Established Adults, Who Self-Identify as Smartphone and/or Social Media Overusers, Struggle to Balance Smartphone Use for Personal and Work Purposes

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Abstract

Smartphone ownership and use continues to proliferate, allowing people to easily access online communication, entertainment, and information. Importantly, individuals can perceive that they overuse their smartphone and/or the social media applications (apps) they access on their devices. Much of the research on smartphone overuse has focused on youth and emerging adults, with little research focusing on individuals in the established adulthood stage of life. This study examines smartphone use among established adults who perceive that they overuse their smartphone and/or social media. As part of a larger study, we conducted in-depth interviews with 21 individuals (30–45 years old) who self-identified as smartphone and/or social media overusers. Data were collected through a pre-survey, 1-hour interview, and smartphone use screenshots. Audio-recorded interviews were transcribed and then coded using NVivo software. Participants' average age was 35.9 years (SD = 4.1). The majority of the sample were female (67%), White (76%), and had a master's degree or higher (76%). Participants spent an average of 215 min on their smartphone daily, primarily using social media, video conferencing, and texting apps. Issues with smartphone use occurred when there was an unclear separation between work and personal use. Participants felt pressure to always respond quickly to work emails. An effort was made to limit smartphone use for work and during family time to be present for their family. Established adults strive to balance smartphone use for personal and work purposes. Creating boundaries for how and when established adults use their smartphone may help them find this balance.

Keywords Smartphones · Technology overuse · Social media · Work-life balance · Midlife

Introduction

Americans are digitally connected more than ever before as smartphone ownership in the U.S. has increased to 85% as of 2021 (PEW, 2021a). Smartphones provide continuous connectivity to the Internet and their opportunity for use is not limited by location, time, or purpose (Gui & Buchi, 2021). This aspect of unlimited access can be useful for established adults, 30–45 years old, who are juggling career responsibilities at the same time as their commitments to family life—for example as they foster personal relationships and care for children and/or aging parents (Mehta et al., 2020). However, unlimited access may also lead to high levels of use and/or overuse. This study examines a life stage group that has had less research specifically focused on examining smartphone use—established adults—and focuses specifically on established adults who self-identify as overusing smartphones and/or social media.

Smartphone and Social Media Use by Established Adults

Ninety-five percent of established adults in the U.S. own a smartphone (PEW, 2021a; Statista, 2021), which is higher than the percentage of U.S. adults, in general, who report owning a smartphone. Established adults mainly text and use smartphones to contact family, close friends, and co-workers (Agarwal & Lu, 2021). Established adults spend

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approximately 255 min per day using their smartphone, and of that time 74 min is spent on social media applications (apps) (The Nielsen Company, 2020). Eighty-one percent of established adults in the U.S. use at least one social media site, mainly YouTube (91%) and Facebook (77%) (PEW, 2021b).

While smartphones have essentially become commonplace in the daily lives of established adults, their ease of access can blur the boundaries between work and personal life (Derks et al., 2014, 2015; Middleton & Cukier, 2006; Orlikowski, 2007), which can be a persistent struggle for many established adults (Kossek et al., 2006). On one hand, access to smartphones can facilitate work-life balance when individuals have more control and flexibility (Schlachter et al., 2018). However, access to a smartphone makes it easier for non-work-related conflict and stress to impede work, such as dealing with personal issues while at work (Olson-Buchanan et al., 2016). It also creates the opportunity to spend time, some estimate this as much as two hours during the workday, sending personal text messages, emails, or updating social media profiles (Vitak et al., 2011). Personal smartphone use like gaming or social media can act as a micro-break to boost energy levels during the workday (Fritz et al., 2011). Depending on the type of personal smartphone use and how it is perceived (e.g., reading troubling information on the Internet is perceived as negative), personal smartphone use at work has been associated with the subjective feeling of being interrupted by the device; by the end of the workday, the feeling of being interrupted can be related to emotional exhaustion (Derks et al., 2021).

Features of smartphones (e.g., email) also increase the likelihood of work-related smartphone use at home as there is often an implicit expectation to be available even during non-work hours (Chesley et al., 2003; Derks et al., 2014), which can create fear for employees that colleagues and supervisors may think of them as not committed and unproductive if they are not accessible and responsive at all times (de Wet & Koekemoer, 2016; Thomas, 2014). As a result, it can be more difficult to disengage from work while at home (Ashforth et al., 2000; Berkowsky, 2013; Boswell & Olson-Buchanan, 2007; Derks et al., 2014; Schlachter et al., 2018) and perform family responsibilities (Bakker et al., 2008). In addition, work-related smartphone use during non-work hours can result in a decrease in family cohesion (Stevens et al., 2006), as there is less focus on quality family time.

This blurring of work-life boundaries may also have implications for established adults' well-being. They may feel as though work is constant when it is also occurring during non-work hours (Mazmanian et al., 2013), leading to a feeling of being overwhelmed (Ninaus et al., 2015; Thomas, 2014). The pressure to be responsive to work messages at all times can lead to work overload, technostress, and burnout (Ferguson et al., 2016; Leung & Zhang, 2017; Thomas,

2014). In addition, work during non-work hours has been found to often be the source of conflict with family and significant others (Ayyagari et al., 2011; Leonardi et al., 2010; Schlachter et al., 2018).

Smartphone Overuse

Given the high rates of use among U.S. adults, particularly established adults, and increasing reliance on smartphones for finding information, communicating with social ties, social media use, and a variety of work and nonwork functions, it is not surprising that the amount of time that individuals spend using smartphones has increased over the past decade (PEW, 2021a). What constitutes 'use' versus 'overuse', however, is not clear. There are no set standards for identifying what constitutes smartphone 'overuse'. From a sociocultural perspective, what is normative for one in terms of smartphone use may not be normative for another's use. For example, for some, there is a norm of receiving instant responses, so if someone is not immediately accessible, they may be viewed as nonresponsive (Ling, 2016; Stephens et al., 2017). Thus, relying on individuals' perceptions of whether they use their smartphone too much may provide a more realistic assessment of overuse at this point in time. Currently, about 67% of established adults report using their smartphone more than they would like to each day (Wilkinson, 2021).

Given that social media usage is one of the main aspects of smartphone use (Agarwal & Lu, 2021; Sewall et al., 2020) examining social media overuse is also important. There is limited research on social media overuse among established adults (Cao & Yu, 2019; Lin et al., 2021). Social media overuse has been associated with a decrease in happiness and mental quality of life, and an increase in feelings of depression and anxiety (Lin et al., 2021). Job performance has been reported to be negatively affected by those who overuse social media in the workplace for social and hedonic purposes (Cao & Yu, 2019). Neither of these studies sampled those who self-identify as smartphone overusers.

For some smartphone users, too much smartphone use can evoke feelings of smartphone overuse (Rainie & Zickuhr, 2015). Smartphone overuse has been described as problematic smartphone use (Panova & Carbonell, 2018; Rozgonju et al., 2018; Elhai et al., 2017; Elhai et al., 2017; Elhai et al., 2016) or disordered smartphone use (Lachmann et al., 2018; Sha et al., 2019), and has been proposed as a behavioral addictive disorder (Billieux et al., 2015; Kwon et al., 2013). However, there is debate among researchers as to whether smartphone overuse meets the criteria to be considered an addiction (Kardefelt-Winther et al., 2017) or if other factors impact smartphone overuse like the technology itself (Hofmann et al., 2017; Tokunaga, 2015), digital infrastructure (Hofmann et al., 2017; Tokunaga, 2015), or

digital norms (e.g., societal or group expectations for behavior when using digital devices—for example, pressure to respond, constant availability) (Ling, 2016; Stephens et al., 2017). For this reason, we consider smartphone overuse to be the smartphone user's individual perspective of feeling as though they use their smartphone too much (Gui & Buchi, 2021). Digital overuse is an increasing concern as smartphone ownership and use continues to proliferate (Taylor & Silver, 2019), an issue especially important for established adults who are balancing work and family life.

Smartphone Use in Established Adulthood

As noted above few studies examine smartphone overuse among established adults; however, previous studies have analyzed aspects of smartphone overuse (e.g., family, work) pertinent to this life stage. Smartphone overuse has been reported to negatively affect work performance due to users' neglecting work and having reduced productivity due to multitasking (Duke & Montag, 2017). With relationships, smartphone overuse has led to users focusing on their smartphone versus engaging with the other person present (e.g., Chotpitayasunondh & Douglas, 2016; Krasnova et al., 2016; Vaghefi et al., 2017) and has been found to increase users' family and interpersonal conflicts (Mahapatra, 2019; Panda & Jain, 2018). Our study expands understanding of how smartphone overuse impacts established adults.

Purpose of the Current Study

Research on smartphone overuse has focused on youth (e.g., Buabbas et al., 2021; Kim et al., 2020), and emerging adults (see review from Busch & McCarthy, 2021), with little research focusing on individuals in the established adulthood stage of life (Mehta et al., 2020). This study explored smartphone use by established adults who perceive that they overuse their smartphones and/or social media. This study was guided by the following research questions:

(1) How do established adults, who perceive that they overuse their smartphones and/or social media, use their smartphones and social media?
(2) What are impacts of this use on their lives?

Methods

Procedure

This study was approved by the Institutional Review Board of the university where the researchers were located. As part of a larger study focused on smartphone and social media overuse across the life course, we conducted in-depth, semi-structured interviews with 21 individuals (30–44 years old) who self-identified as smartphone and/or social media overusers. Participants were recruited via listservs, fliers, social media groups, and a university-based participant pool from a mid-sized city in the Midwest region of the U.S. Inclusion criteria required participants to own a smartphone and perceive that they overuse their smartphone and/or social media. We did not specify use levels that constituted 'overuse', as the perception of overuse may be more relevant than actual use levels. Thus, participants self-identified as overusers.

Data were collected between April 2019 and March 2020. In-person interviews were conducted in a private conference room at a large university located in the Midwest region of the U.S. Present in the interviews were the participant, the interviewer, and a note-taker. Each interview consisted of a self-administered pre-survey, semi-structured interview, and smartphone use screenshots. All participants gave consent prior to the start of the interview. Each interview lasted approximately one hour. Interviews were audio-recorded and then transcribed verbatim. Participants received $20 for study participation.

Data Collection

Survey

A self-administered paper survey was completed by participants just prior to the beginning of the interview. The survey was comprised of close-ended questions on smartphone and social media use and demographic questions (age, sex, education, race/ethnicity, marital status).

Frequency of Smartphone and Social Media Use Frequency of smartphone and social media use was measured, for each digital use, by one question, "*How often do you use your [phone or social media] in a typical week?*" Response options included: less than once a week, 1–2 times per week, several times a day, constantly. Daily smartphone and social media use were measured, for each digital use, by two questions: "*How many hours do you use your [phone or social media] on a typical weekday?*" Response options included: < 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10 +. "*How many hours do you use your [phone or social media] on a typical weekend day?*" Response options included: < 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10 +. Responses from both questions were averaged to determine daily smartphone use and daily social media use.

Self-Report Behavioural Automaticity Index Smartphone and social media use habits were each measured with the Self-Report Behavioural Automaticity Index (SRBAI; Gardner et al., 2012; Verplanken & Orbell, 2003), with 4

items. For example, *Checking my [phone or social media] is something (a) I do automatically, (b) I do without thinking.* Response options on the 5-point Likert scale included: 1 = "Strongly disagree," 2 = "Somewhat disagree," 3 = "Neither agree nor disagree," 4 = "Somewhat agree," and 5 = "Strongly agree." The internal consistency was high for smartphone use habits (Cronbach's α = 0.85) and social media use habits (Cronbach's α = 0.96). The 4 items were totaled with a higher sum reflecting a stronger habit.

Bergen Social Media Addiction Scale The Bergen Social Media Addiction Scale (BSMAS; Andreassen et al., 2012; Bányai et al., 2017) was used twice to measure both problematic smartphone use and social media use. To measure smartphone use, the BSMAS scale was adapted to include "mobile phone" instead of "social media" in each scale item. Each digital use (e.g., smartphone, social media) was measured by 6 items. For example, *How frequently (a) Do you spend a lot of time thinking about [mobile phone or social media] use or plan your [mobile phone or social media] use? (b) Do you feel an urge to use your [mobile phone or social media] more and more?* Response options on a 5-point Likert scale included: 1 = "Very rarely," 2 = "Rarely," 3 = "Occasionally," 4 = "Often," and 5 = "Very often." The internal consistency was good for problematic smartphone use (Cronbach's α = 0.76) and problematic social media use (Cronbach's α = 0.72). The 6 items were summed with a higher total reflecting more problematic use.

Social Media Platform Use Participants were asked about which social media platforms they used, "*Do you use any of the following social media platforms?*" Response options included: Facebook, Instagram, Snapchat, Twitter, Pinterest, LinkedIn, Google +, YouTube, Tumblr, Reddit, WhatsApp, and Other. Though TikTok is a popular platform currently, when this data was collected it had not reached the market penetration that it currently has; thus, it was not included in the current survey measure. Respondents could check all that apply. Responses were totaled by platform to determine how many participants used each platform and totaled by participant to determine the number of social media platforms used by each participant.

Semi-Structured Interviews

A semi-structured interview protocol was used to guide the interviews, consisting of questions to gain a deeper understanding of participants' smartphone and social media use. Selected questions about smartphone use included: "*Walk me through a day and tell me about how you use your smartphone,*" "*How do you use your smartphone the most: work, play, socially, or academic reasons?,*" and "*What are the top 3 applications you use most frequently on your*

smartphone?*" Social media use questions included: "*How did you choose which social media platforms to join?,*" "*Which social media account do you spend the most time using?,*" and "*What are your main motivations for using social media?*" To understand how participants limited their technology use, the following questions were asked, "*Do you ever attempt to limit your smartphone and/or social media use? If so, why? If so, when?*" and "*How have you attempted to limit smartphone and/or social media use?*" To understand about the pressures from technology use selected questions were asked, "*Do you ever feel pressure to respond quickly when you receive a text message, email, snap,* etc. *from your peers, family, or work related? If so, why?*" and "*Do you ever feel that others expect too much of you when it comes to being responsive* via *your smartphone? If so, does it occur more often with friends/peers, family, or work related?*".

Smartphone Screenshots

At the end of the interview, participants allowed the interviewer to take screenshots of their smartphone screen time data, which included average daily smartphone use and apps used (see Fig. 1). The screen time images were used to provide objective estimates of participants' smartphone use, as reported use is often underestimated (Piwek et al., 2016; Wilcockson et al., 2018). Six participants' daily smartphone use data and two participants' app use data were not obtained due to their phone not providing that information. Results including smartphone screenshot data note the number of cases with this data missing.

Analysis

Responses from the pre-interview survey and screenshot data were analyzed descriptively. Interview transcripts were thematically coded (Nowell et al., 2017) by three members of the research team using NVivo 12. NVivo is a qualitative data coding and analysis software program that facilitates coding of large amounts of qualitative data, particularly when more than one coder is involved. It also calculates kappa values among coders. See https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/ for more information on NVivo.

Inter-coder reliability was established with a kappa coefficient $\geq$ 0.80. When describing their smartphone use, the participants in this study discussed their social media use interchangeably with their smartphone use. For this reason, we discuss social media use as a feature of smartphone use. We interweave the three sources of data in the Results section to provide a thorough depiction of smartphone and social media use among participants.
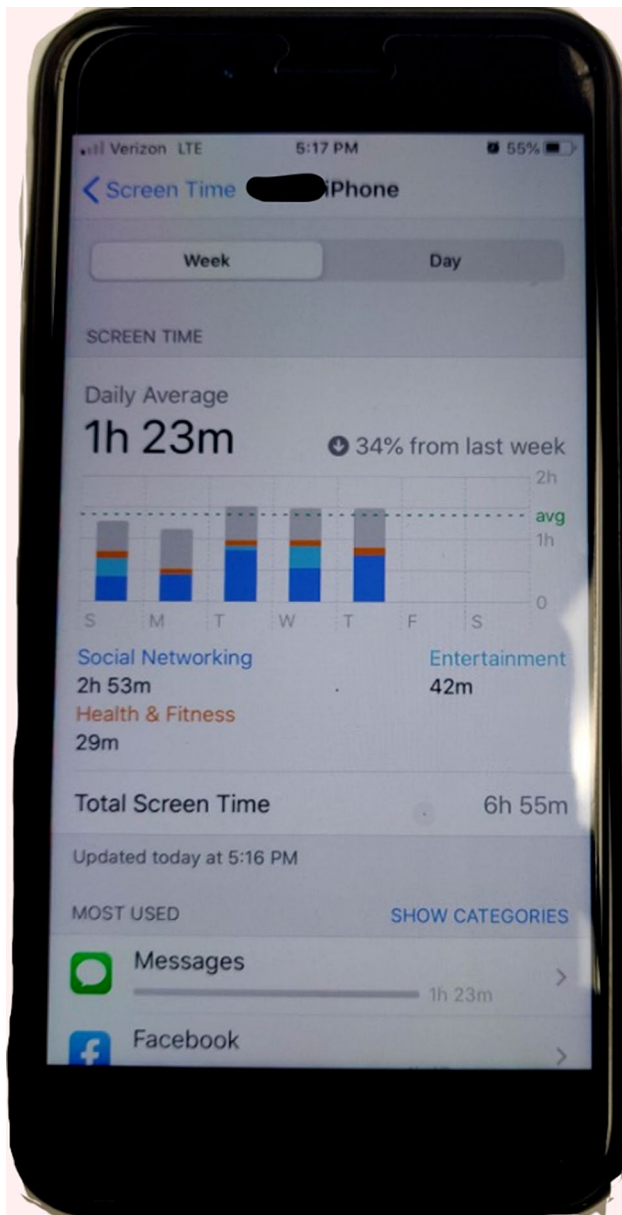
Fig. 1 Smartphone screenshot

Table 1 Demographic characteristics

	N (%)
Age	35.86 years (S.D. 3.96)
	(Range 30–44)
Sex	
Male	7 (33.33)
Female	14 (66.67)
Education	
College Graduate	3 (14.29)
Some Graduate School	2 (9.52)
Master's Degree	13 (61.90)
Doctorate	3 (14.29)
Race/Ethnicity	
White, Non-Hispanic	16 (76.19)
Hispanic	2 (9.52)
Asian	2 (9.52)
Other	1 (4.76)
Marital Status	
Married	18 (85.71)
Single	3 (14.29)

Note. $N = 21$

Results

Smartphone and Social Media Use

From the survey data, average daily smartphone use, was 4 h and 1 min (SD = 1.5 h). Participants self-reported using their smartphone several times a day (55%) or almost constantly (45%). One participant did not report their frequency of smartphone use. A majority (76.19%) of the participants reported using social media several times per day. LinkedIn (100%), Facebook (95.24%), and YouTube (85.71%) were the top three social media platforms used by participants. Participants reported using, on average, 5.24 (SD = 1.23; range = 3–8) social media platforms. See Table 2 for full list of the phone and social media use results. From the screenshot data, participants spent an average of 3 h and 35 min (SD = 1.70 h) on their smartphone daily and the most used app was Facebook (84.21%) followed by Messages (52.63%). Screenshot data for app use was not able to be captured for two participants. See Table 3 for the full list of smartphone apps used.

Checking Habits and Problematic Use

Participants reported low habit scores for checking their smartphone (M = 6.14, SD = 4.87) and checking social media (M = 8.38; SD = 4.76), indicating less habitual use. In addition, participants reported low scores on the problematic smartphone use (M = 16.67, SD = 3.55) and social

Participants

Participants were, on average, 35.86 years (SD = 3.96). The majority of the sample was female (66.67%), white, non-Hispanic (76.19%), married (85.71%), and had a master's degree or higher (76.19%). See Table 1 for the full list of demographic characteristics.

Table 2 Survey data

	N (%)
Frequency of smartphone use*	
Less than once a week	0
About 1 or 2 times a week	0
About once per day	0
Several times a day	11 (55)
Almost constantly	9 (45)
Frequency of social media use	
Less than once a week	0
About 1 or 2 times a week	0
About once per day	2 (9.52)
Several times per day	16 (76.19)
Several times per hour	2 (9.52)
Almost constantly	1 (4.76)
Social media platforms used	
LinkedIn	21 (100)
Facebook	20 (95.24)
YouTube	18 (85.71)
Instagram	13 (61.90)
Twitter	13 (61.90)
WhatsApp	13 (61.90)
Pinterest	11 (52.38)
Snapchat	7 (33.33)
Google +	6 (28.57)
Reddit	4 (19.05)
Other	3 (14.29)
Tumblr	1 (4.76)
	M (SD)
Number of social media platforms used	5.24 (SD = 1.23) (Range = 3–8)
Daily smartphone use	4 h. 1 min. (SD = 1.50) (Range = 1.5–7)
Daily social media use	2 h. 23 min. (SD = 0.97) (Range = 0.50–4.5)

Note. *Missing 1 response

media use measures (M = 15.62; SD 3.44), reflecting less problematic smartphone and social media use. See Table 4 for full list of the survey phone and social media checking habits and frequency.

Communication

Participants explained that their smartphones were primarily used for communication purposes through texting, emailing, and social media apps. Smartphones allowed them to be able to be instantly connected with family and friends regardless of time or distance. A 37-year-old female described, "Mostly to communicate with my friends. I use WhatsApp or Facebook to talk to people or calling. I have a lot of friends and family living abroad and so it's an easy way to communicate." Smartphones were used to communicate with coworkers, predominately through text and email. A 38-year-old male, explained, "I'm connected to most of my coworkers, so usually through text if there's any issues at work. I usually check my email or my schedule to see where I have to go." Five participants used their smartphones to manage department or company communication for their company's social media accounts. A 30-year-old female, explained, "I spend a decent amount of time using it [social media] for work because you can't really do Instagram well from your laptop."

Table 3 Smartphone screenshot data

	N (%)
Daily smartphone use*	3 h. 35 min. (SD = 1.70) (Range = 1.38–6.85)
Top 5 apps used**	
Facebook	16 (84.21)
Messages	10 (52.63)
Safari	8 (42.11)
Mail	6 (31.58)
WhatsApp	5 (26.32)
Instagram	5 (26.32)
YouTube	5 (26.32)

*Missing 6 participants daily smartphone use

**Missing app use for 2 participants

Table 4 Checking habits and problematic use

	M (S.D.)	Range
Checking habits		
Smartphone	6.14 (4.87)	4–12
Social Media	8.38 (4.76)	4–20
Problematic use		
Smartphone	16.67 (3.55)	9–24
Social Media	15.62 (3.44)	9–22

Note. Data from survey

For large-scale personal communication, participants used social media apps, mainly Facebook, to update about aspects of their life and to follow updates from friends and family. A 34-year-old female, shared, "That's actually how we share basic updates for our lives. We share children's pictures. We use that [social media] first, as a way to communicate." Participants noted they preferred to use Facebook because it was the social media platform most used by their family and friends. A 39-year-old female, noted, "I keep in touch with classmates and people I don't see all the time and family." Facebook was also used as a source to receive news and information. A 39-year-old female, shared, "A lot of school things for my daughter are on Facebook."

Constant Access

The desire by participants to be constantly accessible by their smartphone often blurred the boundaries between work and family life. Because participants used their smartphone for work, they felt the need to take their phone with them everywhere and constantly check their phone to keep up to date with work emails, texts, or calls. Participants described feelings of anxiety if they were not regularly monitoring their messages, as they thought they would miss something

work-related that was important. A 30-year-old female, explained:

> The modern workplace requires that you are accessible by email literally all the time. Even by texts, sometimes my boss will message me. People send things even on the weekend, even at night, whatever. So it feels like, 'Oh, if I don't have my phone anywhere near me, I might miss something from my boss. I might miss something urgent for work.' So that is a landslide into just having it next to you all the time.

Participants described feeling pressure to respond quickly to work-related communication they received on their smartphone during work hours and even after hours. For the majority of the participants, this was an internal pressure and not something required by their position, although a lack of immediate response could appear as not being dedicated to the position. A 39-year-old female noted:

> Before getting a job here I worked for a smaller company in the corporate world. And it was definitely a sign of like, you're not a good worker if you didn't respond 24/7. And people who did were rewarded and that kind of thing. And then when, I don't know, I started this job I took that work ethic with me even though, I don't know. It feels like people say you don't have to, but then there's also this underlying current of, you should. And so I still feel that I need to. I need to at least read it, show that it's been read.

Participants also described taking their smartphone everywhere with them so they could be reachable by family in case of an emergency. A 36-year-old male shared, "It's [smartphone] a security. It's just…don't want to be without a way for someone to reach me. As a father and a husband…I have responsibilities, so I want to make sure I have that." Although participants explained that they wanted to be constantly reachable to family, there was pressure to abstain from personal smartphone use during work hours as it was a distraction and could appear unprofessional. For this reason, participants typically kept their phone on silent/vibrate and developed ways to know if a message was urgent or if it could wait. A 38-year-old male described:

> It'll just buzz so I don't have it make any noise. So like I always tell my wife, if there's an emergency, text twice or call twice or … so if I get like multiple buzzes then I know it's important that I need to pick it up, as opposed to like if I just get one and it's like, 'Okay, I can probably get that later.

In contrast, there was also pressure, mainly from family, to abstain from work smartphone use during non-work hours. There was a conscious attempt to limit smartphone use around their family so they could be mentally and

physically present. A 35-year-old male, described limiting his smartphone use, "… between when I get home to when she [wife] takes our baby up to go to bed, I try to put it out of sight. So that I'm spending time…I would say that's probably between 5:30 and 7:00." However, unplanned work responsibilities often interfered with being able to fully disconnect. A 34-year-old female, noted:

> I think it's hard, because you're at work all day, and you're trying to find that balance. But, again, if I get pulled in for work, I might not stay in for work purposes for very long, and then I'm still just on the phone. It's hard to give it up. I would say the fact that I do need to have it available for work. Because it limits my ability to fully go quiet on it.

Discussion

With 31% of U.S. adults reporting that they go online 'almost constantly' (Perrin & Atske, 2021), we are in the early stages of understanding the impacts of this use in general and technology experiences of individuals who perceive that they 'overuse' smartphones and/or social media in particular. In this study we sought to understand how established adults, who perceive that they overuse their smartphones and/or social media, use their smartphones and social media and how this use impacted their lives. Our study advances research in this area in several ways. This is one of only a few studies to explore smartphone use by established adults who perceive that they overuse their smartphones. It also combined multiple sources of data (survey, interview, and objective screenshot use data) to examine how established adults use their smartphones, overcoming the limitations of studies that solely rely upon self-reported use data. Furthermore, this study examined some of the challenges for established adults that arise from smartphone use.

The results illustrate that established adults, in this study, were caught between a "career-and-care-crunch" as they tried to balance their constant connection with social ties, mainly family, and their place of employment (Mehta et al., 2020), by using their smartphones at least several times a day. Issues with smartphone use occurred when there was an unclear separation between work and personal use (Derks et al., 2014, 2015; Middleton & Cukier, 2006; Orlikowski, 2007). Smartphones were used for work purposes, like communicating with co-workers, using the calendar app to keep up to date on their work schedule, listening to music, and watching work-related videos on YouTube. Established adults also wanted to be available and connected through their smartphone for communication with family members or in the event that there was a family emergency, which could be seen as a distraction and or could appear unprofessional while at work. This perceived pressure to be constantly available has been associated with stress, particularly with young adults (Przybylski et al., 2013; Thomee et al., 2010). Less is known about whether this is also the case for established adults.

Our results support prior research spanning close to two decades—individuals often perceive pressure to maintain communication with colleagues, even during non-work hours (Berkowsky, 2013; Chesley, 2014; Chesley et al., 2003; Diaz et al., 2012). This pressure, mainly internal, resulted in an inability to fully disconnect from the smartphone during non-work hours. The unlimited access creates the possibility for impromptu work to interfere, often occurring during family time, and can contribute to a feeling of not being able to escape work during personal time (Berkowsky, 2013). Creating boundaries for how and when their smartphone is used may help established adults find a balance in using their smartphone during non-work time (Mehta et al., 2020).

A predominate use of smartphones among this sample of smartphone and/or social media overusers was for accessing social media apps. Facebook was the most used social media app by participants, consistent with previous research (PEW, 2021b). Facebook, along with the other less used social media apps like Instagram, WhatsApp, and YouTube, provided a link to family and friends and acted as a source for news and information. While only reported in the pre-survey, all the participants used LinkedIn. LinkedIn facilitates maintaining and networking with professional contacts, an aspect of career development that is important during established adulthood (Mehta et al., 2020). This data was collected prior to the beginning of the COVID-19 pandemic; it is likely if the study was conducted at this point in time, we would also include measures of TikTok and other types of media use that have become more prevalent in the past few years.

In comparing the reported data versus objective use data, participants were fairly accurate in reporting their daily smartphone use, which goes against findings from some recent studies that suggest that smartphone users underestimate their usage (Deng et al., 2018; Piwek et al., 2016; Wilcockson et al., 2018). Daily reported use was only slightly overestimated by 26 min (reported 4 h and 1 min versus actual use of 3 h and 35 min). This slight difference is likely an artifact of the response options on the survey, which included whole hours rather than allowing participants to report partial hour estimates. Interestingly, while the participants were self-reported smartphone overusers, their average day-to-day smartphone use (215 min) was not outside the range of the typical smartphone user (e.g., approximately 255 min; The Nielsen Company, 2020). In addition, participants' reported problematic smartphone use (M = 16.67, SD = 3.55) and their reported checking habit

(M = 6.14, SD = 4.87) were low, signifying less problematic and habitual use. Although participants described taking their smartphones with them everywhere so that they could be constantly available. The feeling of smartphone overuse could be due to feeling anxious about the possibility of missing some communication or the stress of the blurred boundaries between work and personal life. It could also be that the general smartphone user is overusing their phone, but it has not been explained as overuse.

Limitations

While the findings highlight the complexity of smartphone use by established adults in this small sample of midlife adults, it is important to note the limitations of this study. From a sampling perspective, we did not utilize a screening tool to identify whether an individual was an overuser. There are no validated measures to identify overusers from users as overuse is a socially constructed concept, and it is an individual perception at the user level. The participants in this study were self-identified smartphone and/or social media overusers. At some point in the future, the conceptualization of smartphone and/or social media overusers may be clearer and be able to be measured in a more objective and validated way. In addition, while this is a unique sample of established adults, unfortunately, we do not know if their use of smartphones and social media differ from established adults who do not consider themselves to be overusers. Future research is needed that compares these two groups to understand potential impacts of smartphone and social media use on their lives and whether perceived overuse is problematic for established adults.

Though the in-depth interviews provided a wealth of information on how and why established adults who self-identify as being overusers use smartphones and social media, our sample was limited to 21 participants in one mid-sized Midwest city. The average age of participants in our study was 35.86—which is on the younger end of the established adult age range. It may be that individuals who are closer to the older end of the established adult age range use and/or overuse smartphones and social media differently. In addition, our sample had higher levels of education, on average, than the U.S. population of established adults. Future research with more heterogeneous samples is clearly warranted.

On the survey portion of the study, all the participants indicated that they use their smartphones several times a day or almost constantly. Better measurement of smartphone use, with a wider range of response options, is needed given the frequency with which participants in this study reported using their smartphones. Participants in this study also discussed their smartphone and social use interchangeably during the interviews; thus, it was hard to distinguish between smartphone use per se versus social media use. Given the habitual nature of smartphone and social media use, it is likely that conceptual distinctions are blurred when discussing how they use these technologies. Ecological momentary assessments might be useful in future studies to capture the particular aspects of use at specific times during the day to better discern the rhythms and types of both smartphone and social media use. Or having tracking applications on devices that continually send usage data to researchers via the cloud could help to better ascertain amount, time, and types of use.

The sample also lacks demographic diversity as the sample is predominately female, white, and with high educational attainment. Therefore, our results should be interpreted with caution. Future research should include larger and more diverse samples of established adults, as well as individuals who may not overuse their smartphones and/or social media.

Conclusion

This study provided insights on smartphone use by established adult participants who consider themselves digital overusers, which makes this study unique. Established adults strive to balance smartphone use for personal and work purposes. This study highlights the intricacies of smartphone use by established adults, providing valuable information for researchers who want to use the smartphone as part of an intervention targeted for this specific age cohort. Additional research is needed to understand the benefits and barriers of daily smartphone use by established adults who consider themselves digital overusers as well as those who do not perceive that they overuse digital technologies.

Declarations

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