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FEAR OF MISSING OUT ON SOCIAL MEDIA

Implications for private and professional lives

Anushree Luukela-Tandon



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ANUSHREE LUUKELA-TANDON: Fear of Missing Out on Social Media:

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ABSTRACT

The “dark side” of social media use is a topic of vivid discourse in academia and mass media. Within this discourse, various negative effects, such as social media fatigue, addictive or compulsive use, and social media use-related sleep problems have garnered attention. The Fear of Missing Out (FoMO) is a particular dark side of social media phenomenon that has significant implications for diverse segments of social media users. In the past decade, since the operationalization of FoMO, scholars, especially those researching social media, have made continuing progress in understanding FoMO’s conceptual foundations as well as the capacities in which FoMO can influence the well-being of social media users. Despite the growing scholarly interest, research on FoMO is fragmented and features significant knowledge gaps, such as a limited understanding of its consequences and a lack of focus in prior studies beyond young adults and teenagers as a respondent group. These gaps need to be addressed as myriad mass media reports and academic studies have linked social media users’ experience of FoMO with indicators of diminished well-being, which in turn has implications for these users’ personal and professional lives.

The aim of this dissertation is to investigate how FoMO, as a context-specific psychological trigger, predicates users’ experience of phenomena associated with the dark side of social media such as social media fatigue, compulsive social media use, and social media stalking. It further investigates the influence of such FoMO-driven experiences on individual users’ professional and personal lives. This dissertation examines FoMO within the social media environment and investigates theoretically grounded frameworks that illustrate the pathways through which FoMO may lead to negative consequences. The dissertation comprises five articles: one systematic literature review (Article I) and four quantitative studies (Articles II–V) developed based on the review findings.

Following a systematic review of 58 empirical publications on FoMO, Article I provides foundational knowledge on FoMO’s known antecedents and consequences, indirect influencers (moderators and mediators), study contexts, conceptualization, and operationalization. The results are used to present an overarching framework and five key propositions for advancing research on FoMO.

The findings of Articles II and III provide new insights into FoMO’s influence on the personal well-being of social media users. Discerning significant links

between FoMO and the compulsive use of social media, online social comparison, social media stalking, and disruptions in sleep hygiene (i.e., sleep-related habits and routines), these articles argue that FoMO could culminate in social media users' experiences of problematic sleep and social media fatigue. The findings also show that FoMO may have an amplification effect on the users' dark side of social media experiences on these platforms, albeit through different manifestations among young adults and working professionals.

Articles IV and V focus on FoMO-driven social media use in the workplace and the subsequent consequences. In doing so, this research empirically investigates employees, who are a relatively less-studied demographic in the FoMO research compared to young adults. The findings show that FoMO has the capacity to predict diminished work performance, work procrastination, phubbing (the problematic use of smartphones during social or workplace interactions), workplace exhaustion, and work incivility. Further, these articles show that individual characteristics, such as regulatory focus and social media envy, play an important role in users' experiences of negative consequences.

Collectively, the findings of this dissertation provide novel insights into the mechanisms through which FoMO can trigger the problematic use of technological platforms, such as social media and smartphones, and users' engagement in activities that are intrinsically linked with the dark side of social media. The dissertation suggests that FoMO and the dark side of social media phenomena may indeed have a cyclical relationship wherein one may trigger another, causing a vicious loop. In addition to advancing the understanding of ways in which FoMO can negatively influence an individual's life, the findings hint at its potential to indirectly, but positively, benefit individual performance in the workplace. In doing so, the dissertation creates new knowledge on the dual effects of FoMO. Cumulatively, the findings of this dissertation, particularly Article I, provide several avenues that scholars can pursue to further advance the frontier of knowledge on FoMO in particular and the dark side of social media in general.

KEYWORDS: Fear of missing out, dark side of social media, compulsive use, phubbing, problematic sleep, work performance

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TIIVISTELMÄ

Sosiaalisen median ei-toivotut vaikutukset (sosiaalisen median pimeä puoli) palvelujen käyttäjille ovat viime vuosina olleet vilkkaan julkisen keskustelun ja akateemisen tutkimuksen kohteena. Aihepiirin tutkimus on tarkastellut mm. käyttäjien väsymystä sosiaalisen mediaan, riippuvuutta sosiaalista mediaa kohtaan, sosiaalisen median pakonomaista käyttöä, sekä sosiaalisen median käytön vaikutusta uneen.

Paitsi jäämisen pelko (Fear of Missing Out, FoMO) on ilmiö sosiaalisen median pimeiden puolin kentässä, jolla on havaittu merkittäviä, tyypillisesti kielteisiä vaikutuksia palvelujen käyttäjiin. Lisääntyneestä tutkimuksesta huolimatta ymmärrys FoMO:sta on pirstaloitunutta.

Tutkimuskirjallisuus on korostanut erityisesti tarvetta FoMo:n käsitteellis-teoreettisen taustan ymmärryksen vahvistamiselle ja tarvetta ymmärtää FoMO:n vaikutuksia sosiaalisen median palvelujen käyttäjien hyvinvoinnille.

Tämän väitöstutkimuksen tavoitteena on osaltaan täyttää em. aukkoja aiemmassa tutkimuksessa tutkimalla FoMO:a kontekstisidonnaisena psykologisena laukaisevana tekijänä, jolla on vaikutuksia sosiaalisen median käyttäjiin niin yksityis- kuin työelämässäkin. Väitöskirja koostuu viidestä artikkelista: yhdestä systemaattisesta kirjallisuuskatsauksesta (Artikkeli I) ja neljästä kvantitatiivisesta kyselytutkimuksesta (Artikkelit II–V), jotka on kehitetty kirjallisuuskatsauksen tulosten perusteella.

Artikkeli I perustuu 58 empiiriseen julkaisuun FoMO:sta ja tarjoaa perustiedot FoMO:on vaikuttavista tekijöistä ja seurauksista, epäsuorista vaikuttajista (moderaattorit ja välittävät muuttajat), tutkimuskonteksteista, käsitteellistämisestä ja operationalisoinnista. Tuloksia käytetään esittämään tutkimuksellinen viitekehys ja viisi keskeistä suuntaa FoMO:n tutkimuksen edistämiseksi.

Artikkelien II ja III tulokset tarjoavat uusia näkökulmia FoMO:n vaikutukseen sosiaalisen median käyttäjien henkilökohtaiseen hyvinvointiin. Artikkeleissa havaitaan merkittäviä yhteyksiä FoMO:n ja sosiaalisen median pakonomaisen käytön, verkossa tapahtuvan sosiaalisen vertailun, sosiaalisessa mediassa tapahtuvan vainoamisen (stalking) ja unihygienian häiriöiden (eli unen laatuun vaikuttavien tapojen ja rutiinien) välillä. Artikkelit osoittavat, että FoMO voi johtaa sosiaalisen median käyttäjien kokemaan ongelmalliseen uneen ja väsymykseen sosiaalista mediaa kohtaan.

Artikkelit IV ja V keskittyvät FoMO:n ajamaan sosiaalisen median käyttöön työpaikalla ja siihen liittyviin seurauksiin. Tulokset osoittavat, että FoMO voi ennustaa heikentynyttä työsuoritusta, työn viivyttelyä, puhelinten liiallista käyttöä sosiaalisissa tilanteissa tai työympäristössä (phubbing), työuupumusta ja epäkohteliasta käyttäytymistä työpaikalla. Lisäksi nämä artikkelit osoittivat yksilön ominaisuuksien tärkeän roolin käyttäjien kokemuksissa näistä negatiivisista seurauksista.

Kokonaisuutena väitöstutkimukseen sisällytettyjen artikkeleiden tulokset tarjoavat uutta tietoa FoMO: on vaikuttavista tekijöitä ja sen seurauksista niin ihmisten yksityiselämässä kuin työkontekstissakin. Tulokset tarjoavat viitteitä FoMO:n ja sosiaalisen median pimeän puolen välisestä toisiaan vahvistavasta syklisestä suhteesta. Tulokset tarjoavat myös, osin yllättävästi, viitteitä, että paremmin tunnettujen kielteisten vaikutustensa lisäksi FoMO:lla voi olla myös positiivisia vaikutuksia yksilön suorituskykyyn työpaikalla. Väitöstutkimus tarjoaa kattavan viitekehysten, jota erityisesti FoMO:n ja yleisemmin sosiaalisen median pimeän puolen tutkimuksessa.

ASIASANAT: Paitsi jäämisen pelko, sosiaalisen median pimeä puoli, pakonomainen käyttö, phubbing, uniongelmat, suorituskyky töissä

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The idea for this thesis evolved over a year of discussion with Prof. Dhir over countless cups of coffee, late nights, and intense debates over the costs vs. benefits of technology integration in human lives. The discussion came to fruition in 2020 when Prof. Matti Mäntymäki and Prof. Amandeep Dhir became my supervisors, and I began my doctoral journey at the Turku School of Economics. While this journey has been tumultuous and taxing, not in the least because of the pandemic that brought the world to a standstill just as I began work on this thesis, it has also been incredibly rewarding. From teaching me the value of perseverance and patience, to giving me an outlet to develop focus and discipline in face of a long lockdown, working on this thesis has brought joy and inspiration into my life.

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Anushree Luukela-Tandon
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Table of Contents

Acknowledgments	7
List of Original Publications	11
1 Introduction	12
1.1 Background: Fear of Missing Out and the dark side of social media	12
1.2 Research gaps and motivation	15
1.3 Research questions.....	17
1.4 Expected contributions	22
1.5 Nomological positioning.....	23
1.6 Structure of the thesis	26
2 Background, Concepts, and Theory	28
2.1 The dark side of social media	28
2.2 Fear of Missing Out (FoMO).....	30
2.3 FoMO in private life vs. the workplace context.....	32
2.4 Theoretical lenses	33
2.4.1 Article II	35
2.4.2 Article III	35
2.4.3 Article IV.....	36
2.4.4 Article V.....	36
3 Methodology.....	38
3.1 Philosophical underpinnings	38
3.2 Systematic literature review.....	43
3.3 Survey: Respondents, instruments, and data collection	46
3.3.1 Article II	46
3.3.2 Article III	47
3.3.3 Article IV.....	48
3.3.4 Article V.....	49
3.4 Structural equation modeling	50
3.5 Reliability, validity, and common method bias	51
4 Overview of the Studies	52
4.1 Revisiting the objectives	52
4.2 Findings of Article I.....	52
4.3 Findings of Article II.....	56
4.4 Findings of Article III.....	58
4.5 Findings of Article IV	60

4.6	Findings of Article V	62
5	Discussions and Conclusion.....	66
5.1	Synopsis of findings	66
5.1.1	Integrating fragmented knowledge for a comprehensive outlook	67
5.1.2	FoMO and its connotations for personal well-being	71
5.1.3	FoMO and its implications for workplace well-being	72
5.1.4	Closing remarks on the discussion	74
5.2	Contributions to theory	75
5.3	Contributions to practice.....	79
5.4	Limitations and future agendas	81
	List of Abbreviations.....	84
	List of References	85
	Original Publications.....	103

List of Tables

Table 1.	Research questions and articles	19
Table 2.	Articles addressing the main research questions	22
Table 3.	Article selection and quality evaluation criteria used for the SLR.....	45

List of Figures

Figure 1.	Approach to structuring the thesis using Article I findings.....	20
Figure 2.	The overarching conceptual framework of the dissertation.....	27
Figure 3.	The positioning of the dissertation	42
Figure 4.	The SLR process	44
Figure 5.	Overview of FoMO research: Variables and associations.....	54
Figure 6.	Article II: Results of model testing	58
Figure 7.	Article III: Results of the model testing	60
Figure 8.	Article IV: Results of the model testing	62
Figure 9.	Article V: Results of model testing.....	64
Figure 10.	Comprehensive research framework: Ideas for future studies derived from the SLR	70

List of Original Publications

This dissertation is a compilation of the following articles that are referred to in the findings section of the synopsis. Anushree Luukela-Tandon (née Tandon) was responsible for the research design, study conceptualization, data collection, and article writing. The co-authors assisted with analyzing the data and refining the manuscript; their contributions are highly appreciated.

- I Tandon, A., Dhir, A., Almgren, I., AlNemer, G.N. & Mäntymäki, M. (2021). Fear of missing out (FoMO) among social media users: A systematic literature review, synthesis and framework for future research. *Internet Research*, 31(3), 782–821.
- II Tandon, A., Kaur, P., Dhir, A., & Mäntymäki, M. (2020). Sleepless due to social media? Investigating problematic sleep due to social media and social media sleep hygiene. *Computers in Human Behaviour*, 113, 106487.
- III Tandon, A., Dhir, A., Talwar, S., Kaur, P., & Mäntymäki, M. (2021). Dark consequences of social media-induced fear of missing out (FoMO): Social media stalking, comparisons, and fatigue. *Technological Forecasting and Social Change*, 171, 120931.
- IV Tandon, A., Dhir, A., Islam, N., Talwar, S., & Mäntymäki, M. (2021). Psychological and behavioural outcomes of social media-induced fear of missing out at the workplace. *Journal of Business Research*, 136, 186–197.
- V Tandon, A., Dhir, A., Talwar, S., Kaur, P., & Mäntymäki, M. (2022). Social media-induced fear of missing out (FoMO) and phubbing: Behavioural, relational and psychological outcomes. *Technological Forecasting and Social Change*, 174, 121149.

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1 Introduction

This chapter discusses the factors that inspired the dissertation’s focus on the Fear of Missing Out (FoMO), existing research gaps on this topic, and its importance within the scope of the dark side of social media phenomena. It is structured to present information as follows. The first subsection emphasizes the ongoing need for a scholarly focus on FoMO and the dark side of social media—that is, the reasons why this dissertation focuses on the chosen topics (Section 1.1). Next, the constraints in the current understanding of FoMO, which motivated the author to develop the articles included in this dissertation, are discussed (Section 1.2). The third subsection highlights the central questions raised and answered by the articles included in this dissertation (Section 1.3), followed by the nomological positioning (Section 1.4) and overall outline (Section 1.5) of the dissertation.

1.1 Background: Fear of Missing Out and the dark side of social media

Social media plays a vital role in the information systems (IS) ecosystem, providing its 4.2 billion users across the globe (We Are Social, 2021) with a platform for maintaining social connectivity, gathering information, and retrieving news (Statista, 2021a). Social media’s ingrained establishment in human lives is undeniable, as are the effects that these platforms have had on individual welfare at the social (Allcott et al., 2020), professional (Budnick et al., 2020; Shujaat et al., 2019), and personal (Bettmann et al., 2020; Kircaburun et al., 2020) levels. However, such effects are not always positive or bright (Baccarella et al., 2018). For instance, cyberloafing (use of the internet or social media at work for personal reasons; Tandon et al., 2022) and cyberstalking (Kaur et al., 2020) have emerged as significant adverse behavioral consequences that social media users exhibit. Similarly, numerous users have also reported experiencing exhaustion (Fu et al., 2020), technostress (Fu et al., 2020; M. Salo et al., 2019), and fatigue (Y. Zhang, Liu et al., 2020) after using social media. Additionally, recent research has indicated that social media users experience sleep-related problems (Dhir et al., 2021; Koban et al., 2022), and discussion about social media addiction has gathered force in the past decade. Collectively referred to as the “dark side of social media” (Baccarella et al., 2018, 2020), these phenomena have

drawn the attention of scholars (e.g., J. Salo et al., 2018), practitioners, and mass media (e.g., Issac, 2022), giving rise to intensive debates questioning the ultimate utility of social media platforms.

Operationalized less than a decade ago (Przybylski et al., 2013) and investigated prolifically since then, FoMO is a crucial contemporary phenomenon that has been extensively discussed in the recent academic media (Tessandori, 2022; Zhou, 2019). Originally conceptualized as a form of pervasive apprehensions about missing activities that an individual's social connections engage in (Przybylski et al., 2013), scholars have more recently argued that FoMO manifests as a form of anxiety arising from an individual's separation from technology (Marsh et al., 2022). This claim has raised concerns about how this phenomenon would affect individuals deeply connected to technology, particularly as technological advancements and interventions in human lives, especially social media, have caused the offline and online worlds to become deeply intertwined. Indeed, FoMO has been increasingly proposed to be a significant reason why individual users make the effort to maintain a near-constant connection with social media platforms to remain updated on shared information and events (Zhou, 2019). The growing scholarly literature on FoMO has highlighted its capacity to promulgate deleterious impacts on users' behavior and well-being (Çelik et al., 2022; Fridchay & Reizer, 2022; J. Salo et al., 2018). For example, a report by the Royal Society for Public Health and Young Health Movement (2017) called for public action on educating young people about the adverse effects that inopportune social media usage could have on their health and well-being. More recently, another report by the McKinsey Health Institute (Coe et al., 2023) also deliberated on social media users from Generation Z experiencing significant FoMO and mental health issues. Due to such contention about the advertent or inadvertent detrimental influence of FoMO on social media users' well-being, this dissertation considers FoMO to be a core phenomenon under the aegis of the "dark side of social media."

Moreover, FoMO's influence is also being acknowledged to transcend social media and emerge in offline contexts encompassing both professional and personal decision-making. For instance, a recent article in the *Harvard Business Review* (Howard, 2022) discussed how FoMO could influence business leaders' decisions regarding investments in technology deployment. Further, FoMO has been equated with anticipatory regret (Hedges, 2014) in offline contexts, and the mainstream media has discussed how individuals can experience FoMO in offline or real-world contexts, for example, while making personal choices for investments (L. Roberts, 2022) and even while deliberating on their work-life choices (Hedges, 2014). Moreover, FoMO's influence has been discussed with regard to engaging in conversations (Tait, 2018), considering product purchases (Dinh & Lee, 2021; Herman, 2000), automobile driving behavior (Hudecek et al., 2023), alcohol

consumption (Riordan et al., 2018), and functioning as an emotional response to perceived threats to one's self-concept and dreams (Z. Zhang et al., 2020).

Given the above concerns, it may be said that discussion surrounding the concept of FoMO and its effect on individual well-being continues to evolve as growing research yields further information on the extent to which this phenomenon is ingrained in people's usage decisions, whether in social media-related or other contexts. Considering that scholarly discussion on the possible debilitating effects of FoMO has been garnering force in the past decade and continues to grow expansively, this dissertation argues that FoMO is a relevant problem with widespread connotations, not just for individual but also societal well-being. This argument rests on the belief that young adults (i.e., those most vulnerable to FoMO and social media usage-related effects) are the pillars of societal advancement (United Nations, 2019). The posited link between FoMO and users' well-being, especially in the context of social media, is a significant reason for scholars' and this dissertation's attention on FoMO.

In this dissertation, FoMO is considered as a psychological state arising specifically from individuals' use of social media (a socio-technical artifact). It encompasses social media users' worries or apprehensions about missing updates, events, and information about the contents being shared on these platforms, which are often exacerbated by social pressure resulting from users' perceptions about peers being continually connected to social media. While such apprehension is applicable to many different contexts, this dissertation considers only social media as the environment within which FoMO is experienced by individuals who take measures to alleviate it. Such measures may include individuals' excessive engagement with social media and specific activities on these platforms, which may lead them to experience negative consequences that are often cumulatively referred to as the dark side of social media. Thus, this dissertation adopts the perspective that FoMO is an unintended yet evident socially driven outcome of using social media platforms that can have a deleterious impact on an individual's psyche, daily activity or routines, and even physiological functions such as sleep.

FoMO has been subject to rapidly rising investigations since it was first recognized in 2013 (Przybylski et al., 2013), and over 650 scholarly articles on FoMO have been published between 2020 and July 2023 alone¹. This volume of research indicates that FoMO continues to be at the forefront of academic discourse and is still a relevant problem that scholars continue to investigate. Moreover, this dissertation argues that FoMO's relevance as a research topic has increased expressively owing to the COVID-19 pandemic, which triggered the unprecedented

¹ Search executed July 31, 2023. Search string: (TITLE-ABS-KEY (fear AND of AND missing AND out) OR TITLE-ABS-KEY (fomo)) AND PUBYEAR > 2019

adoption of digital tools for professional and personal reasons. It can be argued that increased social media use during the COVID-19 pandemic may have fueled individuals' experience of FoMO, with such platforms being one of the predominant ways to communicate with others. The extensive amount of information and misinformation being exchanged on these platforms has also led to the recognition of a niche form of FoMO—COVID-19 information FoMO (Koban et al., 2022)—that is related to individual users' close monitoring of the various platforms to follow current information. However, each individual has only a limited cognitive capacity for processing such information (Kaur et al., 2021). Thus, individual preoccupation with continually following social media updates to alleviate FoMO, for example, through personal devices, can cause substantial disruptions to daily life and productivity (Appel et al., 2019).

However, while FoMO and the dark side of social media are emerging as topical fields of interest, there are still significant knowledge gaps limiting the current understanding of their manifestations. In light of these gaps (Section 1.2), this dissertation aims to enable an understanding of whether and how FoMO can trigger individuals' problematic use of social media platforms and activities, which may lead to detrimental outcomes on their personal and professional lives.

1.2 Research gaps and motivation

The motivation behind this research to gain a more nuanced understanding of the effect of FoMO on the well-being of social media users is twofold. First, compared to other phenomena related to the dark side of social media and technology use, such as addiction (Andreassen et al., 2012), technostress (Tarafdar et al., 2019), and online disinhibition (Cheung et al., 2021), FoMO has received relatively less attention in the IS literature and academic studies on this topic have grown strongly only in the past few years. Further, unlike the aforementioned dark side of social media phenomena, FoMO's influence has been established by scholars to go beyond the context of social media platforms and influence individuals' maladaptive use of smartphones, for example, phubbing (Franchina et al., 2018) and nomophobia (Gezgin et al., 2018). Such FoMO-driven smartphone use has also been linked to offline behaviors like distracted walking (Appel et al., 2019) and driving (Hudecek et al., 2023), which have serious connotations for not only these individuals' well-being but also the safety of others.

Moreover, while research on FoMO has gathered momentum in the past five years, it is inundated with fragmented, incohesive (Akbari et al., 2021), and inconsistent findings (Tandon, Dhir, Almugren, et al., 2021). For example, while Elhai, Yang, and Montag (2020) discussed evidence for FoMO's inverse relationship with life satisfaction; Barry and Wong (2020) found no association between the two.

Similarly, while Huang et al. (2023) found FoMO to be associated with mobile phone dependency and sleep problems, Rogers and Barber (2019) determined that there was no association between technology use and sleep. Thus, this dissertation argues for the need to expand the scope of investigation into FoMO's association with different indicators of well-being and social media or technology usage.

Moreover, while recent studies have begun to examine FoMO's role as an antecedent (Malik et al., 2020; Whelan et al., 2020a), many studies have considered FoMO as a mediator or moderator to explain the association between social media and smartphone use-related variables and the resultant negative influence on individual well-being (Buglass et al., 2017; Elhai, Yang, Fang, et al., 2020). For instance, while Chai et al. (2019) considered FoMO as a moderator of the associations between social media use, social overload, and subjective well-being, Hattingh et al. (2022) investigated FoMO as an antecedent to (online) subjective well-being, overload (information and communication), and compulsive social media use, resulting in fatigue. Subsequently, it is plausible to state that there is a significant variance in FoMO's consideration as the core focus in a study vis-à-vis its inclusion as an accompanying variable in tested research models. The apparent multifaceted nature of FoMO's impact in various capacities emphasizes its prevalence in human lives. This dissertation argues that due to the varied and evidently entrenched ways in which FoMO can influence individuals, there is a critical need to study this phenomenon in different contexts.

Second, FoMO has been found to affect a diverse cohort of social media users, including early adolescents (D'Lima & Higgins, 2021), adolescents (Chai et al., 2019), and adults (Pontes et al., 2018). Recently, the academic discussion has also highlighted that FoMO has transcended from affecting the personal lives of social media users to influencing their professional outcomes (Budnick et al., 2020; Devin & Daniela, 2021). For instance, popular media has recently begun to question FoMO's link to niche areas such as investor psychology (L. Roberts, 2022). Such suppositions have critical implications for understanding FoMO's association with individual outcomes, such as real estate or stock market trading decisions (Razaghi, 2022), and the resulting impact of FoMO-driven investor decision-making on financial stability (L. Roberts, 2022). At the macro level, FoMO has also been implicated as the cause of business mergers and acquisitions, for example, in the gaming industry (Juang, 2022).

Such findings showcasing FoMO's occurrence in multiple demographic cohorts suggest that it is an issue that can affect not only a particular individual or generation but also potentially the entire fabric of society. This contention is precipitated by FoMO's apparent capacity to manifest in active (during proactive browsing) and reactive (while receiving social media notifications) manners (Elhai, Yang, &

Montag, 2020), thereby continually exerting either direct or indirect influence on social media users.

However, despite such recognition of FoMO's potential to influence a wide range of individual responses, what is missing in the literature is an invigorated outlook toward examining novel nuances of FoMO as a phenomenon. While the current state of knowledge for FoMO and the dark side of social media is discussed in Chapter 2, to summarily state, this dissertation argues for the need to comprehensively understand how FoMO fits into the dark side of social media aegis and expand the current knowledge of the consequences that users experiencing FoMO may face. This knowledge is critical considering that the majority of the extant research has focused exclusively on understanding FoMO's associations with personal social media usage consequences such as addiction and engagement. However, whether, why, and through what mechanisms such consequences may emerge to affect individuals' professional lives and workplace relationships is relatively less known.

Further, even with regard to social media-related consequences, this dissertation argues for the need to look beyond the current boundaries and explore how FoMO affects individual well-being by investigating its lesser-known consequences in social media experiences, including fatigue and physiological problems such as sleep-related issues. While such consequences have gained the attention of scholars, there is much to be learned through focused research if appropriate steps are to be taken in educating and informing individual social media users about FoMO's potential to harm their well-being.

1.3 Research questions

Because the use of social media platforms is expected to grow (Statista, 2020a), it is imperative to gain a more in-depth understanding of FoMO to preempt and prevent its negative effects on individuals' well-being and daily life. To address this critical area of inquiry, this dissertation aims to examine one main research question (MRQ), which is subdivided into three parts: a, b, and c. These sub-MRQs are further refined and addressed in each thesis article, as detailed in Table 1.

MRQ(a) directs attention to investigating FoMO from an inductive content analysis (Elo & Kyngäs, 2008) perspective through a systematic literature review (SLR) in Article I (Moher et al., 2015; Page et al., 2021). This approach enabled an understanding of the existing gaps and thematic boundaries of research on FoMO—for example, its antecedents, consequences, and the affected demographic groups—that were utilized to develop the other articles included in this dissertation (see Figure 1 and the detailed explanation in the following text). MRQ(b) and MRQ(c) are addressed through a quantitative analysis examining FoMO's link with the

conceivable dark side of social media consequences that can affect an individual's psychological, behavioral, and relational responses (Articles II–V; see Figure 2 for the overarching conceptual framework of the dissertation).

Two articles address FoMO's influence on the personal lives of social media users, which are explicated in terms of two core consequences related to the dark side of social media use—problematic sleep (Article II) and social media fatigue (Article III). These articles consider the activities in which a FoMO-driven individual engages (such as social media stalking, compulsive social media use, and online social comparison) as elements in the pathway that links FoMO to these adverse consequences. In contrast, Articles IV and V investigate FoMO's capacity to influence individuals who engage in social media use at work and experience negative consequences in their professional lives. Three levels of consequences are examined across these two articles: psychological (work exhaustion, procrastination at work, and creativity), behavioral (work performance decrement), and relational (work incivility). This and the following chapters provide details on each aspect of the process undertaken to develop the articles included in this dissertation, following an overarching conceptual framework introduced later in this chapter.

Table 1. Research questions and articles.

	Research questions raised in the dissertation	Addressing articles	Article-specific research questions
MRQ	What is FoMO's relationship with the dark side of social media and its influence on individual lives? [Overarching question]		
(a)	What is FoMO, and what do we currently know about its relationship in terms of antecedents and consequences?	Article I	RQ1. What is the status of the research profile on the existing FoMO literature? RQ2. What are the different research themes that have been investigated in the prior literature on FoMO? RQ3. What are the research gaps, limitations, and recommendations for scholars and practitioners with respect to future FoMO research?
(b)	What is FoMO's relationship to the specific dark side of the social media phenomena that affect the personal lives of social media users?	Article II	RQ1. What is the association between anxiety, depression, and compulsive social media use? RQ2. Is there an association between FoMO, compulsive social media use, sleep hygiene, and problematic sleep due to social media use? RQ3. Do the associations between FoMO, compulsive social media use, sleep hygiene, and problematic sleep due to social media use differ for young adults who are employed versus those in academic pursuit (i.e., part-time students in a university)?
		Article III	RQ1. How are FoMO, social comparison, and stalking associated with fatigue? RQ2. How do social comparison and stalking mediate the association between FoMO and fatigue? RQ3. How do individual usage behavior and emotions moderate the associations between FoMO and social comparison, stalking, and fatigue?
(c)	How is FoMO associated with professional outcomes for social media users?	Article IV	RQ1. What is the nature of the association between individual tendencies (exhibitionism and voyeurism) and FoMO? RQ2. How is FoMO associated with the psychological outcome of the compulsive use of social media during working hours? RQ3. How is the FoMO-driven psychological outcome of the compulsive use of social media associated with the behavioral outcomes of procrastination and work performance decrement for working professionals?
		Article V	RQ1. What is the nature of the association between FoMO and phubbing in the workplace? RQ2. How are FoMO and phubbing associated with psychological and relational employee responses? RQ3. Does phubbing in the workplace mediate the association between FoMO and employees' responses? RQ4. Does regulatory focus have a moderation effect on the association between phubbing and employee responses?

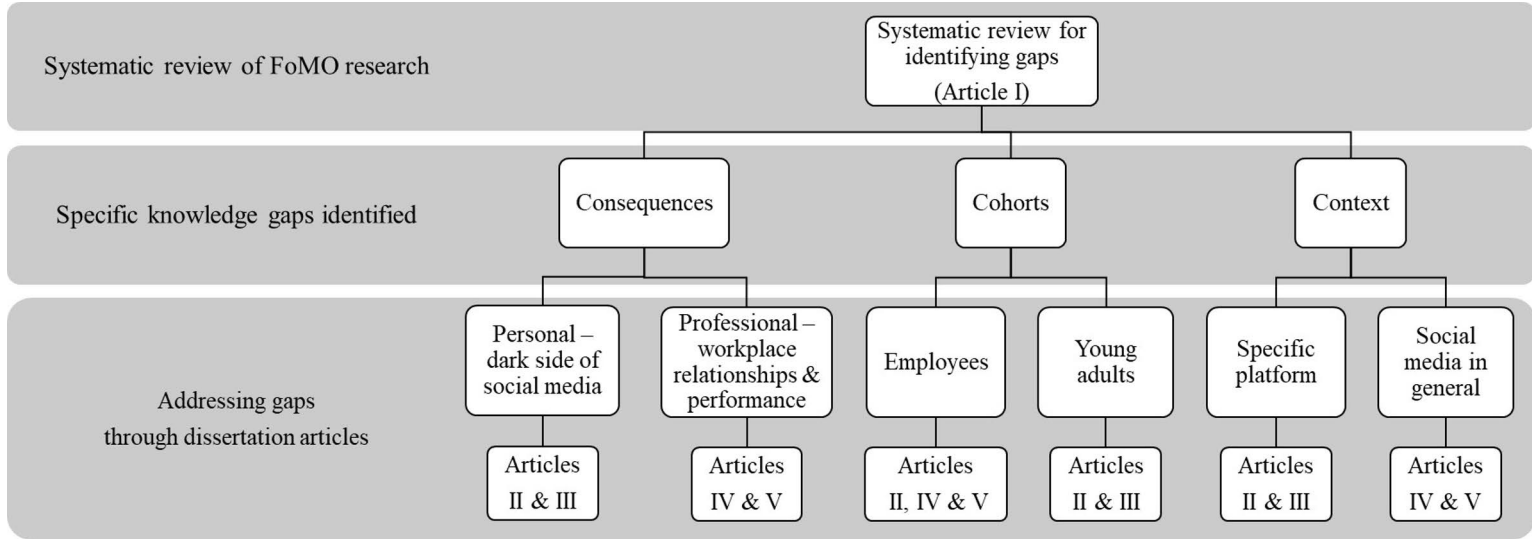


Figure 1. Approach to structuring the thesis using Article I findings.

To elaborate on Figure 1, articles II–V were informed by the gaps identified through the SLR (see Figure 1) pertaining to three aspects: consequences, cohorts, and contexts. In terms of consequences, the SLR showed that most prior research focused on limited consequences related to social media engagement, addiction, and compulsive use. At the time of this dissertation’s commencement, little attention had been given in the literature to other variables and phenomena related to users’ personal lives while consequences for the professional lives of social media users were in the nascent stages of research. Hence, pursuant to the exhaustive literature review conducted for the SLR, four papers were conceptualized that looked at two dimensions of consequences: personal (Articles II–III) and professional (Articles IV–V).

To add to the originality of this dissertation, these articles focused on investigating novel pathways and mechanisms between selected associations. For example, as stated in the preceding text, in Article I, the focus rested on understanding how FoMO was related to the dark side of social media phenomena, compulsive social media use, and sleep hygiene, which in turn were posited to be related to problematic sleep as a personal consequence. Contrarily, Articles IV and V focused on testing FoMO’s associations with workplace-related consequences such as phubbing, workplace incivility, exhaustion, procrastination, and performance decrement. The wide net that was cast for examining FoMO’s consequences necessitated the development of four articles across the two dimensions of consequences. At the same time, the conceptualization of the models for these four articles required establishing the social media platform (i.e., whether specific or general) for which the associations would be tested. In the case of Articles II–III, since the consequences being examined were personal, and the selected variables were under-investigated, the specific platform of Facebook was chosen due to its (a) maturity as a social media platform in the global market and (b) popularity in geographic areas that the data was collected from. However, for Articles IV and V, which focused on workplace-related consequences—a relatively under-investigated aspect for FoMO—the respondents were asked questions for general social media use to explore whether the expected associations were possible. This could be seen as one limitation of this dissertation.

Another clearly evident gap that emerged from the SLR pertained to the lack of attention paid to the emergence of FoMO and its associations with antecedents and consequences in relation to the cohort of employees or working professionals. Thus, this dissertation considered two user cohorts—young adults and employed professionals—for the four empirical articles (i.e., II–V) that focused on investigating the hypothesized associations. While young adults have been considered as subjects in prior research, this dissertation retained them as a respondent cohort as, along with working professionals, they are the core pillars of society’s future advancement and economic growth (United Nations, 2019).

Moreover, prior research indicates an increased vulnerability of young adults to the dark side of social media and other detrimental effects arising from the problematic or excessive use of social media (Marino et al., 2016). Further, employed young adults are an underrepresented sample in FoMO-related research (Kühnel et al., 2020; Tandon, Dhir, Almugren, et al., 2021). A recent meta-analysis also indicates some contradiction in the emergence of FoMO across individuals at different life stages. According to the meta-analysis, some studies reported increased FoMO with age; some suggested a reverse correlation between the two, and others reported no correlation between FoMO and age group (Akbari et al., 2021). Thus, the need exists for more studies that explore FoMO among different age groups or cohorts to understand how this phenomenon affects the well-being of individuals at varying stages of their lives. The addressed MRQs, methods, and investigated samples of each article in the dissertation are presented in Table 2.

Table 2. Articles addressing the main research questions.

Article	Addressed MRQ	Method	Investigated cohort
Article I	MRQ(a)	Systematic literature review	NA
Article II	MRQ (b) MRQ(c)	Structural equation modeling	Young adults and working professionals
Article III	MRQ (b)	Structural equation modeling	Young adults
Article IV	MRQ(c)	Structural equation modeling	Working professionals
Article V	MRQ(c)	Structural equation modeling	Working professionals

NA = Not applicable

The majority of the articles in this dissertation follow an empirical methodology and are firmly rooted in existing theories adopted from the fields of media psychology and consumer behavior. These theories include the theory of compensatory Internet use (TCIU; Kardefelt-Winther, 2014), social comparison theory (SCT; Festinger, 1954), and the stressor-strain-outcome (SSO) framework (Koeske & Koeske, 1993). Adopting multiple theoretical lenses to examine the hypothesized associations connects the tested associations to existing knowledge and contributes to an informed extension of the theoretical discussion on FoMO.

1.4 Expected contributions

Overall, this dissertation expects to contribute to the literature in two key ways. Firstly, our investigations into the working professionals' experience of FoMO is a significant contribution given this cohort has not been as extensively studied with regards to

FoMO compared to college students, teenagers, and adolescents. Through our findings we expect to determine how, and whether, FoMO affects professional and personal aspects of working professionals' lives. These aspects relate to select consequences that have been focused on pursuant to a review of the literature on relational, psychological, and behavioral responses that technology use can affect adversely. Our findings will identify the mechanisms through which FoMO can translate into the probability of reduced well-being for employees who have been earlier posited to experience greater pressure in attempting to maintain social connectivity (Barber & Santuzzi, 2017), especially in terms of balancing work-life demands with personal ones. Further, in the wake of the COVID-19 pandemic, the increased digitization of workplaces has led scholars to raise calls (e.g., Fridchay & Reizer, 2022; Marsh et al., 2022) for further investigations on technology-related interferences, such as anxiety and addiction, that can disrupt employees' workplace relationships and performance. This dissertation attempts to address such calls by focusing on FoMO and its associations with employees' workplace-related consequences.

Secondly, this thesis attempts to extend the scope of variables investigated as antecedents and consequences of FoMO. Adding to extant knowledge, Article IV showcases how an individual's own tendencies of exhibitionism and voyeurism could induce their experience of FoMO and extend prior research on personality dimensions as FoMO's potential antecedents. Further, through Articles II–V, this thesis brings attention to hitherto under-investigated and newly identified consequences that individuals can encounter pursuant to their experience of FoMO on both personal and professional fronts. By looking at consequences such as problematic sleep, fatigue, workplace exhaustion, incivility, creativity, procrastination, and work performance decrement, this dissertation extends extant knowledge on how FoMO's influence can go beyond the expected and be correlated with consequences previously not considered to be a direct result of technology use or other allied phenomena. Further, Articles II–V explore these consequences in the context of different cohorts (working professionals, young adults, students), specific social media platforms (i.e., Facebook), and social media in general, and they consider smartphone use-related consequences (i.e., phubbing), thereby looking at FoMO in different lights. Cumulatively through the findings, this dissertation contributes not only to expanding academic knowledge on FoMO in particular and the dark side of social media in general, but it will also aid practitioners, including therapists and counselors, in developing interventions that address such consequences.

1.5 Nomological positioning

The literature reviewed during the course of this dissertation concentrates on FoMO. However, it also relates to other aspects of social media use, including the dark side

of social media (Baccarella et al., 2018) and the duality of these platforms—that is, the benefits and drawbacks resulting from their use (Mäntymäki & Islam, 2016). These phenomena mainly relate to the behaviors that arise from individuals' interactions with social media platforms and their features (e.g., the level of accessibility to other profiles, network size, and daily updates about others). Thus, this dissertation contributes to the behavioral science (BS) paradigm in IS research (Hevner & March, 2003; Niehaves & Stahl Bernd, 2006), which aims to develop and advance knowledge on the interactions between “analysis, design, implementation, and use of IS” (Hevner & March, 2003, p. 111). Further, the articles in the dissertation draw from the literature on consumer behavior in the context of social media platforms and the primarily nascent contextual domain of the dark side of social media.

From the dark side of social media perspective, the general understanding of FoMO is that it reflects a dark side of the *relationship* functionality of social media platforms (Baccarella et al., 2018). This dissertation argues that FoMO may also represent the dark side of social media in terms of its *presence* as a distinct block. Introduced by Kietzmann et al. (2011) as a functional building block of social media platforms, relationship in this context refers to the degree of interconnectedness among social media users, and presence reflects the extent of an individual's knowledge of if, when, and where others would be accessible on these platforms. In terms of the dark side of social media, Baccarella et al. (2018), through their honeycomb model, suggested that social media can enable various deleterious forms of engagement among its users, including their voracious consumption of others' shared content in an attempt to live vicariously, for example, due to FoMO. Additionally, FoMO can also influence individual users to maintain a continual presence on social media platforms (Fox & Moreland, 2015; Vorderer et al., 2016), reflecting a new perspective on Kietzmann et al.'s (2011) conceptualization of presence. Following the reflections of Baccarella et al. (2018) and the extant literature on social media research, this dissertation argues that FoMO may be why some individuals experience detrimental effects from excessive social media usage and investigates FoMO's association with negative consequences for individual life and well-being.

The articles in this dissertation aim to explore the lesser investigated pathways which link FoMO to negative consequences experienced by social media users and the indirect influencers (moderators and mediators) of such pathways. The objective of these articles is to explicate how FoMO as an individual-level experience can translate into social media users' experience of other negative consequences, especially dark side of social media phenomena such as social media fatigue and reduced performance in workplace settings. Hence, these articles provide incremental knowledge advancement for FoMO in particular and the dark side of social media in general. Thus, the dissertation is positioned on the continuum

between exploratory and confirmatory research (Wagenmakers et al., 2012), with each article testing novel and pre-positied associations of FoMO with select consequences through varied pathways.

In terms of the causal structure of the nomological and theoretical stance, this dissertation adopts the framework posited by Markus and Robey (1988). This framework was developed to enable an understanding of the causal structure of general theories—that is, assumptions about causal influences of phenomena studied in IS research (Markus & Rowe, 2018). The framework encompasses three dimensions: causal agency (the researcher’s belief about the nature of causality), logical structure (the logic followed in developing the nature of the argument), and level of analysis (macro, micro, and mixed).

In causal agency, three perspectives are noted: (a) the technological imperative, which views technology as an “exogenous force” (Markus & Robey, 1988) that constrains the behavior of individuals or organizations; (b) the organizational imperative, which emphasizes the choice of humans as actors who develop IS in alignment with the needs of organizations and individuals; and (c) the emergent perspective, which contends that the consequences and usage of IS and information technology (IT) systems can “emerge unpredictably from complex social interactions” (Markus & Robey, 1988, p. 588). Similarly, logical structure encompasses two perspectives of variance and process theories, which reflect assumptions similar to the cross-sectional and longitudinal methods, respectively (Markus & Robey, 1988). The variance theory perspective considers a cause to be sufficient and necessary for obtaining an outcome when contingent conditions are met, thereby assuming that causes and effects have an invariant relationship. In contrast, process theory contends that while outcomes can emerge solely under the conditions assumed by the variance theory, it is also possible that outcomes may not occur and that random events may play an influential role in the cause–effect relationship.

While FoMO’s concept originated in the offline context (e.g., Riordan et al., 2018), it has been overwhelmingly recognized as a consequence of using social media platforms and the Internet (Akbari et al., 2021; Elhai, Yang, & Montag, 2020). Thus, it can be argued that while technological intervention (i.e., social media) is a critical and necessary condition in human lives, FoMO and its consequences were unintended and complex outcomes of individual interactions with the platforms themselves and with others using them. Thus, this dissertation and its articles consider the emergent perspective as the causal agency in line with limited prior research (Jalonen, 2015), noting social media usage as a necessary boundary condition on which FoMO is contingent (i.e., the variance theory perspective of logical structure). Further, because the questions are directed at individual-level distinct phenomena within a socio-technical system—that is, social media platforms—a micro-level unit of analysis (the individual) is considered.

1.6 Structure of the thesis

The dissertation is structured to follow a sequential approach, wherein Article I first provides a detailed conceptual background of FoMO through an SLR. Utilizing the findings of the SLR in articles II–V, FoMO is hypothesized to act as an antecedent to under-investigated outcomes that indicate diminished well-being among social media users (see Figure 2). Articles II and III focus on individual-level detrimental consequences for personal lives, whereas Articles IV and V focus on such adverse work-related consequences for employed adults (i.e., employees). Article II examines FoMO as an antecedent to problematic sleep due to social media use, mediated by compulsive social media use (driven by depression and anxiety) and poor sleep hygiene. In Article III, FoMO is studied as an antecedent to social media fatigue, wherein social media stalking and online social comparison are considered mediators.

In Article IV, FoMO is examined as a distinct strain experienced by an individual due to personal characteristics or traits (stressors: exhibitionism, i.e., active content creation, and voyeurism, i.e., the passive act of viewing others' shared content), leading to compulsive social media use. Such compulsive use, in turn, causes work performance decrement and procrastination due to social media use at work. Article V investigates FoMO as an antecedent of workplace phubbing, and their (i.e., FoMO and phubbing) associations with employees' relationships with others in the workplace (work incivility) and the potential impact on their psychological and behavioral outputs (creativity and workplace exhaustion).

Comprehensively, this dissertation investigates how FoMO (as a dark side of social media phenomenon) is associated with other phenomena discussed under the same “dark side” umbrella to enable an understanding of the impact that FoMO can have on individual social media users' lives. TCIU and SSO are used as the overarching theories to ground the general framework that guides this dissertation. It contends that individuals use social media to alleviate a negative state of mind—that is, FoMO—or the strain leading to adverse outcomes for their well-being at individual, personal, and professional levels. The overall structure of the dissertation's conceptual framework and the focus and variables of the individual articles are presented briefly in Figure 2.

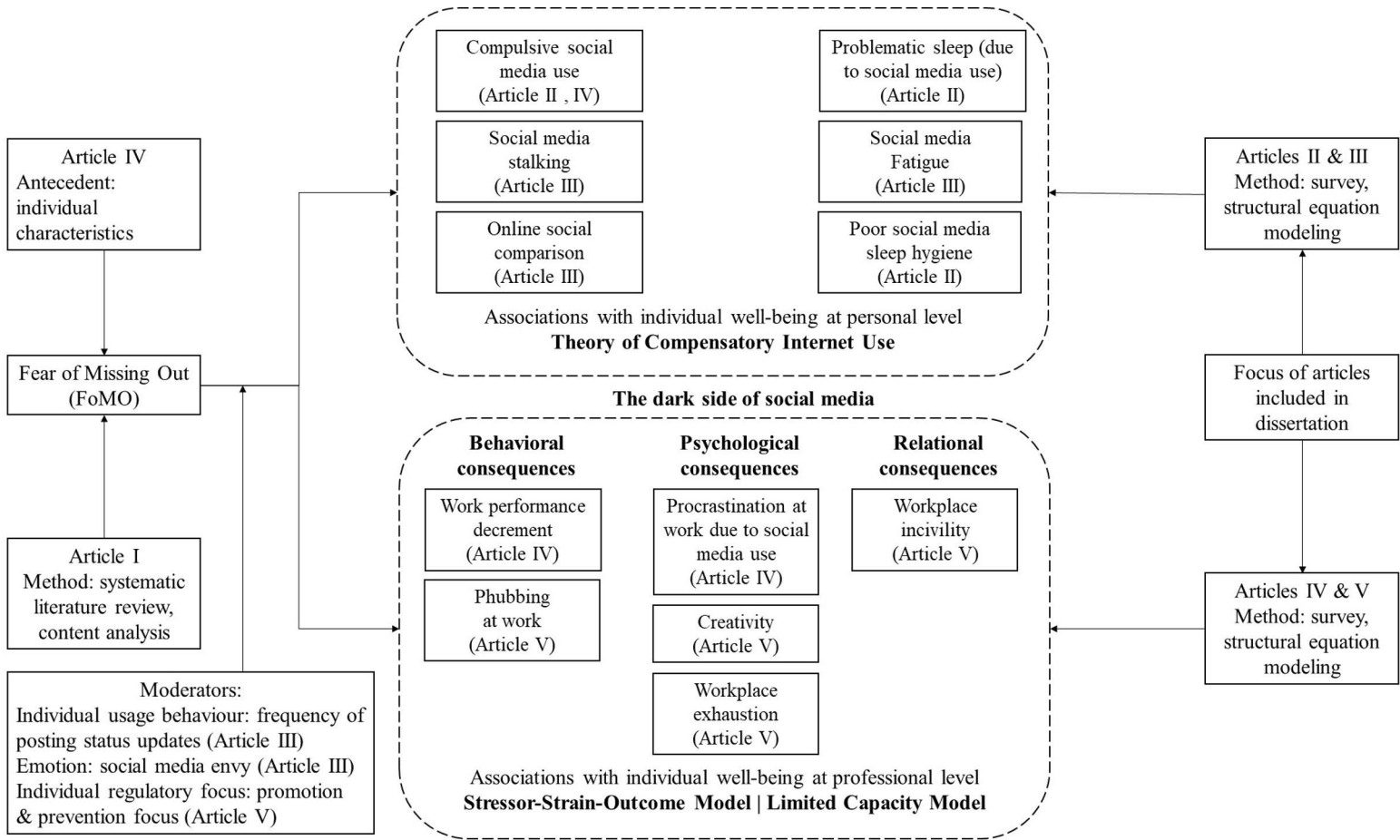


Figure 2. The overarching conceptual framework of the dissertation.

2 Background, Concepts, and Theory

This chapter explores the concepts of the dark side of social media (Section 2.1) and FoMO (Section 2.2), which are the foundations of this dissertation. Furthermore, it briefly discusses the focal influence of FoMO on individuals' private and professional lives—their well-being—as discussed in the extant literature (Section 2.3) as this dissertation concentrates on FoMO's influence in this regard. The chapter concludes by introducing the main theories on which this dissertation is based (Section 2.4) and provides a brief understanding of the theoretical grounding leveraged for each article included in the dissertation (Sections 2.4.1–2.4.4).

2.1 The dark side of social media

For years, scholars have been investigating whether and how the use of technology can adversely affect users under various aegises, such as the “dark side of information technology” (Tarafdar, Gupta, et al., 2015) and the “dark side of digitization of the individual” (Turel et al., 2019; Zolfagharian & Yazdanparast, 2017). These studies suggested that the dark side of technology encompasses myriad issues, such as technostress (Tarafdar, D'Arcy, et al., 2015), obsessive inclinations toward various online activities, such as brand engagement (Okazaki et al., 2019), and the surveillance of others' digital profiles (Stiff, 2019). It can be argued that the dark side of social media is a specific subset of such investigations, wherein the focus has rested solely on understanding the negative yet unintended (J. Salo et al., 2018) behavioral manifestations resulting from the use of social media platforms (Dhir et al., 2021). This dissertation considers the select phenomena illustrated in Figure 2 as manifestations of the dark side of social media that influence the personal well-being of social media users since they have been described as such in the literature (Baccarella et al., 2018; Sheldon et al., 2019).

This dark side pertains to multiple phenomena investigated by scholars, including the aforementioned extreme forms and other, more seemingly unexceptional ones (J. Salo et al., 2018), such as social media fatigue (Kaur et al., 2021), social comparison (Fox & Moreland, 2015), and technostress (Luqman et al., 2017). These dark consequences have a duality of manifested imposition on oneself and on others, which can be described as internal (e.g., addiction) or external (e.g.,

cyberbullying), respectively (Sands et al., 2020; Zolfagharian & Yazdanparast, 2017). Moreover, this dark side of social media manifests across various functionalities that social media affords to its users, which Baccarella et al. (2018) grouped under seven blocks using the honeycomb framework developed by Kietzmann et al. (2011): identity, conversations, sharing, presence, groups, reputation, and relationships.

Baccarella et al. (2018) conceptualized that each of these seven blocks can express a dark side. For example, on the bright side, “conversations” enable social media users to communicate with others, build networks, and find friends (Kietzmann et al., 2011). On the darker side, excessive or aggressive communication in which one can engage with others can include cyber-targeting (Zolfagharian & Yazdanparast, 2017) and cyberbullying (Baccarella et al., 2018). Similarly, Rudick and Dannels (2019) also posited that the reality of social media use indicates that for every benefit it accords, a dark side to the same benefit can manifest. Moreover, despite the newness of the dark honeycomb model, recent studies have begun to use it to examine the dark side of social media phenomena such as misinformation or fake news propagation (Talwar et al., 2020) and to develop strategies to mitigate their effects (Sands et al., 2020). For example, a recent study combined the dark categorizations of the honeycomb model with its findings to explicate the “ultra-dark” side of social media use that is related to highly deviant activities—for example, sexual exploitation, blackmail, and dark-web activities such as drug trafficking (Demetis, 2020).

Many issues have been discussed as belonging to the dark side of social media. However, a limited understanding of their impact on social media users persists. It is simultaneously a fascinating and frightening knowledge gap due to the deep integration of social media into human lives and individuals’ continued reliance on these platforms despite their emerging awareness of the possible negative consequences stemming from their use. How to preempt, prevent, and protect against the dark side of social media is a serious issue of contemplation for academicians and the community as a whole. With the growing number of young children and adolescents using these platforms and their possible vulnerability, such contemplation is especially needed now.

In consonance with this dissertation, many scholars have advocated for the critical need to enhance the current understanding of the dark side of social media (Baccarella et al., 2018; Dhir et al., 2021; Fox & Moreland, 2015; J. Salo et al., 2018; Sands et al., 2020). However, in this area of inquiry, a key question that still requires a conclusive answer is how and why the dark side of social media manifests among social media users (Anaraky et al., 2019). For example, Sands et al. (2020) discussed the heterogeneity of social media users’ experiences of the dark side of these platforms. They posited the need for further empirical investigations into factors,

apart from social media usage, that may increase users' experience of risks associated with the use of social media (i.e., the dark side). Similarly, Salo et al. (2018) argued for the need to concentrate investigative efforts on understanding how users' activities on social media may contribute to their experiences of negative consequences, especially in the context of the workplace. This is especially vital because scholars have argued that the problematic use of social media can cause users to experience the dark side of social media phenomena and vice versa. Such interactions can create a cyclical effect that can reinforce social media's problematic usage and, subsequently, individuals' experience of negative consequences (Throuvala et al., 2019; Wegmann et al., 2017) associated with social media's dark side.

In an attempt to address such calls for action, this dissertation focuses attention on FoMO as a specific dark side of the social media phenomenon (Baccarella et al., 2020; J. Salo et al., 2018). It aims to investigate FoMO's associations (as an antecedent) with other dark sides of social media phenomena that may cause individuals to experience a diminished sense of well-being in their personal and professional lives. The next two sections discuss the concept of FoMO and deliberate on the linkages between FoMO and the negative consequences experienced by social media users.

2.2 Fear of Missing Out (FoMO)

FoMO is characterized as an individual's persistent concerns about being absent from experiences being enjoyed by others (Przybylski et al., 2013) or being disengaged from events occurring in their social groups (Fioravanti et al., 2021). This characterization, according to scholars (Elhai, Yang, & Montag, 2020; Gupta & Sharma, 2021), suggests that FoMO can represent affective (Abel et al., 2016), cognitive, and behavioral components (actions that help relieve anxiety). Further, recent studies indicate that FoMO may be a more complex construct than previously envisioned. Wegmann et al. (2017) suggested that FoMO may be understood as a personality trait (i.e., trait FoMO) as well as a specific cognitive state developed due to online interactions (i.e., state FoMO), such as on social media. They suggested that FoMO was not a unitary construct but exhibited dual dimensionality, and contemporary findings have supported their contention. For example, Balta et al. (2020) found that state FoMO mediated between trait FoMO and phubbing—that is, an individual's concentration on using phones during conversations or in social settings—in conjunction with the problematic use of Instagram. Similarly, in another recent study, Maxwell et al. (2021) supported this dual dimensionality of FoMO and proposed that trait FoMO may differ interpersonally and state FoMO intrapersonally.

Prior studies have primarily utilized Przybylski et al.'s (2013) developed scale for FoMO, which is the most utilized scale for measuring the phenomenon (Elhai, Yang, & Montag, 2020) across varied contexts. It has been argued that this scale refers more to FoMO as a dispositional trait (Hodkinson, 2019) without specific reference to the online or social media context (Wegmann et al., 2017). Nevertheless, numerous studies have used Przybylski et al.'s (2013) operationalization to investigate FoMO generally in the context of social media in various roles, such as mediator (Beyens et al., 2016) and antecedent (Scott et al., 2016; Talwar et al., 2019). Further adding to the multifariousness of the research on FoMO, studies have begun to recognize it in distinct contexts. For example, a recent study defined FoMO specifically in the workplace context as a distinct construct aligned with employees' anxiety and concerns about missing opportunities to benefit their careers while they are disconnected from work (Budnick et al., 2020). Such studies consider FoMO as an internal state of mind and comprise the majority of prior research. However, the past five years have also seen scholars exploring the effect of FoMO through the lens of marketing and advertising as an externally initiated appeal to drive consumers to consider using commercial products and services (Bright & Logan, 2018; Hodkinson, 2019).

Such diversity in research indicates that the conceptual understanding of FoMO is still developing and perhaps continues to be constrained in many ways (Neumann, 2020). Indeed, more in-depth investigations are needed to understand individuals' experience of FoMO while also considering possible variations (Maxwell et al., 2021; Neumann, 2020) in scholarly perspectives on it. Further echoing this contention, Akbari et al. (2021) called for more targeted investigations into the associations between state FoMO and the use of the Internet and social media platforms (e.g., Instagram and Facebook). This dissertation attempts to answer these calls and conceptualizes FoMO as a state-related cognitive construct specific to the use of online networks, such as social media platforms. Thus, FoMO is viewed as a phenomenon that influences individuals during their active or reactive (i.e., passive) use of social media sites. For this purpose, the original operationalization of FoMO by Przybylski et al. (2013) has been adapted to suit the study context in line with prior studies (Dogan, 2019; Maxwell et al., 2021).

This dissertation focuses on state FoMO for two main reasons. First, as discussed in the introduction, the implications of social media use extend to individuals' work and personal lives, and scholars have established the criticality of investigating its detrimental effects (Baccarella et al., 2018). Second, FoMO has been inexorably linked to the use of technological devices, such as smartphones (Brown & Kuss, 2020) and online platforms (Rozgonjuk et al., 2020a). However, how such linkage translates into the negative effects experienced by individuals remains less understood. Furthermore, compared to trait FoMO, state FoMO has been the subject

of fewer academic studies (Neumann, 2020). Further investigations are required to explicate the various mechanisms that connect FoMO, especially with individuals' mental health, Internet/online platform-related compulsive use tendencies and disorders (Akbari et al., 2021; Gupta & Sharma, 2021; Wegmann et al., 2017), and a decline in daily life or workplace productivity (Budnick et al., 2020; Fridchay & Reizer, 2022; Rozgonjuk et al., 2020a).

2.3 FoMO in private life vs. the workplace context

This dissertation argues that FoMO's influence may affect not only the personal lives of individuals but also their professional lives as social media is increasingly being used in workplaces, especially since the institution of the COVID-19 pandemic-related lockdowns. However, the academic focus on FoMO has rested primarily on personal aspects while relatively neglecting the exploration of whether and how FoMO affects work performance. The subsequent text discusses the extant literature on FoMO's effect on both the personal and working lives of social media users and thus presents a brief background of academic initiatives in both contexts.

Many scholars have previously studied how FoMO influences individual well-being in terms of private or personal life. Both academic and practice-oriented research has found FoMO to be linked to significant indicators of diminished well-being, such as depression (Elhai et al., 2016), anxiety (Elhai et al., 2018), low self-esteem, and negative moods (Sekścińska & Jaworska, 2022). Moreover, research has also emphasized the apparent complexities pertaining to FoMO's innate experience that is influenced by many individualistic issues, including emotional factors such as anticipated envy (Good & Hyman, 2020) and personality traits such as agreeableness and openness (Rozgonjuk et al., 2020b).

Prior investigations have posited that the dark side of social media phenomena may be experienced by individuals driven by FoMO to engage with social media platforms, whether directly or indirectly. For example, scholars posit that individuals' need to continually maintain connectivity with social media (in other words, FoMO) to check notifications and respond to them could cause them to experience sleep-related disruptions and insufficient sleep (Adams et al., 2017; Milyavskaya et al., 2018). Social media fatigue is gaining prominence as a potential consequence of FoMO (Bright & Logan, 2018; Dhir et al., 2018; Y. Zhang, Liu, et al., 2020), and recent studies have started to explore its associations with phubbing (Davey et al., 2018; Franchina et al., 2018). However, the most prominently emergent FoMO-related phenomenon is compulsive or problematic use tendency, whether this applies to social media platforms (L. Yin et al., 2019) or mobile devices (Gezgin, 2018; Oberst et al., 2017).

However, there is indeterminate evidence of the capacity in which FoMO is related to these dark side of social media phenomena as prior studies have modeled FoMO as a mediator (Y. Zhang, He et al., 2020) and as an antecedent (Dhir et al., 2018). This indicates that further investigations are needed to understand how and through what mechanisms FoMO influences human lives and is associated with the dark side of social media. Such investigations would improve the existing knowledge of FoMO in particular and the dark side of social media in general.

In comparison to social media's influence on the personal lives of its users, the professional context has been relatively under-investigated. Moreover, while the deep integration of social media into professional workplaces has prompted research into its effect on employees' performance when used for personal reasons (Chu, 2020; Karimikia et al., 2020), the findings regarding whether the effect is positive or negative have been inconsistent. FoMO is especially under-researched in this context, although a few studies have begun to explore its association with negative consequences for work life, such as burnout (Budnick et al., 2020) and diminished performance (Fridchay & Reizer, 2022). For example, Hadlington et al. (2020) determined FoMO to be negatively associated with information security awareness, implicating FoMO in employees' risk-taking behavior in their personal and professional lives. Similarly, Rozgonjuk et al. (2020a) determined that FoMO and social media use negatively influence individuals' productivity in their daily activities and work productivity contingent on the severity of the maladaptive use of social platforms such as Facebook and Instagram. Furthermore, Marsh et al. (2022) recognized the influence of the COVID-19 pandemic in prompting individuals' enhanced use of digital platforms and devices (Kemp, 2020; We Are Social, 2021). They raised the call for further investigation into how FoMO can result in behavioral, cognitive, and affective outcomes in the work context, echoing other scholars who have made similar contentions (Budnick et al., 2020; Fridchay & Reizer, 2022).

The review of the existing literature indicates that FoMO may be a more pervasive and detrimental influence on individual well-being than previously envisaged. It further emphasizes the need to reflect on humans' use of technological interventions, such as social media platforms, regarding the advantages they afford and the possible havoc they can create in daily life. While this dissertation is limited to exploring FoMO's possible negative influence on individual well-being, the literature definitively calls for extending the scope of this study to a broader context.

2.4 Theoretical lenses

The theoretical lens adopted as an overarching framework for this dissertation is the theory of compensatory Internet use (TCIU; Kardefelt-Winther, 2014). This contemporary theory posits that addictive use of the Internet can be a coping or

compensatory mechanism that allows individuals to deal with their real-life problems (Kardefelt-Winther, 2014; C. M. Lai et al., 2015) and regulate their negative emotions (Elhai et al., 2018). Thus, the theory focuses attention on the individual motivations that influence users to spend time online on various activities. It is also probable that such motivations enact influence as mediators between individuals' psychosocial well-being and their addictive use of the Internet (Kardefelt-Winther, 2014). Since its introduction, the TCIU has been used prolifically to investigate social media and smartphone addictions in various contexts (Dempsey et al., 2019; Elhai et al., 2018; Wolniewicz et al., 2018; Yang et al., 2021).

However, scholars have suggested that the TCIU's overemphasis on psychopathology and negative emotions may provide a limited explanation for the problematic use of technology (Wolniewicz et al., 2018). Their contention is based on the TCIU's enhanced orientation toward understanding such associations from the perspective of negative reinforcement (Elhai et al., 2019). Considering this as a limitation of the TCIU and Baccarella et al.'s (2018) proposition that a combination of theories to ground conceptual frameworks may provide a better explanation for the dark side of social media, three articles (Articles II, III, & V) in this dissertation leverage the TCIU in conjunction with other theories. In these articles, this theory is used to stipulate that as a negative emotional state, FoMO could drive individuals' excessive engagement with social media and subsequently make them vulnerable to experiencing its dark side.

Further, in one article (IV), this dissertation utilizes the SSO framework to conceptualize FoMO specifically as a negative state of strain driven by the personal tendencies that induce negative responses among employees. While this is aligned with the tenets of the TCIU, the adoption of SSO provides a different perspective on FoMO as a trigger for the problematic personal use of social media during work hours. It adds to the extant conceptual understanding of this concept. Additionally, to explain why FoMO and its consequences (compulsive social media use and phubbing) may have a detrimental effect on employees' work performance, this dissertation leverages the limited capacity model (LCM; Lang, 2000). The LCM is used to explain how these phenomena, including FoMO, may preoccupy the cognitive processing capacity of employees and limit their ability to process work-related information and tasks. The subsequent sections provide details on how these theories have been used to ground the tested associations.

The following subsections explain the use of the theories mentioned above in each article included in this dissertation. Moreover, these subsections also briefly discuss the complementary theories that have been used to ground the tested associations and build conceptual frameworks for each article.

2.4.1 Article II

In this article, two theories were used to ground the hypothesized associations: self-determination theory (SDT) and the TCIU. The SDT suggests that individuals seeking an enhanced perception of well-being would self-regulate their behavior to fulfill three primary needs: autonomy, relatedness, and competence (Deci & Ryan, 1985). Furthermore, the TCIU suggests that individuals' excessive engagement with social media could be an attempt to compensate for or cope with their negative feelings or psychopathy. This article leverages the tenets of both theories to propose that individuals looking for relatedness and trying to avoid the apprehensiveness of possibly missing good experiences (i.e., FoMO) would be driven to engage in compulsive social media use. Their FoMO-driven engagement with social media is hypothesized to disrupt their bedtime routines and lead to the development of poor sleep hygiene (habits promoting or hindering sleep) and, subsequently, problematic sleep (i.e., poor sleep quantity or quality). Thus, social media would be a platform that allows users to self-regulate behaviors targeted at maintaining social connections (fulfilling relatedness needs as suggested by SDT) and avoid FoMO (i.e., a negative feeling, as suggested by the TCIU).

2.4.2 Article III

As in Article II, the TCIU is used to ground the hypothesized association of FoMO with social media stalking. The basic tenets of the TCIU indicate that individuals may engage in excessive social media use to cope with negative states of mind (P. Wang et al., 2018) or other circumstantial stressors (Wolniewicz et al., 2018). FoMO is an anxious or apprehensive state of mind that can induce individuals to compulsively use social media as a compensatory mechanism (Tandon et al., 2020). Subsequently, it is intuitively plausible that FoMO may also be related to their tendency to socially stalk others on these platforms and compare their circumstances with others' online posts and events. However, the TCIU has been criticized to some extent for its overemphasis on negative feelings inducing compensatory Internet and social media use (Wolniewicz et al., 2018). Thus, the framework is supplemented with the SCT (Festinger, 1954) to strengthen the hypothesized associations. The SCT suggests that individuals may have the proclivity to compare themselves with others in their social groups and environments to conduct an evaluation of their own beliefs and abilities (Greenwood, 2017). Scholars have proposed that even social comparison driven by positive motives such as self-improvement (Latif et al., 2021) could lead to individuals experiencing the dark side of social media, such as fatigue (Malik et al., 2020). In line with Malik et al. (2020), this article hypothesizes a positive association between online social comparison and social media fatigue, considering FoMO to be the trigger or motive for social media users' engagement in

such comparison. The theory is also used to ground the proposition that online social comparison may mediate the association between FoMO and social media fatigue as such comparison may (in its upward form) culminate in an experienced negative state—that is, fatigue.

2.4.3 Article IV

The SSO model is a popular conceptual framework that has been well-used in social media research, for example, to study the predictors of the dark side of social media phenomena, such as social media fatigue (Whelan et al., 2020b). The model has been previously considered to model various mental states and life-related stressors (e.g., job stress; Koeske et al., 1993) and can showcase the link between an individual's personal situation, experienced psychological strains, and subsequent responses to this strained state. The model comprises three distinct components: stressor (the psychological or behavioral impetus that strains the individual), strain (the individual's negative emotional state caused by the stressor), and outcomes (the individual's psychological, behavioral, or physiological working responses being perceivably reduced due to the strained state). In this article, the individual tendencies of exhibitionism and voyeurism are modeled as stressors that induce FoMO as a strain on social media users, leading to posited problematic psychological (compulsive social media use) and behavioral (procrastination and work performance decrement) responses.

2.4.4 Article V

This article utilizes a triple theoretical lens to ground the associations—that is, regulatory focus theory, the TCIU, and the LCM. The LCM (Lang, 2000) suggests that human beings have a limited cognitive capacity to process information. Such processing generally encompasses three steps: (a) exposure to a piece of information (or stimulus), (b) analysis of this information (or encoding), and (c) cognitive storage of the information in case it needs to be retrieved at a later stage (Bright et al., 2015; Kaur et al., 2021). When individuals are exposed to greater amounts of information, their mental resources may become strained. They may be unable to process the entirety of the information and become overloaded or fatigued. The LCM has previously been used to explore the antecedents of social media fatigue (e.g., Kaur et al., 2021) and is a suitable theory for grounding explorations of how social media and smartphone use may strain users' mental resources to induce problematic outcomes.

While the LCM and TCIU have been used in prior research to develop conceptual articles and explain the findings, the regulatory focus theory is a novel

addition to social media research (e.g., in Luqman et al., 2021). Further, to advance understanding of the pathways and factors that can enhance or dampen the fallouts of FoMO and problematic social media use, this article utilizes the regulatory focus theory (Brockner & Higgins, 2001) to introduce two moderators: promotion and prevention focus. These moderators pertain to the innate motivations that drive employee actions in the workplace based on their desire for growth and further development (promotion focus) versus the desire to maintain the status quo (prevention focus). Such motives are hypothesized to moderate the association between FoMO-induced phubbing and the studied employee responses.

3 Methodology

This chapter discusses the dissertation’s meta-theoretical or philosophical and methodological stances (Section 3.1), which lay the foundations of each article included and of the overall dissertation. Following the explication of the positioning of this dissertation, a brief explanation of the adopted methodologies is presented—that is, SLR (Section 3.2), survey (Section 3.3), and SEM (Section 3.4). Additionally, each article’s scales and data collection approaches are discussed (Sections 3.3.1 to 3.3.4), along with the statistical techniques used to confirm the appropriateness of the data for the analytical technique used—that is, SEM (Section 3.5).

3.1 Philosophical underpinnings

Research philosophy forms the basis of knowledge development and its nature (Saunders et al., 2007). A set of four core assumptions informs philosophical thinking in research: ontology (the nature of knowledge itself and reality), epistemology (considering the acceptability of knowledge), axiology (value-related judgments; Saunders et al., 2007), and methodology (the methods deemed to be acceptable for collecting evidence; Mingers, 2001). These assumptions inform the approaches adopted in social sciences research and form the basis of research philosophy (Saunders et al., 2007) or, as Kuhn (1962) suggests, that of a research paradigm.

The term paradigm itself has multiple connotations (Saunders et al., 2007), and even Kuhn acknowledged the obscurity in his original conceptualization (Eckberg & Hill, 1979). For instance, on the one hand, Schwandt (2001, pp. 183–184) described a paradigm as “the commitments, beliefs, values, methods, outlooks and so forth shared across a discipline.” On the other hand, Babbie (2020, p. 32) suggested that paradigms should be viewed as “models or frames of reference that we use to organize our observations and reasoning.” Despite the evident multiplicity in its meanings, behavioral research warrants the use of paradigms because it offers a way to improve the research’s credibility and generalizability due to its guidance in selecting appropriate methodologies (Kankam, 2019). Thus, these paradigms reflect the metatheory of a domain that is concerned with the “theories and theorizing in a particular disciplinary domain” (Ceccez-Kecmanovic & Kennan, 2013, p. 116).

Within IS research domain, design science and BS have been noted as the main paradigms (Hevner et al., 2004; Hevner & March, 2003). The BS paradigm views IS from a social science perspective that focuses on human and organizational behavior, whereas design science adopts a more technical perspective and focuses on the IT artifact (Hevner et al., 2004; Hevner & March, 2003). These paradigms reflect the discrete phases of the research process that aims to understand and solve a problem (Niehaves & Stahl Bernd, 2006). This dissertation utilizes the BS paradigm, which facilitates understanding the artifact-human interaction and the focus here rests on understanding FoMO in the context of users' interaction with social media platforms (as noted in Section 1.4). Concurrently, this dissertation also assumes the post-positivist perspective epistemologically (Niehaves & Stahl Bernd, 2006), as discussed in the succeeding text.

IS scholars have noted the predominance of some meta-theoretical paradigms, such as positivist, interpretive, and critical (Cecez-Kecmanovic & Kennan, 2013; Orlikowski & Baroudi, 1991), each of which follows a different set of previously deliberated assumptions. Describing a paradigm as a “distinct worldview based on certain epistemological and also ontological assumptions,” Niehaves and Stahl Bernd (2006, p. 166) discuss that positivism and interpretivism are especially noted in IS research as epistemological paradigms.

Within the positivist paradigm, researchers assume that an apprehensible reality exists independent of the researcher (ontology), and its objective examination would result in “law-like generalizations” similar to those of the natural sciences (Saunders et al., 2007, p. 103). In terms of epistemology, positivism is associated with testing theories empirically and adopts the “hypothetic-deductive account of scientific explanation” (Orlikowski & Baroudi, 1991, p. 10). Essentially, positivist researchers commence their investigations by reviewing existing theoretical knowledge and literature (Cecez-Kecmanovic & Kennan, 2013) to deductively develop propositions and hypotheses to be empirically tested (Brand, 2009) by leveraging quantitative methods (e.g., surveys, statistical modeling, experiments). While employing these methods, the researcher has to consider empiricism (evidence-guided research) while ensuring the validity (Orlikowski & Baroudi, 1991) and reliability of the research (Leung & Shek, 2018). Further, during the course of a study, a positivist researcher would be independent (axiology), thereby preventing the impact of their own values on the object being studied (Guba & Lincoln, 1994).

However, scholars have proposed a more recent perspective—post-positivism—which finds its origins in the philosophy of positivism (Kankam, 2019) and has been posited to be a revised version of positivism (Hair et al., 2020). Like positivism, post-positivism advocates the existence of objective reality (Leung & Shek, 2018) but differs in terms of ontological (critical realism) and epistemological (modified dualist/objectivist) assumptions (Guba & Lincoln, 1994). A post-positivist researcher presumes that an objective reality exists (Leung & Shek, 2018), but

believes that reality can only be understood imperfectly (Leung & Shek, 2018) and probabilistically (Guba & Lincoln, 1994). Epistemologically, maintaining objectivity remains the ideal stance of post-positivist researchers who leverage validity and reliability measures to examine their adopted methods and derived conclusions for possible bias (Cresswell, 2009).

Moreover, as Guba and Lincoln (1994) discussed, emphasis is placed on utilizing external “guardians” of objectivity, such as the fit with existing critical traditions and the community (e.g., editors and peers). Cresswell (2009) discussed post-positivism as a deterministic and reductionist philosophy wherein causes are assumed to determine specific outcomes. Post-positivist research thus strives to identify and assess a discrete set of assumptions (or variables as causes and outcomes) through distinct hypotheses and research questions using prudent measurement and observation (Cresswell, 2009). Further, Leung and Shek (2018, p. 1350) discuss that post-positivism leverages manifold methods of inquiry, or “critical multiplism,” thereby enabling researchers to combine qualitative and quantitative methodologies. In this sense, post-positivism assumes a more pragmatic stance to some extent (Henderson, 2011; Kankam, 2019) and, as Cresswell (2009) discusses, challenges the idea that the knowledge derived through research can be an absolute truth. This is an important distinction that proposes that it may be improbable to assume factuality while investigating how human beings behave and act (Cresswell, 2009).

Since this dissertation focuses attention on the individual user’s perspective on the select investigated phenomena, it leverages the post-positivist paradigm, assuming the epistemological and ontological perspective that the reality examined through the articles in this dissertation may be only “imperfectly apprehendable because of basically flawed human intellectual mechanisms” (Guba & Lincoln, 1994, p. 110). This paradigm is leveraged with the belief that an objective reality may exist in terms of FoMO’s associations with relationships with the dark side of social media phenomena, such as phubbing (Franchina et al., 2018), which is grounded in prior literature (Kuss & Griffiths, 2017; Pontes et al., 2018). However, the intellectual mechanisms due to which these associations exist may not be fully understandable owing to the complexity of the affective processes that an individual undertakes while using social media platforms. Hence, this dissertation argues that it may not be possible to achieve a full understanding of the objective reality of FoMO’s associations. Instead, the findings would lend insights only into the tested associations, which may be influenced by other factors not considered in this dissertation.

Moreover, the majority of the articles in this dissertation (II–V) leverage the survey method for data collection, which is subject to respondent biases and possible fallibility of knowledge (e.g., due to memory lapses while responding to survey questions) that are addressed by post-positivism (Hicks, 2018). The adoption of the post-positivist paradigm in this dissertation is also supported by scholars’

propositions about (a) its suitability for studying individual behavior (Kankam, 2019) and (b) its potential to legitimize the use of mixed or multiple methods to collect data (Henderson, 2011).

However, the dissertation and the included articles strive to achieve the methodological and axiological rigor encouraged by the positivist paradigm by maintaining researcher objectivity. The majority of articles in this thesis (II–V) follow a hypothetic-deductive research approach focused on establishing validity, reliability, and replicability of results obtained from testing hypotheses grounded in theory and derived from the existing literature to answer specific questions (Saunders et al., 2007) before data collection (Hair et al., 2020). However, for Article I, an SLR was conducted following an inductive reasoning approach that involved “identifying patterns in a data set” (Hair et al., 2020, p. 306) to develop hypothesized associations and conceptual frameworks for Articles II–V. This SLR used stringent protocols for sampling, article selection, and quality assessment to assume a positivist perspective (Van Klaveren & De Wolf, 2019).

In terms of the research methods, this dissertation follows Järvinen’s (2004) taxonomy, which can help map a study’s RQs to research methods while also considering their limitations. In terms of Järvinen’s (2004) taxonomy (see Figure 3), this dissertation utilizes the conceptual-analytical and theory-testing approaches as addressing the raised MRQs would logically require undertaking both conceptual and empirical research. This dissertation positions itself to elucidate and discourse on the conceptual underpinnings of FoMO and its associations with previously proposed yet under-researched detrimental consequences for individual lives. The aim of the articles in this dissertation is not to examine the usefulness or creation of a specific artifact; rather, the articles focus on developing a deeper understanding of the reality of FoMO and its effect on individual well-being.

In essence, this dissertation has two objectives. The first is to generate conceptual frameworks and identify associations that could advance research on the influence of FoMO in human lives. The second is to test the developed conceptual frameworks and proposed associations grounded in existing theories that could assist in explicating mechanisms through which FoMO is linked with the negative experiences and outcomes that a social media user can experience.

Thus, considering Järvinen’s (2004) taxonomy, the conceptual-analytical approach is used in the SLR to reconcile the existing knowledge on FoMO and formulate gaps and future agendas for research. The SLR thus set the foundation for the dissertation, and its findings were used to develop the conceptual frameworks for the theory-testing articles (II–V; see Figures 1 and 3). These theory-testing articles utilized the survey and SEM methods for data collection and analysis, respectively. The over-arching philosophical positioning of this dissertation, along with the adopted research strategies and methods, are briefly illustrated in Figure 3.

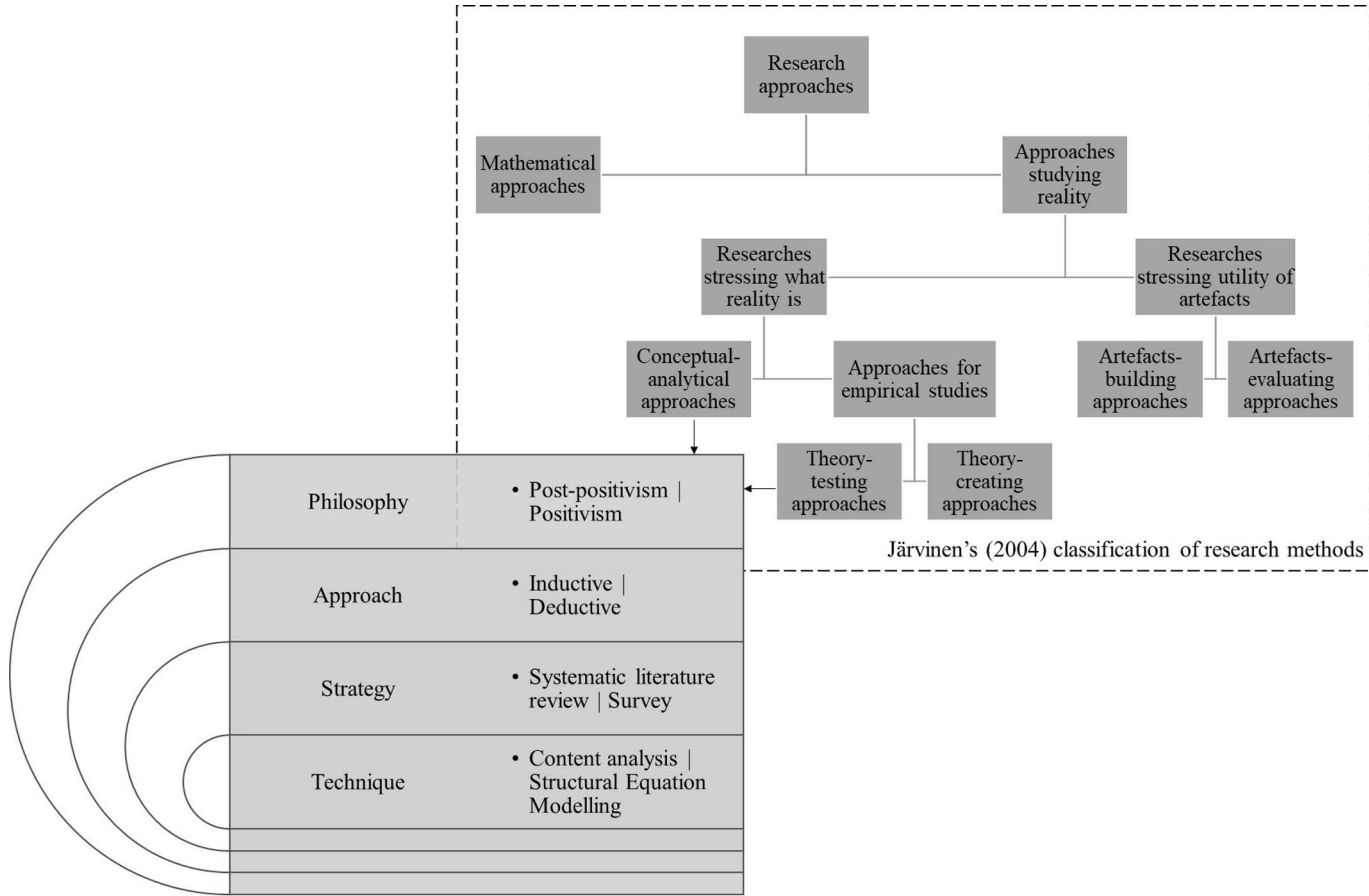


Figure 3. The positioning of the dissertation.

3.2 Systematic literature review

SLRs enable the systematic and methodological summarization of the existing literature in a field of study and identify gaps that can be used to advance future research (Bhimani et al., 2019). The adoption of this method implies the use and in-depth description of the steps involved in selecting, scanning, and analyzing literature transparently to reduce bias in the SLR process (Tranfield et al., 2003). This method utilizes comprehensive and strategic steps to review original scholarship, evaluate it (Cooper, 1988), and present an integrative, impartial, and inclusive report of the results (Saunders et al., 2007). The systematic and methodical way in which the review is conducted improves the replicability of the process (Saunders et al., 2007; Tranfield et al., 2003) and implies an inductive approach to framework development (Cooper, 1988). SLRs essentially enable the identification of the boundaries of a research domain. It is a challenging yet critical method of strengthening the foundations of a domain, especially in IS research, which draws its theoretical bases from multiple areas (Webster & Watson, 2002).

Because FoMO-oriented research is multidisciplinary, extensive, yet fragmented (see Section 1.2), the SLR method was considered suitable to assimilate existing knowledge and develop a foundational understanding of the FoMO phenomenon, which was the premise of the specific RQs raised in Article I. The SLR adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines (Moher et al., 2009). The SLR protocols were also aligned with existing reviews on technology adoption and consumer behavior (Ain et al., 2019; Behera et al., 2019) to ensure that the reporting was in line with the latest research. The process is illustrated in Figure 4.

To begin the review, a search was conducted on the Scopus, PubMed, Web of Science, and PsycINFO databases to identify pertinent articles using a combination syntax with “fear of missing out” OR “FoMO” as the keywords. These databases were selected for their comprehensiveness in indexing multidisciplinary peer-reviewed literature (Sigerson & Cheng, 2018) in line with SLRs (e.g., Elhai et al., 2017). The search was restricted to target articles published from 2013 onwards following the operationalization of the FoMO construct by Przybylski et al. (2013). Initially, 407 search results were obtained, of which 213 were found to be potentially suitable after screening the titles, abstracts, and keywords.

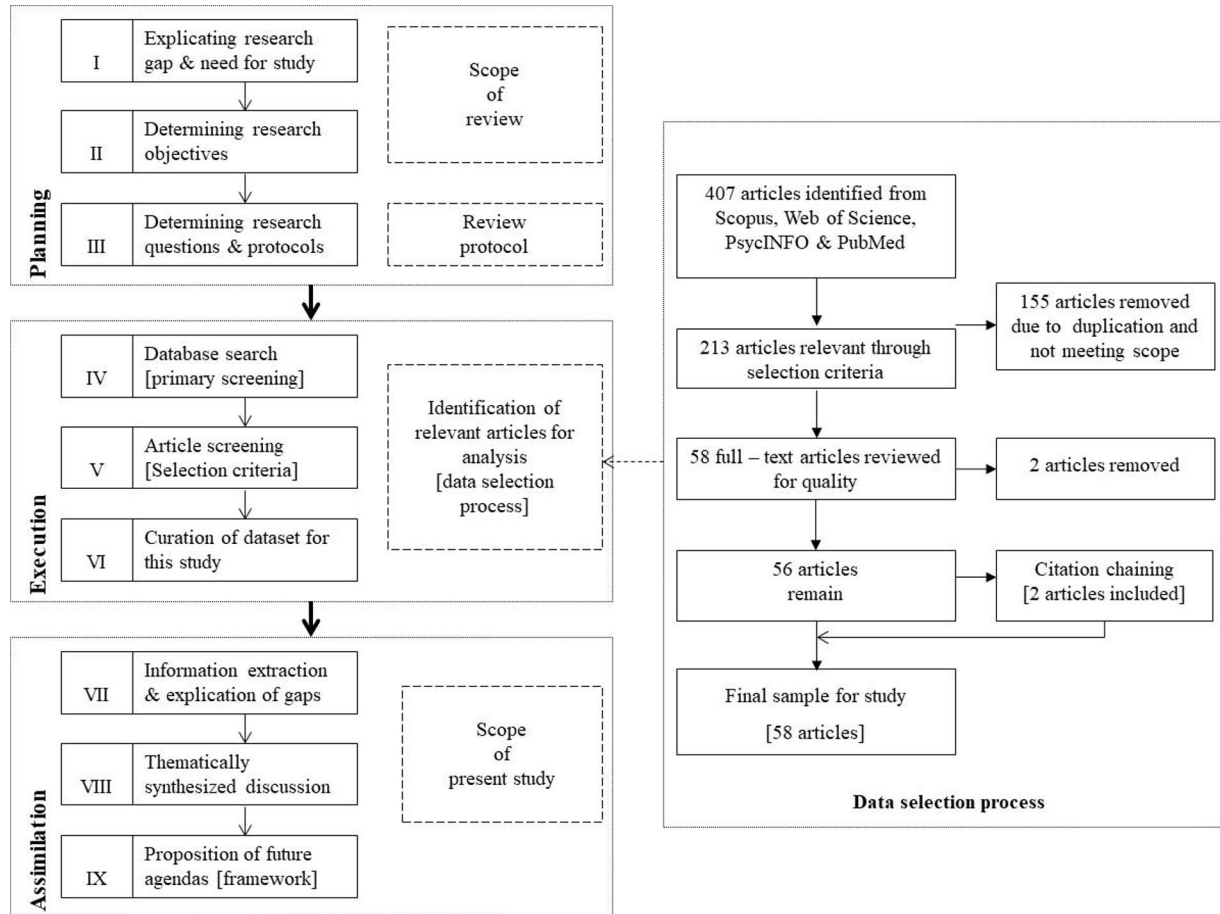


Figure 4. The SLR process (Source: Tandon, Dhir, Almugren, et al., 2021).

Table 3. Article selection and quality evaluation criteria used for the SLR.

Inclusion criteria (IC)		Exclusion criteria (EC)	
IC#1	Articles only	EC#1	Abstract, title, or keywords do not include FoMO
IC#2	Published between 2013 and 2019	EC#2	Study irrelevant to study objective (does not focus on FoMO)
IC#3	Empirical analysis inclusive of FoMO	EC#3	Exclude studies related to conceptual, qualitative, and psychometric measurement scales
IC#4	Studies published in the English language	EC#4	Exclude conference papers, reviews, book chapters, magazine articles, and dissertations
IC#5	Studies published in peer-reviewed journals		
Quality evaluation (QE) criteria		QE#	Scoring
Do the research topic and findings address FoMO?		QE1	Completely agree: +1 Partially agree: +0.5 Do not agree: 0
Is the context of the research clear in terms of contributing to the knowledge of FoMO?		QE2	
Does the research adequately delineate the methodology?		QE3	High quality: 4–5 Medium quality: 2.5–3.5 Low quality: < 2.5 (excluded)
Is the data collection procedure adequately explained?		QE4	
Is the approach used for data analysis appropriately explained in the research?		QE5	

(Source: Tandon, Dhir, Almugren, et al., 2021)

The full texts of these shortlisted articles were then reviewed considering pre-ascertained selection and quality evaluation criteria (see Table 3) adapted from benchmarked SLRs (Ahmad et al., 2018; Ain et al., 2019). After duplicates were removed and a forward-and-backward citation chaining exercise was conducted, 58 articles were confirmed to be part of the final data set of the SLR. The entire process was carried out by two authors to ensure its robustness and reduce the chances of bias (Behera et al., 2019), and they resorted to discussion to resolve any incumbent conflicts. Adherence to the rigorous protocols was maintained to safeguard the SLR's transparency and replicability. It also ensured that only relevant articles were considered for inclusion in the data set (Savino et al., 2017; Webster & Watson, 2002). After the data set compilation, a research profile of the selected articles was developed to present statistics on indicators such as the first author's geolocations and affiliated organizations, the most prolific authors, and word clouds for keywords and titles. Further, content analysis was used to scrutinize the literature and discern insights and knowledge through an interpretive evaluation (Hsieh & Shannon, 2005).

Following a three-step process (Palvia et al., 2007), the relevant information was first extricated from the data set, which was then grouped and coded recurrently to create harmonious sets of data in the second step. In the final step, the groups were reorganized into distinctive themes discussed in the article. Concurrently, the obtained findings were also analyzed to decipher specific gaps related to each theme. These gaps were then used to propose agendas to advance FoMO-related research.

3.3 Survey: Respondents, instruments, and data collection

Surveys enable researchers to quantitatively explicate a description of the trends and opinions of a sample of the targeted population (Cresswell, 2009). They do so by soliciting structured responses through questionnaires (Chen & Hirschheim, 2004), which are then used to make generalizable claims about the population itself (Cresswell, 2009). Surveys offer researchers numerous advantages, such as easy administration (Cresswell, 2009), repeatability, controllability (Gable, 1994), and rapidity of data collection. Nevertheless, the method is limited in some ways, such as low response rates (Pinsonneault & Kraemer, 1993) and the inability to explain cause and effect between tested variables through a cross-sectional survey (Gable, 1994). Despite its limitations, surveys are a dominant research method in IS research (Chen & Hirschheim, 2004; Pinsonneault & Kraemer, 1993) and can provide valuable insights into behavioral aspects of IS usage (Chen & Hirschheim, 2004).

The survey method can be used in various situations, such as for explanatory and exploratory research (Babbie, 2020). However, Pinsonneault and Kraemer (1993) suggested that surveys are especially beneficial for answering questions related to the what, why, and how of a studied phenomenon. Additionally, Gable (1994) stated that surveys provide higher degrees of deduction compared to other approaches, such as fieldwork. Because the RQs raised in this dissertation aim to provide incremental knowledge of why and how FoMO leads individuals to experience select negative consequences, the survey method was considered suitable and was thus adopted. Considering the guidelines suggested by Cresswell (2009), a structured questionnaire was constructed for each tested conceptual framework presented in Articles II–V. The measurement scales used in the questionnaire are subsequently discussed for each article, along with the data collection process, preliminary respondent profile, and measures taken to reduce respondent bias.

3.3.1 Article II

An Indian university was approached to conduct the survey for this study and collect cross-sectional data. The targeted respondents were between 18 and 27 years of age

and were enrolled in the university for bachelor's and master's programs for full-time and part-time studies. After obtaining the requisite ethical and administrative permissions, the university notice boards were used for advertising the study and recruiting participants. Two cohorts were developed for the study in line with the RQs. Cohort 1 (Study A) comprised full-time master's students ($N = 1398$, age = 19–27 years, 57.4% female), and Cohort 2 (Study B) was composed of part-time students (bachelor's and master's programs) working in a full-time job while pursuing their studies ($N = 472$, aged 18–23 years, 63.1% female). Prior to data collection, the participants were informed that their participation in the survey was anonymous and voluntary. The survey also emphasized that the responses were purely for academic use. The participants were also asked to confirm that they were active users of Facebook, which is India's most prolifically used social media platform (Statista, 2019b, 2021b). The emphasis on informing the participants about their choices and the use of their responses was to address potential common method bias (CMB) issues.

The survey instrument was a paper-based questionnaire with items posed on a 5-point Likert scale. Pre-validated items were used for FoMO (Przybylski et al., 2013), compulsive social media use (Andreassen et al., 2012), anxiety (La Greca & Lopez, 1998), and depression (Salokangas et al., 1995). A prior mixed-method study was used by one of the authors to develop the measures for problematic sleep due to social media and poor sleep hygiene; it was under review when this article was published. It should be noted that two-item measures were employed in the analysis for compulsive social media use and problematic sleep. Such two-item measures are reliable contingent on two conditions: (a) they can be meaningfully interpreted (Wübben, 2009), and (b) the items show high intercorrelations but are uncorrelated to other tested constructs (Worthington & Whittaker, 2006). Our measures for compulsive social media use and problematic sleep met these two conditions. They also had acceptable values for the Spearman-Brown reliability test and were thus considered viable for the analysis.

3.3.2 Article III

The survey instrument was developed using items adapted for this study context from pre-validated scales for FoMO (Przybylski et al., 2013), social media stalking (Dhir et al., 2021), social media fatigue (Dhir et al., 2018; Islam et al., 2020; Whelan et al., 2020b), and online social comparison (Gibbons & Buunk, 1999; Latif et al., 2021; Reer et al., 2019; Steers et al., 2014). The items for social media envy (Charoensukmongkol, 2018; Tandoc Jr. et al., 2015) and frequency of posting status updates (R. Lin et al., 2018) were also adapted. The items were anchored on 5-point Likert scales. The survey also included questions on participant demographics; age

and gender were included as control variables in the model. The inclusion of demographic control variables is aligned with prior social media research (Dhir et al., 2021; Kircaburun et al., 2018; Reer et al., 2019).

The survey was launched with Google Forms on Prolific Academic in the United Kingdom (UK). The reason for choosing the UK as the study context was the call (Royal Society for Public Health & Young Health Movement, 2017, p. 3) for a more nuanced understanding of the negative impact of social media use in the UK. Moreover, the SLR conducted to commence this thesis concluded that the UK was a well-investigated context for FoMO and indicated the maturity of the geography in utilizing social media platforms. A total of 324 participants were recruited, and three responses were dropped for being incomplete. Of these responses, 321 responses were carried forward, of which 55.4% were female, and all were within the age range of 18 to 25 years. This age group is among the most prolific social media user groups in the UK (Johnson, 2020) and can be especially vulnerable to the adverse fallouts of using social media platforms (Marino et al., 2016; Zhou, 2019).

3.3.3 Article IV

The data were collected by launching a Google forms survey on Prolific Academic among employees based in the United States (US), where reports indicate that social media use is on the rise (Statista, 2020b), even during work hours (Olmstead et al., 2016). However, few studies have explored the impact of such social media use on individuals' work performance and other allied indicators (e.g., Budnick et al., 2020). Two screening criteria were used to recruit participants suited to the study objectives: (a) a minimum of one year of work experience and (b) full-time work status. The participants were informed of the purely academic nature of the study, the voluntary nature of their participation, and the anonymization of responses to counteract possible CMB issues. The participants were confirmed to have social media accounts, and the questions were not directed at a specific platform. Through Prolific Academic, the participants were monetarily compensated for their responses. The survey generated 349 responses, of which 312 were complete and carried forward for further analysis. The study sample was predominantly aged between 25 and 34 years (60.3%) and represented more male respondents (51.3%). Age, gender, and income were introduced as control variables for all the responses but were found to have no confounding influence on any of the responses.

The survey measured the study variables on a 5-point Likert scale (including a marker variable – blue attitude) and sociodemographic variables on an ordinal scale. The items were adapted from pre-validated scales for the variables: exhibitionism and voyeurism (Mäntymäki & Islam, 2014, 2016), FoMO (Przybylski et al., 2013), compulsive social media use (Andreassen et al., 2012), work performance decrement

(Kuvaas, 2006; Yu et al., 2018), and procrastination due to social media use at work (Meier et al., 2016; Reinecke & Hofmann, 2016; Schnauber-Stockmann et al., 2018). An expert panel (five individuals) was established to test the content and face validity of the measures. After their suggested changes were incorporated, a pilot test was also conducted through Prolific Academic. Twenty-five representative respondents (25 to 50 years old and working full-time) were recruited to test the suitability of the items for the final survey. The voluntary and anonymous nature of participation was clarified to the survey respondents, who were financially compensated for their time upon their consent to answer the survey.

3.3.4 Article V

Similar to the previous articles, the data for this study were collected through a survey launched on Prolific Academic targeted at full-time working employees in the US. The US was a good choice for this study because phubbing-related research is scarce in this context compared to the UK (e.g., Chotpitayasunondh & Douglas, 2018) and due to previously reported individual social media use during work hours in the US (Olmstead et al., 2016). However, this survey was time-lagged: The first wave measured responses for FoMO and phubbing, and the second wave measured responses for the outcomes (creativity, workplace incivility, and work exhaustion). The 317 participants who answered the first survey were targeted for the second one, for which 249 responses were received. Seven of these responses were removed for incompleteness, and 243 were carried forward for the final analysis. The final sample was predominantly male (58.8%) and mainly comprised young adults (25 to 35 years of age, 56.7%). The sociodemographic variables of age, gender, and educational background were also used as control variables.

The 5-point Likert scale was used to anchor the items adapted from pre-validated scales to suit the study context. The variables included phubbing (Al-Saggaf et al., 2019; J. A. Roberts & David, 2017), FoMO (Przybylski et al., 2013), work incivility (Cortina et al., 2001; Nair & Vohra, 2010), workplace exhaustion (Dhir et al., 2019; Luqman et al., 2021), and creativity (Bhutto et al., 2021; Luqman et al., 2021). The prepared questionnaire was examined by an expert panel (three experts from the human resources, marketing, and information systems sciences fields) to ensure that the adapted items were clear and easily understood. The experts' suggestions for improving the survey were incorporated. To confirm that the survey had face validity and that the questions retained their clarity, it was also piloted with 15 respondents with similar profiles to those of the participants targeted for the final survey.

Further, the participants were screened based on two criteria: (a) employment status (full-time only) and (b) active use of online networks during work hours for personal reasons). Before the responses were collected, the participants were

informed that online networks could refer to news outlets, social media sites, sites or apps used for shopping, gaming, or entertainment (e.g., blogs/ vlogs), app stores, and payment gateway systems. Consent was obtained from the participants to use their responses for academic analysis and reporting. Moreover, the participants were informed that their responses were voluntary and would be anonymized without retaining any personal information. This was done to reduce the possible effects of social desirability bias and CMB.

3.4 Structural equation modeling

Articles II–V were subject to quantitative analysis using structural equation modeling (SEM), which is a widely employed analytical technique in social science (Hooper et al., 2008) and IS research (Gefen et al., 2000; Roldán & Sánchez-Franco, 2012). The two prevailing statistical techniques that are combined in SEM—structural path and exploratory factor analyses—enable improved assessments for reliability, validity, and the testing of structural models (Hair et al., 2017). The technique has been prolifically used for simultaneously testing complex causal paths (Saunders et al., 2007) among several independent and dependent variables (Anderson & Gerbing, 1988; Gefen et al., 2000). SEM has the capacity to ascertain the cumulative strength of the tested variables (Saunders et al., 2007) to explain a phenomenon. Thus, SEM offers an enhanced account of complex associations that underlie real-world problems to benefit both theory and practice (Gefen et al., 2000).

Two techniques are predominantly used when applying SEM to analyze data: (a) covariance-based SEM (CB-SEM) and (b) partial-least-squares SEM (PLS-SEM); they utilize different statistical platforms for the analysis. For example, while CB-SEM can be conducted through AMOS and LISREL, PLS-SEM uses PLS Graph (Roldán & Sánchez-Franco, 2012). The choice of using either CB-SEM or PLS-SEM is based on a study's objectives, data, and each technique's assumptions. While CB-SEM is used mainly to confirm and explain an established theory, PLS-SEM is primarily used to conduct theory-building, predictive (Gefen et al., 2000), and exploratory research (Hair et al., 2017). Because this dissertation adopts a robust theoretical grounding for the empirically tested hypothesized associations (see Section 2.4), CB-SEM was found to be suitable and was thus utilized in the included articles.

SPSS and AMOS were used to conduct the SEM analysis for all articles in the dissertation to explicate the associations between the select independent and dependent variables (Hair et al., 2020). The two-step approach recommended by Anderson and Gerbing (1988) was employed, wherein (i) the measurement model (confirmatory factor analysis) was used to examine the model fit indices, as well as construct validity and reliability (see Section 3.5), and (ii) the structural model was

used to test the hypothesized associations. The metrics or indices used to ascertain the model fit included both absolute and incremental fit indices (Hooper et al., 2008). These indices included chi-square fit statistics/degree of freedom (CMIN/DF ≥ 2.0 and ≤ 5) (Hooper et al., 2008; Tabachnick & Fidell, 2007), Goodness-of-fit and Adjusted-goodness-of-fit (GFI and AGFI >0.90), Root mean square error of approximation (RMSEA <0.08), Tucker-Lewis index (TLI >0.90), and Confirmed fit index (CFI >0.90) (Bagozzi & Yi, 1988; Kline, 2015; Mäntymäki & Islam, 2016). The R^2 and β values from the structural model were used to assess the hypothesized models' predictive power, and the p -value (<0.05) of the path coefficient determined whether the hypothesized association was valid. In Articles II, III, and V, the hypothesized research framework considered the mediating influence of select variables, and Articles III and V included potential moderators. The moderating and mediating associations were tested using Models 1 and 4 in PROCESS macro in SPSS, respectively, by bootstrapping the confidence intervals 5,000 times.

3.5 Reliability, validity, and common method bias

Confirmatory factor analysis (CFA) (Kline, 2015) and heterotrait–monotrait (HTMT) analysis (Henseler et al., 2015) were used for reliability and validity analysis. First, to assess the convergent validity, factor loadings, the average variance extracted (AVE), and composite reliability (CR) values were confirmed to meet the threshold values of 0.5 (Anderson & Gerbing, 1988), 0.5, and 0.7 (Fornell & Larcker, 1981). Subsequently, latent construct correlations were checked and confirmed to be <0.7 (Fornell & Larcker, 1981), indicating that discriminant validity was present. The average shared variance and maximum shared variance were also checked to confirm discriminant validity. The AVE values were higher than both and thereby met the recommended criteria for discriminant validity confirmation (Fornell & Larcker, 1981). The HTMT analysis was leveraged in Articles III–V to test discriminant validity by confirming that all correlations among the variables included in the studies fell below the recommended threshold of 0.85 (Henseler et al., 2015).

Moreover, because the survey in all articles used self-reported items, each data set was assessed for CMB issues using Harman's single factor test (Harman, 1976) and the common marker method (Lindell & Whitney, 2001). For Harman's single factor test, the variance accounted for by a single factor was calculated and determined to be less than the recommended threshold of 50% (Podsakoff et al., 2003). To utilize the second method, a common marker variable of blue attitude was introduced in the survey, and its correlation with the main study constructs was examined. The correlations were not high, and the common marker method also confirmed the absence of CMB in the data in line with prior studies (Bhutto et al., 2021).

4 Overview of the Studies

This chapter presents a reiteration of the focal objectives of investigation for the articles in this dissertation (Section 4.1). Further, this chapter presents a precis of each article's main findings while also noting the key insights derived from the results of the analysis of the tested associations (Sections 4.2 to 4.6).

4.1 Revisiting the objectives

The main objective of the dissertation was to conduct a nuanced investigation of the associations between the phenomena allied with the dark side of social media while considering FoMO as a key instigating variable—that is, the antecedent. The main phenomena of interest investigated by the articles include problematic sleep due to social media use (Article II), social media fatigue (Article III), the compulsive use of social media (Article IV), and phubbing (Article V). First, the concept of FoMO is focused on in order to develop a thorough understanding of its evolution and state-of-the-art investigative boundaries of research on FoMO through an SLR (Article I). In Articles II and III, the focus is shifted to understanding FoMO's association with specific phenomena related to the personal lives of social media users, which are considered to be part of the dark side of social media. Additionally, the dissertation investigates the adverse influence of specific dark side of social media phenomena on social media users' professional lives in terms of performance (e.g., performance decrement, Article IV and work exhaustion, Article V), psychological conditions (e.g., procrastination due to social media use, Article IV) and workplace relationships (e.g., incivility, Article V).

4.2 Findings of Article I

Tandon, A., Dhir, A., Almugren, I., AlNemer, G. N., & Mäntymäki, M. (2021). Fear of missing out (FoMO) among social media users: A systematic literature review, synthesis and framework for future research. *Internet Research*, 31(3), 782–821.

To enable an in-depth understanding of FoMO, an intensely studied concept (Elhai, Yang, & Montag, 2020), this article aimed to garner a comprehensive overview of

existing empirical investigations on FoMO. It specifically addressed three RQs to explicate the following information regarding prior FoMO research: (i) research profile, (ii) distinctive themes, and (iii) prominent knowledge gaps that could be filled to advance future knowledge on this phenomenon.

The data set comprised 58 empirical studies that showcased steeply rising publications on FoMO, primarily originating from the US, China, and the UK in terms of the authors' geolocations ($n = 12, 10, \text{ and } 8$, respectively) and study contexts ($n = 14, 9, \text{ and } 7$, respectively). Through content analysis, four main themes, as well as their inherent gaps were identified to propose viable agendas for future research (see Figures 5 & 10). The first theme discussed the conceptualization and evolution of FoMO-based research. This theme postulates the need to investigate the contextual differences and specificities of FoMO's emergence among digital natives and conduct a more in-depth analysis of its multidimensionality, for example, by utilizing neurobiological techniques (C. Lai et al., 2016). There is also the need to study FoMO in contexts other than social media, such as advertising (Bright & Logan, 2018).

The second theme focused on the study contexts for FoMO research, wherein three subthemes were identified: (a) studies focusing on FoMO as a driving force for individuals' use of specific social media platforms (Dempsey et al., 2019; Franchina et al., 2018), such as Facebook (Błachnio & Przepiórka, 2018) and Instagram (Hunt et al., 2018); (b) research positing FoMO to be specific to the Internet, social media, and smartphone-related use and communication (Sha et al., 2019); and (c) studies suggesting that FoMO enhances the use of mobile applications by individuals who are often driven to maintain continual or permanent connectivity with social platforms through mobile devices (Rozgonjuk, Elhai, et al., 2019; Zhou, 2019).

The antecedents and consequences of FoMO were discoursed upon in the third theme (see Figure 5), wherein the concept was found to be linked to a multitude of indicators of diminished psychological well-being (Milyavskaya et al., 2018), such as depression (Wegmann et al., 2017) and dissatisfaction with life (Stead & Bibby, 2017). Further, research indicates that any deficiencies in self-regulation (Hunt et al., 2018; James et al., 2017) or psychological needs (Przybylski et al., 2013; Xie et al., 2018) can trigger FoMO and can subsequently lead to the excessive or compulsive use of social media (Dhir et al., 2018; Reer et al., 2019). These findings affirm that FoMO is a phenomenon influenced by many psychological factors that are contingent on an individual's own characteristics.

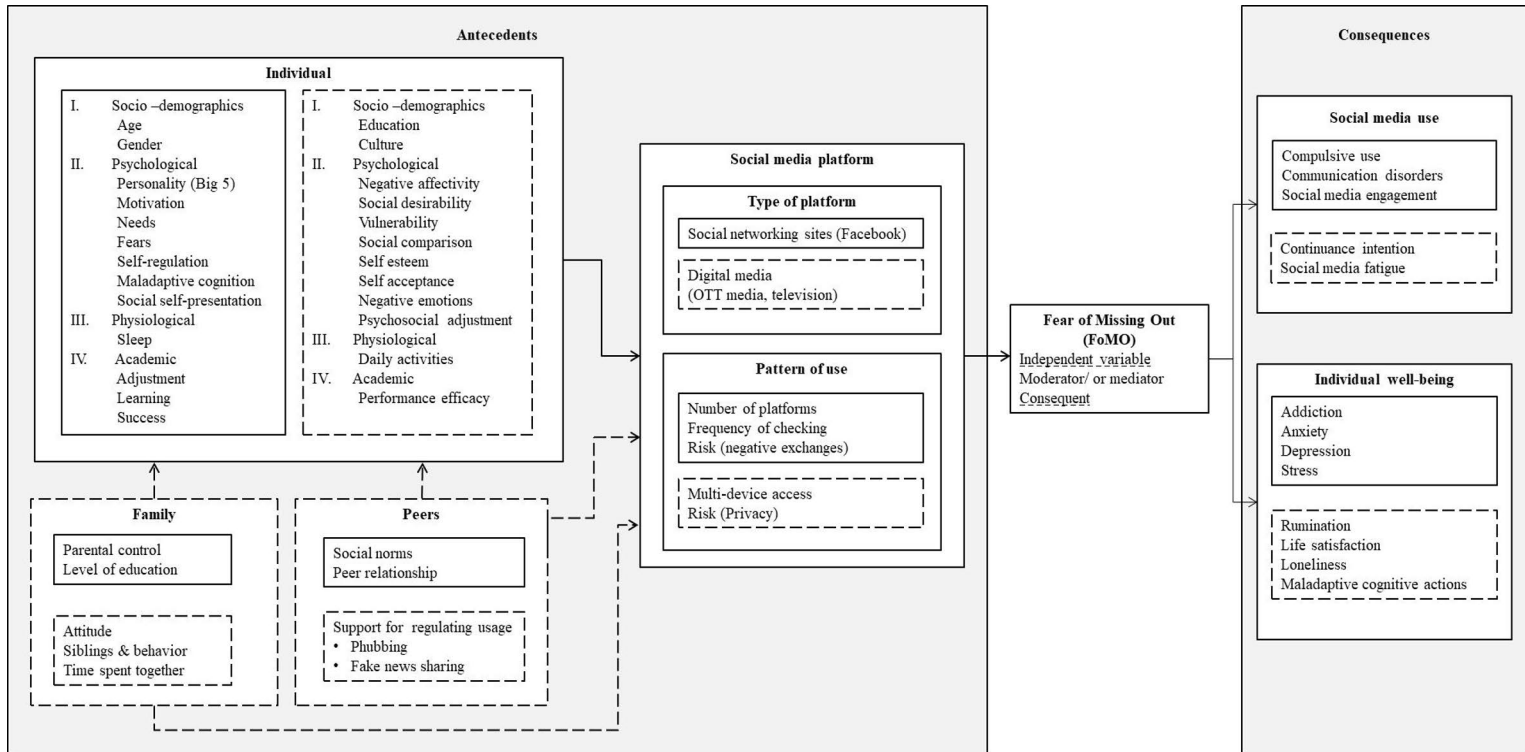


Figure 5. Overview of FoMO research: Variables and associations (Source: Tandon, Dhir, Almugren, et al., 2021). Note: OTT = Over-the-top media services are accessible to viewers directly through the Internet. The solid lines and arrows represent the well-investigated variables/relationships, while the dotted lines and arrows represent the less-investigated variables/relationships.

The fourth theme discussed differences in these individual characteristics and encompassed two aspects: personality and demographics. Regarding the first, scholars have found FoMO to be related to some aspects of personality, such as emotional stability (Stead & Bibby, 2017), psychological traits, such as loneliness, anxiety, and depression (Reer et al., 2019), and emotional status (F. S. Yin et al., 2015). Scholars have even posited that FoMO should be considered an individual trait (Franchina et al., 2018; Fuster et al., 2017) and a state of metacognition (Casale et al., 2018). In terms of demographics, research has tested FoMO's emergence with respect to age and gender but found inconsistent results. For example, Servidio (2019) found an absence of gender differences in individuals' experience of FoMO, while Oberst et al. (2017) found significant gender-based differences. Along similar lines, age has been found to negatively correlate with FoMO (Appel et al., 2019).

The thematic discourse on areas of inquiry related to FoMO revealed specific gaps that can form the basis of future research. In sum, these gaps include an abundance of Facebook-specific studies, conceptual limitations, focus on limited geographical regions (such as the small number of studies in the Asian context), and constrained investigations of individual differences in social media users' experience of FoMO. One noteworthy conceptual challenge is that most of the adverse implications of FoMO have been noted in terms of psychological indicators such as anxiety and addiction to social media (Blackwell et al., 2017; Elhai, Yang, Fang, et al., 2020). However, newer aspects of FoMO's adverse influence on behaviors, such as the sharing of fake news (Talwar et al., 2019), and on professional lives (Budnick et al., 2020) are significantly under-investigated.

The predominantly emergent challenge relates to the methodologies adopted in the literature, wherein most studies have used convenience and non-probabilistic sampling (Błachnio & Przepiórka, 2018; Zhou, 2019) to collect cross-sectional data. Such data are subject to multiple forms of respondent biases (Fuster et al., 2017; Rogers & Barber, 2019). Moreover, prior research has raised concerns about considering recruitment challenges (e.g., selection bias and attrition; Eide et al., 2018; Hunt et al., 2018) and the possibility of improved measurement in terms of greater construct reliability (Franchina et al., 2018; Xie et al., 2018). The use of multiple access points for social media platforms, such as smartwatches, which are increasingly used to maintain connectivity with email and virtual networking platforms, is also an under-investigated yet possible factor influencing FoMO. Recognizing these gaps, the findings of the SLR were used to propose a conceptual framework to guide future scholars in advancing FoMO-oriented research. Specific agendas raised through the framework include, for example, methodological advancements, especially attempts to objectively measure individual FoMO-driven actions such as social media use, and the adoption of a multidisciplinary perspective toward FoMO.

4.3 Findings of Article II

Tandon, A., Kaur, P., Dhir, A., & Mäntymäki, M. (2020). Sleepless due to social media? Investigating problematic sleep due to social media and social media sleep hygiene. *Computers in Human Behaviour*, *113*, 106487.

The possibility of social media use disrupting sleep patterns and sleep quality has been a much-discussed topic in the academic and mass media (CNBCTV18.com, 2022; Deloitte, 2017; Scott et al., 2019). Research has suggested several possible reasons for individuals' nocturnal social media use, including their increased access to smartphones (Adams et al., 2017) during bedtime or such use being a possible coping strategy for insomnia (Tavernier & Willoughby, 2014) and psychopathological issues, such as anxiety and depression (Aladwani & Almarzouq, 2016; L. Y. Lin et al., 2016; Meerkerk et al., 2009). However, most past research has been concentrated on investigating such reasons for adolescents (Beyens et al., 2016; Royant-Parola et al., 2018; Scott et al., 2019), while other cohorts, such as emerging adults (aged 18 years or older), are relatively underrepresented (e.g., Rogers & Barber, 2019). Because individual social media use can differ with respect to demographics (Andreassen et al., 2017) and life situations (e.g., employment vs. academic pursuit or both concurrently; Barber & Santuzzi, 2017; Diffley et al., 2011), this is a critical knowledge lacuna. It is especially vital to understand how the nocturnal use of technology (e.g., social media or smartphones) affects working adults, as topical studies discuss the link between such usage and significant work errors (Appleton et al., 2020) and burnout (Zivnuska et al., 2019). However, few studies have investigated the dark side of social media and FoMO-related phenomena among working professionals or employees (Budnick et al., 2020; Faranda & Roberts, 2019).

Motivated by these gaps, this article aimed to determine whether (i) compulsive social media use was associated with anxiety and depression, which are indicators of reduced well-being; (ii), FoMO could trigger nocturnal social media use and act as a precursor to compulsive social media use, poor sleep hygiene, and problematic sleep due to social media; and (iii), these relationships differed significantly for two user cohorts—young adult full-time students and working professionals enrolled in part-time studies.

The proposed model with eight direct hypotheses was tested with two cross-sectional data sets, and the findings offered novel insights into the associations between FoMO and its possible consequences (see Figure 6). Anxiety and depression were positively correlated with compulsive social media use for both students and working professionals; wherein the association was slightly stronger for students, thereby supporting the prior findings for this cohort (Bettmann et al., 2020).

These are novel findings for Indian working professionals, for whom depression has become a concerning issue (James, 2019) that can precede their engagement in compulsive social media use, perhaps as a means to cope with depression, anxiety, and other negative psychological states. This contention is also supported by the stronger positive association between FoMO and the compulsive social media use of working professionals. Such professionals may utilize social media platforms to supplement possibly reduced opportunities for tangible or real-life social interactions owing to their concurrent engagement with work and study-related tasks.

Compulsive social media use was also positively and significantly associated with poor sleep hygiene among students and working professionals, thereby showcasing that nocturnal social media use can exert a disruptive influence on sleep-related routines. However, compulsive social media use was found to be significantly associated with problematic sleep for students but insignificant for working professionals. Comparably, a positive association between FoMO and sleep hygiene was also found for students only. These findings align with prior research suggesting that students may prioritize social media use above sleep (Adams et al., 2017). Nevertheless, working professionals may self-regulate their behavior to ensure proper sleep despite their engagement with social media to ascertain that they are meeting both work and academic responsibilities.

Further, no significant association between FoMO and problematic sleep due to social media use was found in either user cohort, which was a surprising finding. It suggests that FoMO-driven social media use may be an integral activity for students and working professionals, allowing them to meet psychological needs such as those of relatedness and social interactions (Alt, 2017). Moreover, students may be pressured to mimic the same perceived levels of connectivity with these platforms as their peers (Adams et al., 2017), due to which they may disregard the sleep problems arising from their FoMO-driven social media use. Comparably, a positive association between FoMO and sleep hygiene was determined, but only for students, thus indicating that FoMO may be a viable trigger that can disrupt bedtime habits for those in this cohort because they may prioritize social media use for socializing (Adams et al., 2017).

Finally, the results confirmed a significant association between sleep hygiene and problematic sleep for both students and working professionals. This finding endorses prior research indicating that sleep routines significantly impact an individual's quality and quantity of sleep (e.g., Levenson et al., 2017). This is an important insight because it indicates that social media use has the potential to influence the physiological functions of the users, which has implications for users' physical and mental health.

A mediation analysis was conducted to determine whether compulsive social media use and sleep hygiene mediate the association between FoMO and

problematic sleep. Both were found to fully mediate this association. Based on the results, it is theorized that the negative influence of FoMO-driven social media use would be contingent on users’ sleep hygiene. These routines play a critical role in alleviating the potential effects of social media use and FoMO on users’ physiological function of sleep.

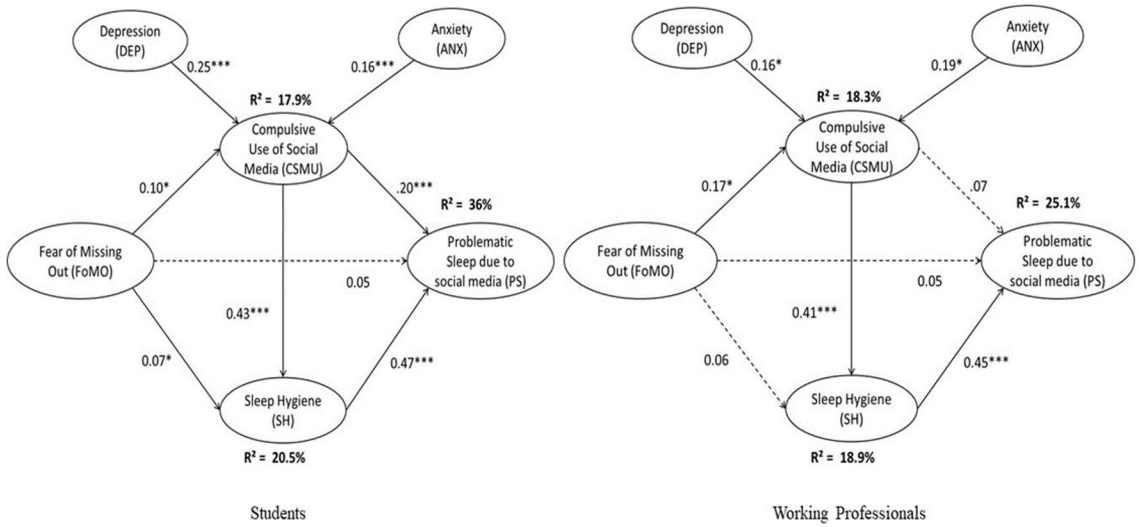


Figure 6. Article II: Results of model testing.

4.4 Findings of Article III

Tandon, A., Dhir, A., Talwar, S., Kaur, P., & Mäntymäki, M. (2021). Dark consequences of social media-induced fear of missing out (FoMO): Social media stalking, comparisons, and fatigue. *Technological Forecasting and Social Change, 171*, 120931.

Despite scholars’ efforts to understand the dark side of social media and its negative fallout (Baccarella et al., 2020; Dhir et al., 2021; Sheldon et al., 2019), the existing knowledge remains constrained in some aspects. For example, FoMO has been relatively less studied as an antecedent (Appel et al., 2019; Malik et al., 2020; Talwar et al., 2019), and there is limited understanding of the social media use behavior and allied variables that can promulgate an individual’s experience of social media fatigue (Malik et al., 2020). This article investigated FoMO as an antecedent to social media stalking, online social comparison, and social media fatigue, which are posited to be potential dark side of social media phenomena that can be detrimental to individual well-being. A crucial contribution of this article is its focus on social

media stalking as a dark side of social media phenomenon. While social media fatigue (Dhir et al., 2018) and online social comparison (Reer et al., 2019; Verduyn et al., 2020) have previously been investigated, social media stalking is a relatively nascent phenomenon that has been recognized in the literature. Such social surveillance (Fuchs & Trottier, 2015), also referred to as “Facebook stalking” (Lyndon et al., 2011) when referring particularly to Facebook use, has primarily been investigated in the context of stalking ex-partners. However, recent research has begun to explore how such non-malicious stalking behavior, whether intentional or unintentional, undertaken for gathering information or maintaining perceived social relationships may be related to problematic or compulsive use of social media (Dhir et al., 2021; Fioravanti & Casale, 2020).

Individual usage behavior (frequency of posting) and emotion (social media envy) are introduced as moderators for the tested associations. This inclusion was motivated by the scarcity of knowledge on variables which can indirectly influence the relationship between FoMO, such as emotions (T. L. James et al., 2017) and its consequences. Three RQs were raised in an effort to understand (i) FoMO’s association with social media stalking, online social comparison, and social media fatigue; (ii) the possible mediating role of social media stalking and online social comparison; and (iii) the moderating effects of the frequency of posting status updates and social media envy on the associations between FoMO and the select consequences.

Of the six hypotheses testing the direct associations, five were supported, and the results confirmed the significant positive associations between FoMO and social media stalking, online social comparison, and social media fatigue (see Figure 7). This aligns with prior research that suggests that FoMO can act as a motivator for individuals (Doster, 2013), prompting them to spend more time on social media platforms and engage in activities such as social media stalking and online social comparison. Social media stalking was also confirmed to be significantly associated with online social comparison, thereby suggesting that social media users may be inclined to engage in online social comparison, even unintentionally, while browsing others’ profiles and shared information. Further, while no association was established between social media stalking and fatigue; online social comparison was positively associated with fatigue. The results indicate that potentially contextual and individual usage-related factors, such as the protracted use of social media platforms in the UK and the degree of exposure to information and shared communication on these platforms, may influence individuals’ experience of social media fatigue.

While no mediating influence of social media stalking was determined, online social comparison was found to be a partial mediator of the association between FoMO and social media fatigue. The results suggest that FoMO’s correlation with the adverse fallouts of social media use may be bifurcated—that is, concurrently

established through direct and indirect mechanisms, wherein the indirect effect is contingent on the type of activities in which a FoMO-driven individual engages. Moreover, the perceived degree of routinization and the recreational benefits of an activity may also influence an individual’s experienced fatigue, which could explain the insignificant mediation results for social media stalking. Similarly, the results showed no moderation effect of the frequency of posting updates on the tested associations, but social media envy was found to negatively moderate the relationship between FoMO and online social comparison. This finding indicates that social media users with high levels of reported envy may experience anxiety about missing out on potential social rewards for their shared content (Rosenthal-von der Pütten et al., 2019) relative to other users and may thus show less proclivity to engage with FoMO-driven use of social media platforms and online social comparison.

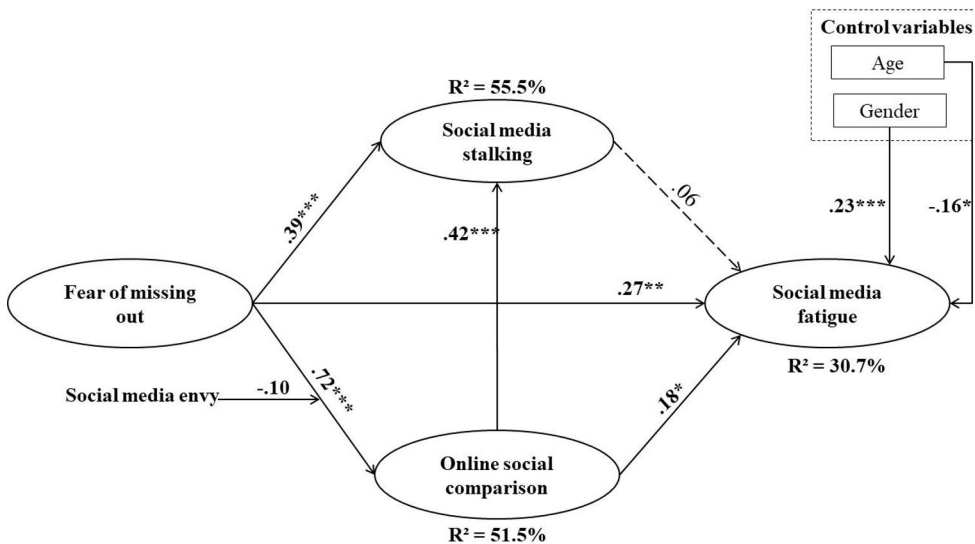


Figure 7. Article III: Results of the model testing.

4.5 Findings of Article IV

Tandon, A., Dhir, A., Islam, N., Talwar, S., & Mäntymäki, M. (2021). Psychological and behavioural outcomes of social media-induced fear of missing out at the workplace. *Journal of Business Research*, 136, 186–197.

Among the gaps emanating from the SLR (Article I), one of the most prominent was the knowledge lacuna on how FoMO affects the lives of employed social media users (Cao & Yu, 2019). Employees are a cohort that has been significantly under-studied

in comparison to adolescents (e.g., J. Wang et al., 2019) or college/university students (e.g., Xie et al., 2018). It is a surprising gap because adults (i.e., 25 to 34 years old) comprise a considerable percentage of the user base of social media platforms, such as Instagram, according to the Statista Research Department (2021). Another key gap in prior FoMO research is the limited number of investigations into individual tendencies that may induce FoMO (i.e., its antecedents) apart from the big five personality traits (Milyavskaya et al., 2018; Stead & Bibby, 2017). Moreover, the reported findings on the associations between individual traits and FoMO have been inconsistent (e.g., see Milyavskaya et al., 2018; Stead & Bibby, 2017), suggesting the need for further research on such associations. Coupling these two key gaps with the focus on understanding FoMO's role as an antecedent to negative consequences of social media use, this article raised and answered three RQs grounded in the SSO model to investigate (i) the nature of the association between individual tendencies (exhibitionism and voyeurism) and FoMO, (ii) FoMO's association with the psychological outcome of the compulsive use of social media during work, and (iii) the association between the FoMO-driven compulsive use of social media during work and working professionals' behavioral outcomes of procrastination and work performance decrement. The consideration of the dual-level consequences of FoMO—that is, (a) psychological and (b) behavioral—is a novel approach and a key contribution of this article.

Five hypotheses were tested for direct associations between the study variables, and the analysis supported them all (see Figure 8). The results assist in confirming a novel pathway through which an individual's tendencies may correlate with an enhanced experience of FoMO, which can, in turn, translate into negative outcomes for their work lives.

Exhibitionism and voyeurism were found to predict individuals' FoMO, and this result aligns with those of the limited prior studies investigating them as drivers of social media use (Doster, 2013; Mäntymäki & Islam, 2014, 2016). In fact, the relatively stronger association between FoMO and exhibitionism, compared to FoMO and voyeurism, shows that active engagement with social media platforms—for example, by posting one's own content or commenting on others'—can possibly stimulate higher forms of experienced negative consequences (Perugini & Solano, 2021; Savci et al., 2020).

The significant association between FoMO and compulsive social media use is unsurprising as many studies have established the statistical relevance between the two (Tandon et al., 2020). However, the relationship is an important aspect of the conceptualized framework as it acts as a bridge between individuals' experienced FoMO and the outcomes of this experience through their compulsive use of social media platforms. The statistical support found for the associations between compulsive social media use and work performance decrement and procrastination

due to social media use supports this contention. While these two hypotheses were proposed intuitively, the findings confirm that FoMO-driven compulsive social media use during work hours can have critical consequences for employees’ work performance. The results suggest that social media users’ preoccupation with alleviating FoMO through compulsive media usage may affect their capacity to process work-related information, thereby leading to reduced decisional and actional work efficiencies.

While the article’s confirmation of compulsive social media use as a psychological outcome of FoMO was expected, the translation of this outcome into behavioral ones related to procrastination and reduced work performance are novel additions to the FoMO literature. However, the direct association between FoMO and work-related outcomes was not tested and constitutes a potential avenue for future research. The authors posit that such investigations may be imperative to gain a more nuanced understanding of FoMO’s effect on individuals’ work lives. Scholars may also consider other bridging factors, such as phubbing or compulsive smartphone use as these may also command individuals’ attention during work hours for personal reasons.

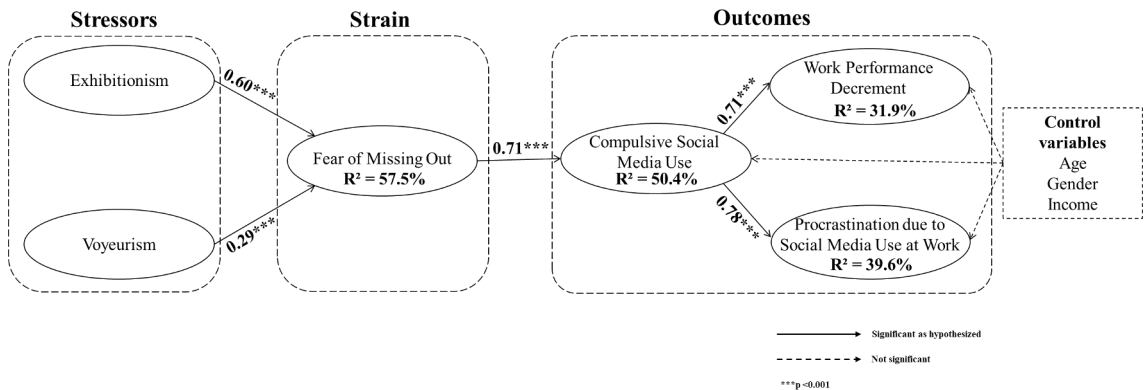


Figure 8. Article IV: Results of the model testing.

4.6 Findings of Article V

Tandon, A., Dhir, A., Talwar, S., Kaur, P., & Mäntymäki, M. (2022). Social media-induced fear of missing out (FoMO) and phubbing: Behavioural, relational and psychological outcomes. *Technological Forecasting and Social Change*, 174, 121149.

Extending the conceptual model tested in Article IV, this article aimed to understand how social media-induced FoMO is associated with employees’ compulsive use of

smartphones in the workplace to check their personal social media accounts. The association between FoMO and phubbing is relatively under-investigated (Al-Saggaf, 2021; Franchina et al., 2018). This is a critical gap in the existing literature because smartphones are a popular point of access to social media and have become especially popular since the initiation of COVID-19 lockdowns (AudienceProject, 2019; Kemp, 2020). Moreover, few studies have concurrently examined the outcomes of the problematic use of social media and smartphones (e.g., Balta et al., 2020; Franchina et al., 2018). This is allied with the aforementioned research gap because smartphones are extensively used to access social media.

Considering these gaps, this article aimed to address four RQs to understand (i) FoMO's association with phubbing in the workplace, (ii) FoMO and phubbing's association with psychological (creativity and work exhaustion) and relational (workplace incivility) employee responses, and (iii) the mediating role of phubbing between FoMO and employees' responses. Additionally, the study tested whether regulatory focus moderated the association between phubbing and employee responses. A key contribution of this article is its concurrent consideration of relational and psychological outcomes as work-related consequences of FoMO-induced problematic smartphone use. To the best of the authors' knowledge, these are novel outcomes investigated in the context of FoMO and phubbing.

Ten hypotheses were tested to analyze the direct and indirect associations (Figure 9). The results provide fascinating insights into how individuals' experienced FoMO can translate into negative outcomes. FoMO and phubbing were determined to be significant dark side of social media phenomena that can influence the emergence of negative employee responses. Further, the results confirm that FoMO can predict an employee's phubbing behavior; this aligns with prior research conducted among adolescents and young adults (Davey et al., 2018). It was also determined that FoMO shares a significant positive association with workplace incivility and a negative association with creativity, but the results showed that FoMO was unrelated to workplace exhaustion. These findings definitively indicate that FoMO has transcended individuals' personal lives and begun to significantly impact their workplace relationships and performance in previously discussed ways.

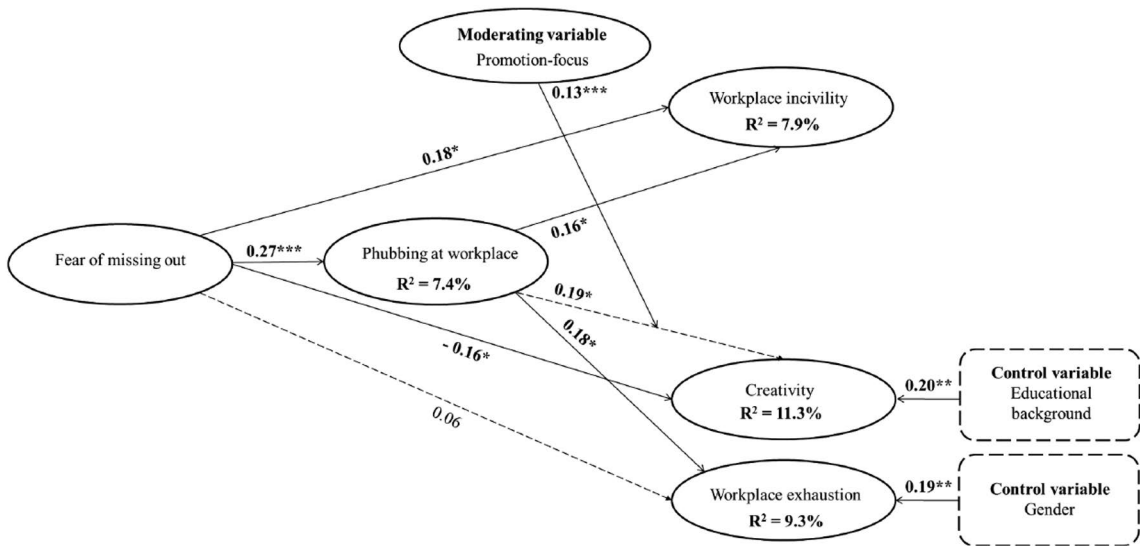


Figure 9. Article V: Results of model testing.

However, the insignificance of FoMO with regard to workplace exhaustion suggests that the use of smartphones and social media for maintaining connectivity has become an expected activity during the pandemic-driven lockdowns. Due to the deep integration of social media and smartphones into the daily lives of US-based individuals (Statista, 2020b), maintaining connectivity with these platforms may have become a routine activity (or intrinsic motivation) such that individuals may not perceive FoMO-driven social media use to translate into workplace exhaustion. However, it is also possible that this is a context-specific finding that requires further research.

In addition, phubbing was found to be positively correlated with psychological and relational outcomes, which suggests that employees’ preoccupation with their smartphones may limit their capacity to process both work and online network-related information, as suggested by the LCM. This reduced capacity could, in turn, result in higher perceived work exhaustion and a limited inclination to exhibit socially acceptable levels of polite behavior that their peers would perceive as workplace incivility. Nonetheless, the positive association between phubbing and creativity was entirely surprising and pointed to a hitherto unexpected aspect of FoMO-induced phubbing. It indicates that phubbing may provide a possible psychological respite from work tasks. This finding has critical implications for organizations’ strategies for controlling cyberloafing (Tandon et al., 2022). However, because of the novelty of this association, further research is needed before any generalizations are put forth.

The analyses also provided partial support for the proposed mediating influence of phubbing, which partially mediated the relationship between FoMO and incivility and fully mediated the relationship between FoMO and creativity as well as exhaustion. This result shows that it is not only an individual's experience of FoMO that leads to their subsequent experience of negative outcomes but also the activities (such as phubbing) that the individual engages in to alleviate FoMO. Aligned with prior research (e.g., Çikrikci et al., 2019), the findings point to the need for further concurrent examination of the consequences arising from the problematic use of social media and personal devices, such as smartphones, to understand the nuances of the dark side of digitization's manifestations among employees (e.g., see Balta et al., 2020).

The results confirm that only promotion focus positively moderated the association between phubbing and the sole consequence of creativity, while the effect was insignificant for work exhaustion and incivility. This finding shows that employees may use online networks and smartphones during work hours to improve their communication, networking, and other similar approach-oriented behaviors to pursue professional success. Finally, no moderating effect of prevention focus was found for any of the consequences, which suggests that employees motivated to maintain the status quo at their workplaces may expend additional efforts to ensure that their personal social media or smartphone use does not affect their work tasks or communications. However, because this is a previously untested association, more research is required before any generalized explanations can be put forth.

Closing the discussion on this article, the findings indicate that individual motives and actions can significantly influence how FoMO-afflicted individuals experience any adverse outcomes through their social media or smartphone use.

5 Discussions and Conclusion

This chapter presents the summarized discussion of the findings regarding the MRQs (Section 5.1), the insights drawn from the included articles in the context of the RQs (Sections 5.1.1 to 5.1.3), and concluding remarks on the obtained findings (Section 5.1.4). The latter sections of this chapter detail the implications for theoretical advancement (Section 5.2), as well as implications for practitioners, such as clinical psychologists and social media platform developers, and social, familial, and organizational group members, such as parents, peers, and organization management (Section 5.3). The chapter concludes the thesis by discussing its limitations and agendas for advancing research in the future (Section 5.4).

5.1 Synopsis of findings

FoMO has transcended from being a research topic in academic circles to gaining traction in mass media (L. Roberts, 2022; Tessandori, 2022). It has emerged as an issue with major managerial and social implications for the well-being of individual social media users and their performance in the professional (Budnick et al., 2020) and personal avenues of their lives (Baccarella et al., 2018; Mäntymäki & Islam, 2016). Because reports posit an inevitable increase in social media use in the near future, this dissertation argues the imperative need to understand the pathways through which FoMO detrimentally affects individuals while considering their personal and professional lives. This thesis argues that FoMO may be a critical trigger (i.e., antecedent) for social media use that could explain the postulated cyclical and mutually causative associations between problematic social media use and the consequent unfavorable experiences of users (Milyavskaya et al., 2018; Vernon, 2016; Zahrai et al., 2022).

However, the fragmented and extensive amount of research on FoMO curtails the development of a holistic understanding of this phenomenon and its associations. This thesis argues that to effectively explicate the mechanisms through which FoMO influences individuals' detrimental experiences, it is imperative to assimilate the existing knowledge on this phenomenon. Thus, the thesis was motivated by the main question (RQ): *What is FoMO's relationship with the dark side of social media and its influence on individual lives?* This was separated into three sub-RQs that aimed

to (a) enable an understanding of FoMO and the existing research on its associations, (b) explicate FoMO's association with personal consequences allied to the dark side of social media, and (c) investigate the influence of FoMO on the professional outcomes for social media users. Thus, the central premise of the articles included in this thesis was to understand the concept of FoMO and investigate its detrimental influence on the lives of social media users concerning both personal and professional outcomes. The subsequent text discusses each of the sub-RQs in terms of the findings derived from the articles.

5.1.1 Integrating fragmented knowledge for a comprehensive outlook

The first article in this thesis was an SLR motivated by the need to understand the conceptual underpinnings of FoMO and set the intellectual boundaries of its previously established empirical associations. The findings affirmed a fragmentation in scholars' approach to FoMO-related investigations, which emphasizes the different pathways that can connect FoMO to individual well-being. However, most of these pathways focused on specific psychological antecedents, such as personality traits and social presentation tendencies. In terms of consequences, FoMO has been mainly linked to social media communication disorders and behaviors, such as problematic engagement levels and addictive use. Coupled with the overemphasis on specific respondent groups and investigated contexts, this article argues that the current knowledge of FoMO's associations is constrained and offers distinct agendas for theoretical advancements; this is illustrated graphically in Figure 10.

Agenda 1. Inclusivity of diverse stakeholders

One of the surprising insights garnered from this SLR was the inattention to family and peer group-related factors that could influence an individual's experience of FoMO, such as sibling or parental behavior and peer group relationships. It is noteworthy because such factors could assist in alleviating an individual's anxiety about missing important group events (i.e., FoMO) by making them feel included within their social circles. However, research has predominantly relied on self-reported observations from individuals (primarily students) about their usage and subsequent experiences. The extant findings fail to consider the diversity or uniqueness of inputs that could be derived from including more diverse respondent groups—for example, parent(s) or sibling(s) connected to the individuals experiencing FoMO. Hence, the first proposition directs attention to extending the inclusivity and diversity of respondents, which could generate nuanced insights into FoMO through the lens of the social environment.

Agenda 2. Advance methodological approaches

The second allied proposition highlights the need to advance the methodological approach in three main ways. First, extending the geographic context of the study to countries in South America and Asia, which have reported a higher than global average penetration rate for social media (Kemp, 2019), would enable an understanding of whether FoMO has similar influences on these social media users as in the US or UK, where most of the existing research originates. Second, there is a need to utilize more probabilistic sampling and longitudinal studies to enhance the generalizability and understand the temporality of FoMO's associations. Third, the SLR highlights the need for objective approaches to data collection to measure FoMO and its associated variables to test for causality.

Agenda 3. Strengthen the theoretical, conceptual, and operational foundations

The article posits that it is imperative to broaden the scope of FoMO's theoretical and conceptual foundations by applying both seminal and contemporary theories because most prior studies have leveraged the SDT (Deci & Ryan, 1985). However, there is scope for utilizing other theories, such as the behavioral reasoning theory (Westaby, 2005), to derive more nuanced insights into why individuals continue to use social media so prolifically despite experiencing adverse effects such as FoMO and the factors that facilitate or inhibit such usage.

Moreover, while research has prominently established that FoMO can induce addictive social media use (Fioravanti et al., 2021; Franchina et al., 2018), there is a severe scarcity of research linking it to other facets of problematic social media use in terms of psychological aspects, such as fatigue, and physiological aspects, such as its impact on individual sleep and physical health. Further, investigations into FoMO's antecedents have focused primarily on psychopathological deficits and self-determined needs, such as relatedness, and their lack of regulation. These are significant lacunas to be addressed in light of recent studies that indicate that FoMO has a multidimensional nature as a trait- or state-dependent characteristic (Wegmann et al., 2017) or as a context-specific construct, such as in a workplace (Budnick et al., 2020). Thus, exploring the link between the under-investigated psychological and physiological consequences of social media use and FoMO's newer conceptualizations may lead to the identification of new pathways through which it influences social media users. Concurrently, the article proposes the need to consider a duality of outcomes to which FoMO may lead—behavioral responses and relationship-related outcomes. It would be interesting to note whether FoMO-induced addiction and other problematic manifestations of social media use could influence a distressed individual's relationships with others in their social sphere.

The article emphasizes the need to study such outcomes in the context of individuals' professional well-being owing to the dearth of articles that examine FoMO as an antecedent to workplace-related detrimental outcomes for social media users.

Finally, relatively few studies have investigated the indirect influences on FoMO, revealing the need to expand exploration into factors that can moderate or mediate FoMO's associations with its consequences. For example, despite the literature indicating the link between emotional aspects, social media attachment (Fleuriet et al., 2014), and problematic use (Fang et al., 2020), few studies have explored how emotions can dampen or heighten the individual experience of the dark side of social media phenomena.

Agenda 4. Adopt a multidisciplinary approach going beyond social media

Personal social media platforms, such as Facebook, form the predominant base for prior FoMO research, whereas other platforms for media viewing—for example, over-the-top media platforms, such as Netflix, and multifunctional applications (or apps)—and for shopping, such as eBay, have been largely ignored. Similarly, relatively less attention has been paid to the link between FoMO and smartphone addiction or phubbing. These overlooked aspects form the basis of this proposition and highlight the need to expand FoMO-based research in the context of its emergence (e.g., smartphone use and professional network use). It may also benefit scholars to surpass disciplinary boundaries and leverage techniques from other research areas. For example, techniques from medicine, such as an electroencephalogram, can be used in experimental and observational studies to understand the neurobiological effects of FoMO. Such efforts could significantly contribute to developing practical interventions to negate its detrimental effects on individual well-being.

Concluding the discussion, this article's assimilation of existing empirical research on FoMO brings together insights from varying stances, culminating in a holistic grasp of existing knowledge and incumbent gaps, which are reconciled into a potential framework to guide future research. The framework is important because it offers the possibility of transcending disciplinary boundaries and broadening the perspectives and stances from which FoMO can be investigated. The discussed propositions and framework can contribute to the development of a more diversified yet comprehensive outlook on FoMO.

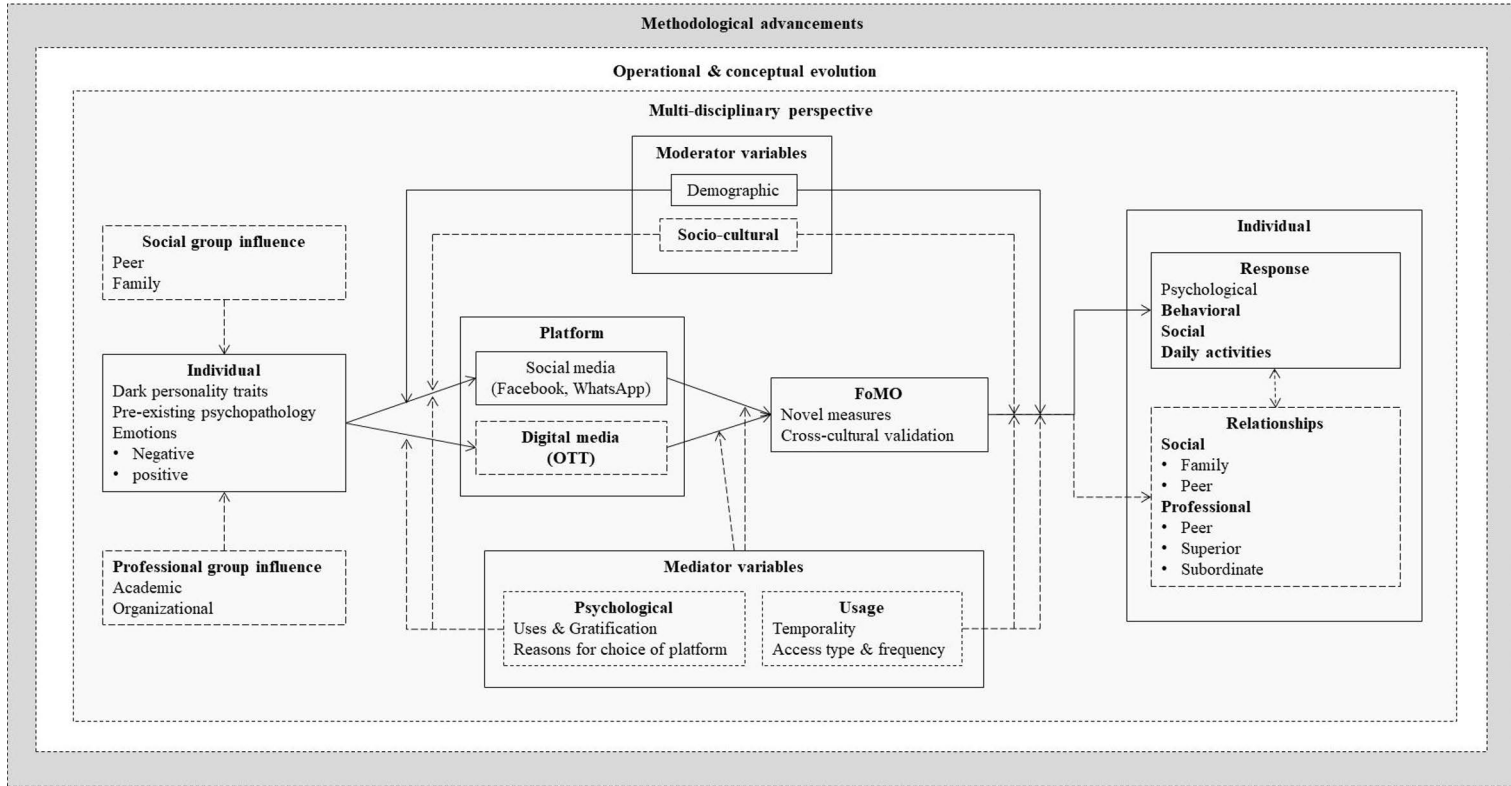


Figure 10. Comprehensive research framework: Ideas for future studies derived from the SLR. Source: Tandon, Dhir, Almgren, et al. (2021). Note: dashed arrows and text marked in bold denote less-investigated associations and variables, respectively.

5.1.2 FoMO and its connotations for personal well-being

Articles II and III answered the second sub-RQ of this thesis to scrutinize FoMO's relationship with the dark side of social media phenomena that have the potential to affect the personal well-being of social media users. Focusing on different variables and consequences, both articles attempted to reveal how FoMO could translate into a negative experience for individuals through pathways contingent on their activities and level of engagement with social media platforms.

Moreover, in Article II a comparative analysis was conducted using both students and working professionals as the survey respondents; this clarified that FoMO's negative influence extended to respondents from both academic and professional walks of life. However, the comparative associations showed differential strengths and manifestations of FoMO's associations in both respondent groups, indicating that life situations, motivations, and personal responsibilities could reduce the degree of FoMO's influence. Such contextual factors may be the reasons for the insignificant direct relationships between FoMO and problematic sleep for both groups and FoMO and sleep hygiene for working professionals. However, the fact that compulsive social media and sleep hygiene fully mediated the association between FoMO and problematic sleep for students and working professionals was an interesting finding. This suggested that despite the varying contextual factors, FoMO-driven social media use has the capacity to promulgate sleep-related issues for many social media users if such usage itself is maladaptive.

This dissertation emphasizes the complex pathways that connect FoMO with the purported dark side of social media consequences with respect to the phenomena that may act as mediators between them. In addition to the mediating role of compulsive social media use and sleep hygiene shown in Article II, Article III showed that online social comparison mediated partially between FoMO and social media fatigue. Because the findings show only partial support for the tested mediation effects, this article argues in favor of exploring other variables, such as privacy concerns or parental/spousal attention to an individual's social media use. The findings specifically call into question the influence of FoMO on disturbing the daily routine activities (e.g., sleep hygiene) of the students who may be potentially more vulnerable to the adverse effects of maladaptive social media use than other cohorts, such as older and employed adults. This contention is somewhat supported by the results of Article III, which determined a positive and direct association between FoMO and social media fatigue for the same age group.

Moreover, FoMO was an antecedent that positively influenced individuals' engagement with compulsive social media use, social media stalking, and online social comparison, which are issues identified under the dark side of social media umbrella. It seems as if FoMO acts as a stimulus or trigger for not only the extent of social media use but also how individuals can engage in problematic active or

passive activities that, in turn, lead to negative consequences. It is an especially interesting insight as limited attention has been paid to the nature of social media activity itself (Rozgonjuk, Ryan, et al., 2019; Verduyn et al., 2020) in prior FoMO research. Moreover, social media stalking is a novel issue that has been only limitedly posited to be connected to FoMO or feelings of social exclusion (Buglass et al., 2017; Lim, 2019). Its significant association insinuates that FoMO can lead social media users to continually gather information about others by checking their profiles, albeit with a non-malicious intent.

Nevertheless, the constant scrutiny of one's profile by another person could potentially raise concerns about unsolicited attention and feelings of intrusion for the person being stalked and of comparison on the part of the stalker. Such negative emotions can often lead to the intention to discontinue or diminish social media use (Kim et al., 2019; Liao et al., 2011). However, emotions may also exert a positive influence and contravene FoMO's relationship with the dark side of social media, as suggested by the findings of Article III, wherein social media envy negatively moderated the association between FoMO and online social comparison.

In conclusion, as an answer to this RQ, this dissertation construes that there is an irrefutable negative influence of FoMO on the personal well-being of social media users. However, a complex interplay of variables underscores FoMO's association with other variables contingent on individual and situational or contextual factors. Past studies have posited a possible cyclical relationship between the phenomena considered under the dark side of social media aegis (Verduyn et al., 2020), and this thesis offers evidence to support this supposition. Indeed, this thesis attests to the existence of a possible *amplification effect* of intervening variables owing to which an individual facing FoMO or similar adverse effects of social media use may be more predisposed to experiencing other dark side of social media phenomena. Thus, contextual and individual factors as intervening variables may be the key to understanding the nuanced complexities that are seemingly inherent in the emergence of FoMO and the dark side of social media.

5.1.3 FoMO and its implications for workplace well-being

Articles IV and V aimed to answer the final sub-RQ and to explicate FoMO's associations with select professional outcomes for social media users following the knowledge gaps identified in the SLR. Subsequently, these articles considered decreased workplace performance, work procrastination due to social media use, creativity, workplace incivility, and exhaustion as the possible outcomes that could be directly or indirectly affected by an individual's experience of FoMO. Additionally, Article IV determined that for employees, FoMO is influenced by the personal characteristics, or traits, of voyeurism and exhibitionism, adding to hitherto

under-investigated personal traits that can induce an individual's experience of FoMO.

Further, supporting the findings of Article II, FoMO was again determined to be positively and directly related to compulsive social media use and, in Article V, it was found to relate to phubbing or the compulsive use of smartphones during work hours to access social media. The results extend the technology addiction literature through these findings because phubbing has been scarcely studied as a consequence of FoMO (Davey et al., 2018; Franchina et al., 2018). The results also answer recent calls for research into this association (Balta et al., 2020). Moreover, the significance of the associations between FoMO, compulsive social media use, and phubbing shows that even during work hours, FoMO can induce individuals to avoid any potential social exclusion and preoccupy their mental processes. Such preoccupation could be a possible reason for the derived results, which indicate that FoMO can often translate into adverse professional outcomes for employed social media users. This contention also finds support from the theoretical tenets of the LCM (Lang, 2000), which was used to develop the theoretical model for Article V.

However, FoMO's relationship with workplace outcomes is seen to be contingent on the problematic use of social media (i.e., compulsive use) because procrastination and decreased work performance (Article IV) were directly related to FoMO-induced compulsive social media use, and phubbing mediated FoMO's association with psychological (fully) and relational (partially) outcomes (Article V). The findings add to the conclusions drawn in the previous section about the key role of intervening variables. This dissertation argues that in the case of employees, the problematic use of technology (whether social media or smartphones) is a behavioral bridge between FoMO and adverse professional outcomes, thereby revealing astute nuances in the manifestations of FoMO's detrimental effects.

A point of note is that the significant outcomes of FoMO manifest in three forms: psychological (procrastination and reduced creativity), relational (incivility), and behavioral (work performance), further addressing one of the propositions of Article I—to diversify and expand investigations into FoMO's purported consequences. Moreover, FoMO's direct and positive association with work incivility (Article V) adds a new perspective to the existing knowledge. It determines that FoMO's influence goes beyond psychology and physiology to social relationships in the workplace. This finding has further implications for extending the conceptual boundaries of FoMO and considering the various forms of relationships that can be affected by this phenomenon, such as between peers, family members, supervisors, and subordinates, lending further credence to the propositions of Article I.

FoMO was found to be directly unrelated to workplace exhaustion, which is unexpected as it has been linked to social media fatigue in past literature, as well as in Article III (Tandon, Dhir, Talwar, et al., 2021; Tugtekin et al., 2020). This result

may be attributed to the COVID-19 lockdowns. FoMO-driven employees may consider that keeping up with information shared by others is informative and necessary, even during work hours, thereby not culminating in any work exhaustion. It is also possible that the maturity of social media use in the geographic focus of the study (i.e., the US) could have contributed to respondents' consideration of FoMO as an integral motivation to maintain connectivity rather than a negative feeling.

Further, a novel finding of Article V was the positive association between phubbing and creativity, which shows that sometimes perceivably negative behaviors such as phubbing can improve psychological work outcomes. This thesis thus proposes that, like social media (Mäntymäki & Islam, 2016), problematic smartphone use—that is, phubbing—can have a bright and dark side in the workplace context. This insight is valuable because it indicates the deep integration of smartphones into the lives of employees who regularly use these mobile devices to access search engines (Statista, 2019a). It may allow them to develop ideas or solutions to work tasks and subsequently positively influence their creativity. However, the association between phubbing and creativity was also moderated by the respondents' promotion focus orientation, which highlights that the bright side of phubbing could be contingent on personal traits. This adds further credence to the proposition raised in the previous sections about individual factors being key to understanding the dark side of social media and, as it seems, the dark side of digitization.

5.1.4 Closing remarks on the discussion

Based on the findings derived from the five articles, this dissertation provides a resoundingly evident answer to the MRQ regarding FoMO's relationship with the dark side of social media and its influence on individual lives. The thesis finds FoMO to be a phenomenon with close ties to the dark side of social media and that it is capable of adversely influencing both the personal and professional well-being of social media users. Through the theoretical grounding applied to the frameworks of Articles II–V, FoMO is determined to be a key cognitive stimulus and stressor that can induce problematic technology use in personal and workplace contexts. In response to parts a and b of the MRQ, the findings confirm FoMO's significant association with the tested dark side of social media phenomena of online social comparisons, social media stalking, and compulsive social media usage that, in turn, relate to consequences that can bode ill for social media users' well-being, such as problematic sleep and social media fatigue. One interesting finding about FoMO's association with sleep hygiene among students also shows that this particular user cohort of young adults may be more driven by FoMO and thus more vulnerable to its effects, such as changes in their offline behaviors (in this case, sleep hygiene). In

response to part c of the MRQ, this dissertation finds that FoMO, through the compulsive or maladaptive use of social media or mobile phones, does associate with variables that indicate a significant disruption to individuals' work lives. The key, again, is the FoMO-driven maladaptive or compulsive use behavior that is associated with possible detriments to individuals' work performance and the tendency to engage in work procrastination. Further, it is not only individuals' work performance that can come under question but also their relationships with others (e.g., through workplace incivility), hinting at a new avenue for future research on FoMO's effects.

To conclude, this dissertation asserts that whether to compensate for possible feelings of social exclusion or to appease one's voyeuristic and exhibitionist inclinations, FoMO-driven social media use can cognitively preoccupy individuals, leading to disturbances in their relationships and routines and the display of unfavorable behaviors. The findings concur with recent studies indicating that social media usage can inculcate the development of an interactivity paradox (Liu et al., 2022) that can create significant disruptions in users' lives, regardless of prior research's exertion about such usage having multiple benefits. Nevertheless, this dissertation also argues that FoMO's propensity to translate into negative outcomes is contingent on problematic technology use and individual factors ranging from usage-related parameters (e.g., frequency of posting updates), to psychological predispositions (e.g., promotion or prevention focus, exhibitionism, and voyeurism), to individuals' emotions while using these platforms (e.g., envy). Thus, FoMO's detrimental influence, and perhaps those of other dark side of social media phenomena, may rest in the behaviors in which an individual engages on social media platforms and not just the time spent on them, as reported by prior scholars (Hale et al., 2018; Oberst et al., 2017). As discussed in the subsequent section, these findings add to the existing knowledge on FoMO and have several implications for research and practice.

5.2 Contributions to theory

The articles included in this dissertation contribute to developing a richer understanding of FoMO's capacity to influence social media users' lives and its interactivity with other social media behaviors considered to be dark or negative in their manifestation. The first article systematically reviewed the state-of-art literature on FoMO to decipher the intellectual boundaries of research on this phenomenon and focused on assimilating existing knowledge gaps as well as providing a conceptual framework for scholars to address for enhancing the understanding of FoMO. This article developed a foundation for scholars interested in understanding FoMO as a concept and was a core building block for this dissertation. The SLR (i.e., Article I) proposed several recommendations for future research, including the need

to recruit a diverse base of social media users (though platforms like MTurk), expand the scope of investigations into FoMO's antecedents and consequences, and apply more seminal as well as contemporary theories to ground developed models. These recommendations and the gaps identified through the SLR in terms of consequences, cohorts, and contexts became the basis for conceptualizing the empirical articles (II–V) and addressing the agendas discussed in the preceding sub-sections. The primary contribution of these articles rests in their nuanced discussion of FoMO's associations with a wide range of variables rooted in social media users' personal (Articles II–III) and professional lives (Articles IV–V). Further, the theoretical contributions cumulatively derived from all the articles included in this dissertation are discussed in the latter half of this sub-section.

Moreover, three of these empirical articles collected data via Prolific Academic to ensure that the recruited respondents were diverse in terms of age, social media usage, gender, etc., while the fourth used a paper-based survey approach. These respondents formed two main cohorts consisting of young adults and working professionals, whereas three countries formed the geographic scope of this dissertation—the US, UK, and India—of which the US and UK had been found to be under-represented in past FoMO research. Through the data collection settings and contexts, these articles met the first two agendas discussed in section 5.1.1 for including diverse stakeholders and making advances in research methodologies. Further, all of the empirical articles were strongly rooted in theories like SSO, regulatory focus, and LCM, which have previously seen limited application in FoMO-related research. These articles also focused on investigating how FoMO was associated with phenomena that were previously less-studied in terms of both antecedents and consequences. Hence, all four empirical articles addressed the third agenda for building on the theoretical and conceptual foundations of FoMO-related knowledge. Moreover, one article (V) examined FoMO as an antecedent to phubbing, a smartphone-related phenomenon, making a foray into including concepts that go beyond the social media context and briefly addressing the fourth agenda raised in section 5.1.1. Cumulatively, the five articles in this dissertation provide insights into FoMO's influence on individual lives that go beyond a singular user cohort and expand previous knowledge boundaries on this phenomenon's associations with varied consequences, particularly those allied to the dark side of social media.

Overall, the insights obtained from this dissertation offer five primary contributions to theory. First, it is argued that the depth of integration of new media, especially social media platforms, and their daily consumption during the COVID-19 pandemic and its aftermath have been extensive (Watson, 2020). It can be said that individuals are now intrinsically dependent on these platforms to maintain connectivity with peer and familial groups in their personal and professional lives.

For example, it can be intuitively suggested that the integration of enterprise social media into organizations has led this technology to become a core aspect of employees' daily routines (e.g., Luqman et al., 2021). Subsequently, based on our findings, this thesis argues for the need to reconcile the existing perspectives on the dark side of social media, especially FoMO, with new theoretical perspectives that consider the extent of social media integration into human lives. For example, the media dependency theory (Ball-Rokeach & DeFleur, 1976) and the cultivation theory (Moreno & Koff, 2016; Mosharafa, 2015) may help explicate how social media platforms act as an interactive point connecting individuals, media systems, and society. Their application could assist in deriving in-depth insights into the influence of social media platforms on how individuals conduct themselves in their virtual and real lives. Such insights could be beneficial in understanding the nuances of the effect that new media, in particular, and digitization, in general, have exerted on individuals.

The second implication of our findings relates to expanding the scope of investigations into FoMO, problematic technology use, and the dark side of social media concerning their effect on other aspects of individual lives, such as FoMO's negative or positive association with the completion of daily tasks and routines (Rozgonjuk, Elhai, et al., 2019). Moreover, because our findings revealed that FoMO influences psychological issues affecting decision-making, such as procrastination, it would be beneficial to consider other avenues where such issues may emerge. For example, scholars can consider the connotations of FoMO in decisional processes with critical implications for individuals, such as the purchase of expensive or technologically innovative products, financial trading, or real estate.

Such initiatives could also reveal insights into how FoMO exerts influence as a psychological trait or context-specific and state-based factor. While these are personal decisions, investigations into the professional context can also reveal significant connections between FoMO and employment-related decisions. For example, while changing jobs, employees may be anxious and highly concerned about gathering reviews and feedback for the organizations they are considering working for. Similarly, with the increasing use of enterprise social media in organizations, employees may experience anxiety about keeping up with information exchanged on these platforms, especially if their work tasks are information- and time-sensitive. In such cases, they may be vulnerable to FoMO and its adverse consequences, such as decreased work performance, albeit in a very niche facet of their life.

However, this dissertation posits that FoMO might have a bright side as well. Such a bright side may not be direct, but as FoMO-induced phubbing was found to be positively associated with creativity, it is plausible that FoMO-induced technology (particularly, smartphone) use may have some benefits. For example, it

may drive creativity and ideation among individuals that could be tied to their exposure to different social media posts about accomplishments, projects, and ideas. Another plausible supposition that a few recent studies and mainstream articles have discussed is FoMO's potential role in driving investments and high-end product purchases, like real estate, as mentioned in the introduction. FoMO may then also encourage individuals to adopt innovative practices and products; however, much research is needed to understand this bright side of FoMO.

Building on the previous discussion, the third implication of this thesis also pertains to expanding the conceptual boundaries of FoMO's associations, considering its multidimensional nature. Specifically, more in-depth and nuanced research is needed to understand how FoMO as a psychological trait is connected with the dark side of social media phenomena, such as social media stalking, independent of and in conjunction with state FoMO. This is a valuable avenue for future research because it may reveal latent pathways that lead an individual to exhibit delinquent and deviant behaviors in virtual environments, such as cyberstalking, as well as in real life (i.e., the offline environment), such as alcohol (Riordan et al., 2018) and entertainment consumption. It is especially imperative to conduct such investigations in the offline context because it is a severely under-investigated area in FoMO research. The knowledge of FoMO's effect on the daily activities of social media users is critically needed to estimate the actual effect of its fallouts in professional and personal contexts—for example, FoMO's associations with partner phubbing or the relational problems that could arise from FoMO-induced workplace incivility.

Fourth, prior literature posits that the associations between FoMO and other dark side of social media phenomena are of a cyclical nature (Throuvala et al., 2019; Verduyn et al., 2020) because media use in itself is a cyclical function (Conlin et al., 2016). To the best of the author's knowledge, no empirical evidence yet exists for this supposition, although a recent study has found that social media interactivity is paradoxical in improving communication quality but also increasing work interruptions (Liu et al., 2022). This dissertation argues for the need to conduct observational studies to affirm the same. Further, it is especially critical for such investigations to consider individual traits and characteristics (such as voyeuristic or depressive tendencies) because they have been shown to amplify the associations between FoMO and the studied dark side of social media phenomena.

Finally, the findings imply the need for the critical use of experiments and observational studies to determine the actual causality between the tested associations. Further, longitudinal studies are needed to enable an understanding of the temporal connotations of such associations and their long-term impact on human lives. Such investigations should expound on FoMO's multidimensionality and capacity to trigger active and passive social media and digital platform usage,

especially for voyeuristically inclined individuals, because voyeurism is always present to a certain extent in social media use (Stiff, 2019). Even so, few studies consider the targeted versus covert forms of voyeuristic and exhibitionist tendencies on FoMO's manifestations and its associations with the dark side of social media.

5.3 Contributions to practice

The findings of this dissertation also have implications for practice with regard to (i) social and familial groups (e.g., parents and friends), (ii) platform (social media) developers, (iii) clinicians (including counselors and therapists), and (iv) organizational managers, such as human resources (HR) managers, who can contribute significantly to preempting individuals' negative experiences arising from FoMO and its associated dark side of social media phenomena.

First, this dissertation argues for the critical role of social and familial groups in helping individuals who experience FoMO and its adverse effects because they can closely observe its overt consequences, such as changes in sleep routines or excessive engagement with social media or smartphones. For example, parents and spouses would be ideally positioned to help afflicted individuals—that is, those experiencing FoMO and nomophobia (the compulsion to use smartphones; Busch & McCarthy, 2021)—control their problematic usage patterns. Moreover, along with social peers (i.e., friends), these stakeholders can also encourage afflicted individuals to engage in more offline social interactions to alleviate possible FoMO, as well as in the mindful and positively reinforced use of digital platforms (e.g., social media).

Second, our findings imply the need for social media developers to highlight platform affordances that can encourage active content creation and discourage passive browsing linked with the instinctive surveillance of others' shared content and online social comparisons. Such initiatives could help developers to assist in controlling the negative fallouts of the excessive platform use experienced by social media users and could have two benefits. First, it could inculcate loyalty among users who positively perceive the developers' commitment to protecting them. Second, FoMO's consequences, such as fatigue, have previously been linked to decreased and ceased social media use. Developers' initiatives may assist in preventing consequences that could result in the loss of users. For example, this dissertation proposes that developers emphasize the daily reels and "catch-up highlights" section that could help users obtain updates on their social groups' activities since their last check-in or login and perhaps avoid the experience of FoMO. Further, developers should highlight and encourage the use of digital well-being checks that are also available on most smartphones and over-the-top media platforms (e.g., Netflix). Such checks can make individuals aware of exceptionally extended periods of social

media use, especially during the night, that could possibly preempt detrimental effects from such usage.

The third implication relates to clinicians, therapists, and counselors working in educational and organizational systems. Such clinicians, especially in school and university environments, would benefit from these findings, such as the identified negative consequences of FoMO. Practical interventions could be used to help them identify and assist individuals who undergo such consequences owing to their problematic technology use. Such interventions should consider distinctive factors, such as individual triggers, personality characteristics, and life situations, allowing for modifications to suit students and working professionals.

Further, clinicians and therapists, along with pertinent members of management (e.g., in organizations and educational institutions), should develop informative campaigns, programs, and workshops that can be implemented in universities, schools, and organizations to inform the general public about the antecedents and consequences of FoMO and other dark side of social media phenomena. This is a topical implication given the COVID-19 pandemic's effect on media consumption, and such initiatives can help individuals reestablish balance in their lives. This is critical for the younger members of society (e.g., adolescents and young adults), who can be more susceptible to the negative consequences of compulsive technology use.

Along similar lines, the fourth implication suggests the vital role of HR managers in helping employees cope with FoMO-induced workplace problems. HR managers should actively engage with organizational therapists and management to determine policies for the personal use of devices and social media during work hours. Such policies should inculcate both formal and informal control strategies for limiting the personal use of social media and smartphones because they have been linked to deviant workplace behaviors, such as cyberloafing (Andreassen et al., 2014), and the possible alienation of employees (Zoghbi-Manrique-De-Lara & Olivares-Mesa, 2010). In addition, HR managers should consider conducting regular workshops to inform employees about how such personal social media and smartphone use could lead to detrimental outcomes for work tasks and workplace relationships and should encourage employees to seek help upon facing such outcomes.

Finally, the members at the top level of the organizational structure (e.g., chief executive officers, chief HR officers, and vice presidents) could consider conducting employee surveys to explicate specific factors that can cause FoMO or compulsive social media/smartphone use during work hours and find solutions to address the identified issues. For such purposes, in consultation with HR managers, organizations' top management could also consider implementing peer-mentoring programs and supporting policies to help the affected employees because peers' conduct in the workplace can often influence an individual employee's own behavior (Khansa et al., 2017).

5.4 Limitations and future agendas

This thesis was constrained by some limitations that should be considered during the interpretation or application of the findings. Moreover, apart from the implications for theory discussed in Section 5.2, addressing these limitations would also contribute to advancing the extant knowledge on FoMO and the dark side of social media.

First, the SLR considered only four digital databases and excluded nonempirical research and practice-oriented journals as publication outlets. These limitations could have resulted in the exclusion of pertinent literature and the subsequent identification of thematic gaps. In the future, scholars should consider extending the search to include discipline-specific databases, such as MEDLINE and trade journals, which could also assist in intervention development for pre-empting FoMO.

Second, the generalizability of the findings is limited by sampling methods. For Articles III–V, Prolific Academic was used to collect self-reported data, while for Article II, a paper-based survey based on convenience sampling was conducted. The sampling was not executed to achieve generalizability. Both data collection methods are subject to biases, such as in-group sampling bias for Prolific (Newman et al., 2021) and expenses related to the paper-based approach. These limitations also overlapped with the limitations of past research that were identified through the SLR. Further, each article focused on a specific country (Article II – India, III – the UK, and IV and V – the US), thus curtailing the applicability of the findings in economically, infrastructurally, and culturally different economies without reconducting the study. Future research would benefit from obtaining nationally generalizable samples and conducting cross-cultural research drawing respondents concurrently from different recruitment platforms, such as MTurk and CloudResearch, to improve the generalizability and applicability of the studies.

Further, the limitation of this dissertation's methodological approach (i.e., mainly quantitative studies) could be addressed through the use of more sophisticated research designs and methods. For instance, it would be particularly beneficial to adopt research designs that leverage a mixed-method approach combining qualitative data with quantitative to obtain more nuanced insights into FoMO as a phenomenon. For example, longitudinal qualitative studies could be developed to delve into the reasons why FoMO exerts such significant influence on individuals from various walks of life, such as young adults, teenagers, and even those approaching middle age, with varied responsibilities including work, family, and academic pursuits. It would also be invaluable to qualitatively investigate the specific contextual triggers, like nomophobia or temporary distance from family, that could enhance or diminish these individuals' experience of FoMO and subsequent consequences. Qualitative studies on such issues could yield a wealth of new

information on FoMO's hold on and degree of entrenchment in social media users' lives.

The third limitation pertains to our use of demographics as a control variable, although the findings suggest that exogenous factors can explain variances in the dependent variables and improve the model's predictability. Future research could consider modeling sociodemographic indicators, such as age, gender, and household size, to conduct multigroup analyses or examine them as moderators for the tested associations to explicate the distinctive effects of such variables as they can be strong indicators of individuals' life situations. Additionally, future research could extend these thesis findings to investigate the predicting and moderating role of personality traits, especially the dark tetrad of personality, on FoMO and its associations with other dark side of social media phenomena.

Fourth, this dissertation concentrated solely on state FoMO, which offers only a limited outlook on its effect on individual well-being. This narrow focus was necessary to achieve the objectives of the dissertation (i.e., understanding FoMO in the context of social media). Nevertheless, future research should explore the relationships between other dimensions of FoMO, such as trait FoMO (Wegmann et al., 2017), FoMO at work (Budnick et al., 2020), and the variables tested in this thesis, as well as other under-investigated variables. Such initiatives could significantly contribute toward developing a more comprehensive and empirically supported understanding of the dynamic phenomenon of FoMO.

Lastly, this dissertation was limited in its scope and consideration of certain variables that were selected based on Article I and an exhaustive review the author undertook for the same. While the selection of these variables rested in meeting this dissertation's objectives as explained in previous sections (Section 1.2–1.3, 2.3), it is critical for future research to expand the scope to include other variables and phenomena tied not only to the dark side of social media in the context of personal life, such as trolling (Leandra et al., 2023), but also pertaining to those that could affect organizational (i.e., professional) consequences, such as cyberloafing (Tandon et al., 2022). For example, further research into relational consequences (e.g., the breakdown of personal relationships or professional jealousy) might add a nuanced layer of understanding to FoMO's influence on the individual lives of social media users. Another possible agenda to explore and understand is whether FoMO and its consequences have more bright sides to them than previously known. For example, FoMO-driven social media and smartphone use could expose an individual to multiple posts about others' professional (and personal) journeys and accomplishments, even in the face of hardships. Such posts could also be a source of inspiration for individuals, motivating them toward pursuing self-improvement to achieve similar milestones in their lives. Along similar lines, it may be beneficial to explore whether FoMO acts as an antecedent to increasing individuals' professional

knowledge and social capital, thereby enabling them to improve their work performance.

Such attempts to advance the scope of this dissertation and investigate hitherto novel aspects of FoMO could yield interesting and deeper insights into this phenomena's influence on individuals' lives and well-being.

List of Abbreviations

AVE	Average Variance Extracted
BS	Behavioral Science
CR	Composite Reliability
CMB	Common Method Bias
FoMO	Fear of Missing Out
HTMT Analysis	Heterotrait–Monotrait Analysis
HR	Human Resources
IS	Information Systems
IT	Information Technology
LCM	Limited Capacity Model
RQ(s)	Research Question(s)
SDT	Self-Determination Theory
SCT	Social Comparison Theory
SSO	Stressor-Strain-Outcome Framework
SEM	Structural Equation Modeling
SLR	Systematic Literature Review
TCIU	Theory of Compensatory Internet Use

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