisors' mindfulness keep employees from engaging in cyberloafing out of compassion at work?", *Personnel Review*, Vol. 49 No. 2, pp. 670-687.

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