The Effects of Nomophobia on Employee Engagement

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THE EFFECTS OF NOMOPHOBIA ON EMPLOYEE ENGAGEMENT

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education

By

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ABSTRACT


The study outlines the path that the researcher took to investigate the phenomenon of nomophobia as it relates to employee engagement. In the first two chapters, the researcher outlines a synopsis of the problem, presents gleanings from a review of pertinent literature on employee engagement and nomophobia, and articulates a basic conceptual framework for the study. The researcher also shares how the data was collected and analyzed in the third chapter of this document. In the fourth chapter, the method is articulated and finally, results and recommendations are shared in the last chapter.
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CHAPTER 1

INTRODUCTION TO THE STUDY

Background

Business organizations have faced novel challenges since the turn of the century. These challenges include but have not been limited to the effects of globalization, the rise of terrorism, economic uncertainty, geopolitical turbulence, global warming, and aggressive competition (Paté-Cornell, Rouse, & Vest, 2016). Organizations have also experienced rapid technological advancement (Ter Hoeven, van Zoonen & Fonner, 2016). Together, these elements have amplified the impetus of organizations to maximize the return on their capital and human investments (Larson & Luthans, 2006). As organizations grapple with maintaining the most beneficial balance of technological and human capital, the importance of employee engagement has taken center stage (Barros, Costello, Beaman, & Westover, 2015).

According to the seminal author on employee engagement Kahn (1990), employee engagement is the harnessing of the organization members to their work roles, in which they express themselves physically, cognitively, and emotionally during role performance. The physical expression of employee engagement is concerned with the amount of energy exerted by employees as they fulfill their roles. In contrast, the cognitive expression is related to employee perceptions of their working conditions, leadership, and the organization as a whole (Kular et al., 2008). Finally, the emotional aspect of employee engagement is a conglomeration of the negative or positive affect that employees experience, as triggered by various facets of the organization (Kular et al., 2008).
Beyond Kahn’s (1990) depiction of employee engagement, scholars Schaufeli, Bakker, and Salanova (2006) have further refined the concept of employee engagement and defined it as a “work-related state of mind” that is both positive and fulfilling (p. 702). The authors cite vigor, dedication, and absorption as the three components of engagement. The scholars also regard employee engagement as a “more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior” rather than a periodic or moment-by-moment phenomenon (p. 702).

Employee engagement is crucial because it affects the organization’s bottom line and can result in higher levels of customer care, lower levels of employee absenteeism, fewer accidents and incidents on the job, greater levels of employee retention, and it boosts the firm’s overall profitability (Gallup, 2017). In 2000, Gallup estimated that 26 percent of employees in the U.S. were engaged, 18 percent were actively disengaged, and the remaining 56 percent were neither engaged nor disengaged and were labeled “not engaged” (Gallup, 2000). There has been some improvement in the last decade. In 2019, Gallup noted that the rate of engaged workers increased from 26 percent in 2000 to 35 percent in 2019 and the actively disengaged fell from 18 percent to 13 percent (Gallup, 2020). However, engagement levels fell by two percentage points in 2021 (Gallup, 2022).

Engaged employees have been observed to be positive, innovative, and willing to exercise initiative on the job (Chang et al., 2013; Schaufeli et al., 2006). Their efforts on the job result in greater levels of customer care, higher levels of productivity, lower levels of turnover and absenteeism, greater levels of commitment, and overall more significant
revenues for their organizations (Harter, 2020; Koyuncu et al., 2006; Salanova et al., 2005; Xanthopoulou et al., 2009). Thus, with greater levels of technological integration and proliferation in the workplace, competition for the best and brightest of the human stock has become staggering (Kraner, 2019; Larson & Luthans, 2006). As a result, having a supply of engaged employees who accrue measurable benefits to the organization’s bottom line is now considered a competitive advantage (Harter, 2020; Kraner, 2019; Larson & Luthans, 2006).

Although it seems paradoxical that employee engagement is improving as technology increases, the rate at which employee engagement is improving lags significantly behind technological progress. The result of this engagement-technology gap has been that organizations are still grappling with how to adequately engage employees in the face of novel technological applications that vie for the attention and focus of employees (Ter Hoeven et al. 2016). Employees must master psychological resources to navigate their dynamic work environments (Schaufeli, 2013). If employers desire to attract and retain a cadre of employees who would make this psychological investment in their jobs and the organization, then employers must engage the employee’s whole personage—physical, mental, and psychological (Schaufeli, 2013). This remains the engagement challenge of the modern, technologically advanced era (Schaufeli, 2013; Ter Hoeven et al., 2016).

Shuck and Wollard (2010) were concerned that although employee engagement was essential to the Human Resource Development field, it was insufficiently researched. Since then, studies on employee engagement have increased (Kwon & Park, 2019). As a result, it has become apparent that employee engagement can impact an organization’s
profitability and overall success (Hayden, Miura, & Heilmann, 2019; Shuck & Wollard, 2010).

**Context of the Problem**

The modern era has been met with critical advances in personal technology use. These advances include the development of devices such as laptops, tablets, Fitbits, and the smartphone (Bhattacharya & Raghuvanshi, 2019; Duke & Montag, 2017; Yildirim & Correia, 2015). Alongside the boost in technology has been an increase in personal technological dependence, namely the adoption of smartphones for a plethora of uses ranging from one’s morning alarm for waking up to communication via email and text messaging, entertainment via music and movies, web searches for recipes for food preparation, location, and navigation services, as well as relationship facilitation via dating apps and websites (Bhattacharya & Raghuvanshi, 2019; Buckner, Castille & Sheets, 2012; Duke & Montag, 2017).

Technology is now indelibly embedded within organizations as well, through the use of desktop and laptop computers and workplace Internet connectivity (Buckner et al., 2012). Companies rely on technology for online scheduling via apps such as Google calendar and Outlook, routine operations management through specialized computerized business tools, and internal and external communication via emails, Microsoft SharePoint, Yammer, and other communication software (Miller-Merrell, 2012). It is now also common for companies to use Twitter, Facebook, and LinkedIn to interface with prospective job applicants, consumers, and other stakeholders for general and specific messaging, media blasts, and answering questions (Miller-Merrell, 2012).
In some instances, though, company reliance on technology has been linked to adverse employee behaviors as well as unintended organizational consequences (Li & Lin, 2018; Ter Hoeven et al., 2016). Negative implications of increased digitization within organizations include Internet misuse, clogged bandwidth due to misallocation of online connectivity, inappropriate behavior of employees, and illegal acts such as accessing or downloading prohibited or copyrighted information, all of which could expose the organization to legal risk (Buckner et al., 2012).

Technology dependence has also led to adverse consequences on a personal level that include technology addiction, eyesight impairment, loss of privacy, improper use of personal information through the use of cookies, and lowered productivity due to incessant distraction while at work (Bhattacharya & Raghuvanshi, 2019; Duke & Montag, 2017; Li & Lin, 2018). Technological advancement in the workplace has also led to several paradoxes, such as greater flexibility about location and work hours for individuals. However, this has been procured alongside a novel expectation that individual employees be perpetually connected and accessible (Ter Hoeven et al., 2016).

One of the most poignant consequences of personal access to technology, however, has been the recognition that individuals now experience a phobia related to not having access to their smartphone and its related technologies. This phenomenon has been labeled nomophobia (Jackson, 2012; Yildirim & Correia, 2015). Nomophobia manifests itself in various ways, including but not limited to constant checking of one’s phone, irritability or anxiety when the internet connection is lost, feelings of unease when the phone is taken away or unable to be accessed, distraction, and overall preoccupation with the phone when it can be accessed but worse levels of distraction and preoccupation.
when it cannot be utilized (Alavi, 2012; Bian & Leung, 2015; Kwon et al., 2013; Park & Lee, 2014). Thus, nomophobia has caused individuals to need constant Internet connectivity and smartphone access while on the job (Duke & Montag, 2017). This phenomenon, therefore, can impact employee engagement in the workplace.

**Statement of the Problem**

Increased reliance on technology for personal and professional use while on the job has also meant increased distractions in the flow of daily work activities (Bhattacharya & Raghuvanshi, 2019; Duke & Montag, 2017; Li & Lin, 2018), and thus presents ramifications for employee engagement. It is possible that employees who are distracted by their mobile devices or lack of access to their mobile devices may exude behaviors associated with employee disengagement to a greater degree than those who were not invested in the use of mobile technology. Nomophobia, therefore, may contribute to employee disengagement; thus, adequately recognizing and addressing nomophobia might enhance employee engagement.

Research on employee engagement at the organizational level tends to center on business outcomes (Harter, Schmidt & Hayes, 2002); factors that enhance motivation (Truss et al., 2006), and higher performance (Wellins & Concelman, 2004; Mone & London, 2010); developing different strategies to enhance employee engagement (Kerstin Alfes et al., CIPD 2010); and boosting engagement levels (Blessing White, 2008).

At the individual level, which is the employee in his/her everyday working context, or with a focus on the unique behavior of the employee rather than the more considerable organizational impact, scholars have focused on core aspects of engagement
(Schaufeli & Salanova, 2002) and conceptual ambiguity in defining employee engagement (DDI, 2005; Macey, Schneider, Barbera & Young, 2009).

Research regarding the impact of nomophobia on employee engagement is limited. This study presents an opportunity to understand employee engagement at the individual and organizational levels concerning nomophobia in the workplace.

**Definition of Terms**

The following are a set of terms utilized throughout the study. The definitions outline the way that these terms are conceptualized and applied.

**Absorption** – the experience of being entirely and joyfully engrossed in one’s work. As a result, the passage of time seems to occur quickly, and it is difficult to withdraw oneself from the task at hand (Schaufeli et al., 2006).

**Dedication** – deep involvement in one’s work combined with feelings of “significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al. 2006, p. 702).

**Employee Engagement** – “the harnessing of organization members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (Kahn, 1990 p. 694). It requires three components to exist: (i) meaningfulness, (ii) psychological safety, and (iii) psychological availability (Kahn, 1990). A “work-related state of mind” that is both positive and fulfilling (p. 702), comprised of three facets: (i) vigor, (ii) dedication, and (iii) absorption (Schaufeli et al., 2006). A phenomenon opposite in nature to employee burnout (Maslach, Schaufeli & Leiter, 2001).
**Employee disengagement** – “the uncoupling of selves from work roles; in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances” (Kahn, 1990, p. 694).

**Meaningfulness** – The sense of worth that employees derive from working in environments in which they feel as though their contribution makes a difference and in which their value on the job transcends the job itself (Kahn, 1990).

According to Chalofsky (2003), it is also a measure of how employees regard their work based on their propensity to experience integrated wholeness. Integrated wholeness is based on the employee’s (i) sense of self and what they bring to the work; (ii) the work itself, including opportunities for risk, challenge and learning; and (iii) a sense of balance, the ability to bring one’s personal and spiritual self in alignment with the work self and the task at hand (Chalofsky, 2003). Meaningfulness in work is related to positive individual and organizational outcomes such as employee engagement (Chalofsky & Krishna, 2009).

**Nomophobia** – The feelings of uneasiness individuals experience when mobile phone connectivity, battery charge, or proximal closeness to one’s phone has been lost (Jackson, 2012).

**Psychological Availability** – The perception of self-efficacy and empowerment that employees experience when they possess the emotional capacity to get their assigned responsibilities done (Kahn, 1990).

**Psychological Safety** – The feelings that employees derive when they can work devoid of fear or negative consequences regarding their image, position, or career trajectory. In such environments, employees find interpersonal relationships on the job to be positive.
and rewarding (Kahn, 1990); delineated by non-punitive responses to interpersonal risk-taking behavior; and where “candor is allowed and expected” and “asking for help or admitting failure” is par for the course (Edmondson 2018, pg. 15).

Vigor — high levels of energy and mental resilience workers exude while working, the willingness of workers to infuse their work with effort, and persistence despite encountering challenges and difficulties at work (Schaufeli et al., 2006).

Dedication — the experience of accomplishing a sense of purpose through one’s work that makes the employee feel enthused, inspired, proud, and challenged. It occurs when the employee is strongly involved in his/her work.

Absorption — occurs when employees are fully engaged, deeply concentrating, and joyfully engrossed in their jobs. In such a scenario, time seems to pass quickly, and the employee has trouble detaching him/herself from work.

The terms can be easily referenced in the table below.

**Table 1**

*Definition of Terms Easy Reference Table*

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effort, and persistence despite encountering challenges and difficulties at work (Schaufeli et al., 2006).

Dedication
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Absorption
This occurs when employees are fully engaged, deeply concentrating, and joyfully engrossed in their jobs. In such a scenario, time seems to pass quickly, and the employee has trouble detaching him/herself from work.

Research Questions
There are three research questions for this study regarding the impact of nomophobia on employee engagement:

RQ1: What is the prevalence of nomophobia among employees in the workplace?

RQ2: To what extent is there a relationship between nomophobia and employee engagement?

RQ3: How does nomophobia affect employee engagement in the workplace?

Assumptions
The assumptions for this study are as follows: (a) study participants are honest in their responses to the questions posed by the researcher; (b) at least several participants will have experienced low, moderate, and high levels of nomophobia since having a smartphone, while other participants may not have experienced nomophobia at all and as
reflected in their NMP-Q scores; (c) participants would have experienced varying levels of employee engagement which would be reflected in their UWES-9 scores; (d) based on the NMP-Q scores, UWES-9 scores, open-ended survey questions, and interview responses of participants, the researcher was able to discern patterns and relationships that connect the data in novel ways.

**Scope**

The scope of this study is limited to the students of a university in the Midwest of the United States.

**Significance of the Study**

Scholars have recognized that technology affects employees in a myriad of ways when on the job, spanning greater levels of efficiency and speed on the one hand, to unanticipated and paradoxical processes, additional tasks, and distraction on the other (Duke and Montag, 2017; Ter Hoeven et al., 2016). These positive and negative elements can impact employee engagement (Duke and Montag, 2017). This study aims to add to the body of literature concerning employee engagement, specifically from the perspective of the presence and impact of nomophobia among employees.

**Summary**

This dissertation is comprised of four chapters organized to facilitate a comprehensive investigation of the subject. In this chapter, a concise synopsis of the topic has been offered. This chapter also contains the statement of the problem, relevant terms, research questions, assumptions, scope, and significance of the study. In Chapter 2, a review of the literature will be presented. The conceptual framework utilized for the study will be included in this chapter. In Chapter 3, the research methodology will be
articulated. This will consist of a reiteration of the research questions, delineation of the research design, review of the participants, and a description of the method. Specifics regarding data collection and analysis will also be addressed in this chapter. Results and recommendations are shared in Chapter 4.
CHAPTER II

LITERATURE REVIEW

Introduction

Since the 2000s, interest in employee engagement has mushroomed, and recent studies indicate that employee engagement affects both the individual and organizational sphere, namely through motivation, satisfaction, and performance (Barros et al., 2015; Kraner, 2019). Engaged employees are zealous, resourceful, and innovative (Batra, 2016; Borysenko, 2019; Gallup, 2013; Kraner, 2019). The impact of their presence creates energy and synergy that works in tandem with the organization’s mission and objectives (Batra, 2016; Borysenko, 2019; Gallup, 2013).

Engaged employees experience and promote psycho-social well-being on the job through healthy and robust workplace relationships, ongoing career development, increased and improved access to resources, and enhanced and widened communication channels (Barros et al., 2015). In addition, Kraner (2019) contended that engaged employees also enjoy a sense of meaningfulness on the job and benefit, to some degree, from transformational leadership. The Gallup organization agreed with this synopsis based on their findings (Gallup, 2021).

On the other hand, “non-engaged” and disengaged employees behave in ways that ultimately damage the company. Specific examples of “non-engaged” employee behaviors include being on the job without complete focus while also seeking marginally better employment opportunities elsewhere (Harter, 2020). Actively disengaged employee behaviors include passivity and lackluster performance on the job, robotic,
automatic responses to situations, lack of genuineness, and defensive or closed off behaviors (Kahn, 1990).

**Employee Engagement**

The Gallup organization, becoming aware of the impact of employee engagement, began tracking employee engagement in the year 2000 and distinguished engaged workers from those who were “not engaged” and “actively disengaged” (Harter, 2020). This was a significant development because, in a 2017 report on the state of the US workforce, Gallup estimated that engaged employees saved their organizations millions of dollars through a plethora of avenues, including having a 41 percent lower absenteeism rate, 24 percent lower turnover in high-turnover sectors and a 59 percent lower turnover rate in low-turnover segments of the economy. It was also discovered that companies with highly engaged employees also experienced a 28 percent lower shrinkage loss due to waste and mistakes on the job (Gallup, 2017). In addition, higher levels of employee engagement led, on average, to 70 percent fewer employee accidents, 40 percent fewer quality defects, and 10 percent higher customer metrics (Gallup, 2017). Gallup (2017) also found that at the organizational level, employee engagement resulted in a 17 percent increase in productivity, 20 percent higher in sales, and 21 percent increase in profitability.

In 2019, Gallup estimated that actively disengaged employees accounted for 13 percent of the U.S. workforce (Harter, 2020). The remaining 52 percent of the workforce fell into the category described as “not engaged” (Harter, 2020). Employees in the “non-engaged” category are present on the job and put in the requisite time; however, they do so without passion or energy, and they are often scouting better prospects. Such
employees will leave one organization for a slightly better offer at another firm (Harter, 2020).

In 2021 Gallup discovered that employee engagement levels fell by two percentage points in the two-year from 2019 to 2021. Further, their research showed that 70 percent of employees identify as struggling or experience suffering. Additionally, 80 percent of employees were not engaged or were actively disengaged at work in 2021. The Gallup research posits that a lack of employee engagement is rife with consequences, leading to losses in productivity that accrue to nearly 10 percent of GDP each year. This cost equates to US$8.1 trillion lost across the global economy year after year as a result of low employee engagement and employee dis-engagement (Gallup, 2021).

Whereas engaged and “non-engaged” employees do nothing to deliberately harm the organization, actively disengaged employees are indifferent on the job and dislike many aspects of their roles within the organization (Batra, 2016; Borysenko, 2019; Gallup, 2013, Gallup, 2021). A 2013 Gallup report indicated that 68.5 percent of employees admitted to being “non-engaged” or actively disengaged within their organizations, leading to annual organizational losses in revenue to the tune of $450 and $550 billion (Gallup, 2013). These metrics have worsened over the past eight years (Gallup, 2021).

Employee disengagement amounts to a loss of roughly 34 percent of an employee’s annual salary due to detachment on the job (Gallup, 2017). In terms of total organizational losses, a medium-sized company with 250 employees, paying average wages of $47,000 annually per employee, for example, will accrue a staggering $3,164,040 loss in productivity and other losses due to disengagement (Borysenko,
The costs, therefore, of employee disengagement are varied and significant (Borysenko, 2019). Personal technology use and non-work-related technology use may further aggravate employee distraction and disengagement levels to the organization’s detriment (Duke and Montag, 2017; Ter Hoeven et al., 2016).

**Employee Engagement Models**

Employee engagement models have evolved in the last three decades. Beginning with Kahn’s (1990) ideas based on role performance, employee engagement began to be conceptualized in relation to burnout (Maslach et al., 2001). Specifically, Maslach et al. (2001) cited six areas of work-life that, if perceived negatively by the employee, determined burnout; or, if perceived positively by the employee, led to employee engagement. These six areas are employee workload, control, rewards and recognition, community and social support, fairness, and values as perceived by the employee. Later, Schaufeli and Bakker (2004) developed another employee engagement model based on employees’ mental state. The most widely referenced employee engagement models to date, however, are the Kahn (1990) and Schaufeli and Bakker (2004) models. Both of these models are explained in greater detail hereafter.

**Kahn’s Model of Employee Engagement**

Kahn (1990) was one of the first scholars to articulate a definition of employee engagement. The scholar posited that “engagement is the simultaneous employment and expression of a person’s ‘preferred self’ in task behaviors that promote connections to work and to others, personal presence, (physical, cognitive, and emotional) and active, full role performances” (p. 700). In two qualitative studies of summer camp counselors and members of an architecture firm, Kahn (1990) explored the working conditions that
caused employees to “express and employ their personal selves”–engagement, or “withdraw and defend their personal selves”–disengagement (p. 692).


In contrast, personal disengagement was described as the “simultaneous withdrawal and defense of a person's preferred self in behaviors that promote a lack of connections, physical, cognitive, and emotional absence, and passive, incomplete role performances” (Kahn 1990, p.701). Disengagement involved the removal of one’s personal, internal energies from the “physical, cognitive, and emotional” work that one is assigned. This type of employee stance lent itself to behavior that could be deemed “automatic or robotic,” “burned out,” “apathetic,” “detached,” or simply lacking effort (Kahn 1990, p.701). Disengaged employees were found to mask their genuine “identity, thoughts, and feelings” while performing their roles on the job as a means of protecting themselves (Kahn 1990, p.701). These employees come across as being “defensive,” “impersonal,” “emotionally unexpressive,” “bureaucratic,” “self-estranged,” or “closed” (Kahn 1990, p.701).
Kahn’s (1990) employee engagement model suggests three psychological states that employees navigate to express their ‘preferred self’ and thereby derive feelings of engagement. These antecedents of engagement are (i) meaningfulness, (ii) safety, and (iii) availability.

**Meaningfulness.** Kahn (1990) explained that employees derive a greater sense of meaningfulness on the job when they can add to the environment. These employees believe that their contribution makes a difference on the job, and they experience a sense of worth and value that transcends the job itself (Kahn, 1990). Their tasks, roles, and interactions also boost their sense of wellbeing and esteem (Kahn, 1990).

Task characteristics that improve meaningfulness include work that is challenging and clearly defined. Employees also require that they be allowed some measure of autonomy in the performance of these tasks for feelings of meaningfulness to be derived (Kahn, 1990). Role characteristics that boost meaningfulness include those that relay a positive self-image to employees, as they are formal positions that connote a sense of status (Kahn, 1990). Finally, work interactions that bolster meaningfulness are those workplace interactions in which employees feel valued and included, respected, and dignified (Kahn, 1990).

Chalofsky (2003) explained that meaningfulness was also derived from the interaction of three critical elements, namely: (i) the employee’s sense of self, (ii) the work itself, and (iii) the employee’s sense of balance. According to Chalofsky (2003), a sense of self was linked to having a positive sense of purpose and understanding how work fits into one’s purpose. Sense of self was also determined by the employee’s ability to bring their whole self to work in tandem with the employee’s capability to recognize
and develop his/her potential (Chalofsky, 2003). On the other hand, performance, creativity, challenge, autonomy, and empowerment through one’s ability to fulfill one’s purpose through work comprised elements of the work itself in Chalofsky’s (2003) model. Finally, a sense of balance was described as being a balance of the work and personal self, alongside balance with the work and spiritual self, culminating with one’s ability to balance giving to oneself and giving to others (Chalofsky, 2003).

**Safety.** Kahn (1990) also identified psychological safety as another facet of the employee engagement model. Kahn (1990) defined psychological safety as being able to “show and employ one’s self without fear of negative consequences to self-image, status, or career” (p. 708). According to Kahn (1990), psychologically safe working environments commonly feature interpersonal relationships that are positive and rewarding. Group dynamism is also prevalent in such organizations, and the management focus and ethos reflect a sense of balance and fairness, thus boosting psychological safety (Kahn, 1990).

Edmondson (1999) agreed with Kahn but went further to identify antecedents of psychological safety, paying attention to the conditions under which teams were structured and how they did their work. Team structures that included support and mentoring bolstered team beliefs concerning team safety and efficacy. These beliefs, in turn, affected team behaviors such as seeking feedback, discussing errors, and interactions with customers. Edmondson (2018) also posited that organizational culture was at the epicenter of psychological safety, with fear serving as the most inhibiting factor that stifled organizational creativity and innovation.
Availability. Kahn (1990) described psychological availability as having the emotional capacity to get one’s job done. Employees felt engaged when they perceived themselves as possessing the physical, emotional, and psychological resources to adequately fulfill their roles and perform required tasks. For employees to experience psychological availability, they need to feel empowered to tackle the various demands of the job at hand (Kahn, 1990). An employee’s levels of energy, confidence, self-efficacy, skill-level, overall knowledge, and general abilities play a role in determining that individual’s level of availability. Personal and non-work-related life pressures also impact the degree to which employees feel psychologically available (Kahn, 1990).

Schaufeli and Bakker’s Model of Employee Engagement

Schaufeli and Bakker (2004) posit that engagement on the job is specifically work-related rather than incorporating other factors such as leadership and other factors that may affect the employee within the organization. Additionally, the model was fashioned as part of the body of anti-burnout literature. The assertion is that employees who have experienced burnout also experience low levels of engagement, and individuals who experience high levels of engagement are less likely to experience burnout. Thus, the authors view work engagement as being negatively related to burnout.

The authors define engagement as a “persistent and pervasive affective–cognitive state that is not focused on any particular object, event, individual, or behavior” (p. 295). This definition of employee engagement highlights the employee’s state of mind. The scholars posit that at any point in time, the employee’s state of mind regarding work consists of vigor, dedication, and absorption (Schaufeli & Bakker, 2004).
Vigor can be delineated as the employee possessing “high levels of energy” for the fulfillment of the work, as well as endurance and “mental resilience while working,” despite work-related difficulties (Schaufeli & Bakker 2004, p. 295). Dedication, however, is apparent when employees experience motivating and challenging work that enhances their pride and levels of commitment (Schaufeli & Bakker, 2004). Dedication fuels feelings of “significance, enthusiasm, inspiration, pride, and challenge” (p. 295).

Absorption requires immersion in the role being fulfilled on the job, to the degree that the work role is arguably inseparable from the employee’s identity. It occurs when employees are “fully concentrated and happily engrossed” in their work to such a degree that “time passes quickly,” and the employees experience “difficulties” in “detaching” themselves from the task at hand (p. 295).

The idea of complete absorption on the job closely resembles Csikszentmihalyi’s (1990) definition of ‘flow.’ Flow is a working condition characterized by mental clarity, focused attention, the union of mental and bodily faculties. This state of employee consciousness can also be recognized when employees exude undiluted concentration, absolute control, lack of self-consciousness, misappropriation of time, and enjoyment of the task at hand for its intrinsic value (Csikszentmihalyi, 1990).

Work engagement, according to the authors, is operationalized using the Utrecht Work Engagement Scale (UWES). The UWES is a self-report instrument that is based on the three factors of engagement, namely: (a) vigor, (b) dedication, and (c) absorption. Confirmatory factor analyses have deemed the instrument to be robust.

Schaufeli and Bakker (2004) also distinguish between job resources and job demands. Whereas job demands are the things that require attention, must be done, and
could be a source of stress, job resources are the elements of the job that reduce job demands, help accomplish work goals and promote the personal growth and development of the employee. In their model, the authors link job demands to burnout and health complications on the one hand and job resources with engagement and organizational outcomes on the other.

**Employee Engagement Ideas in the past Decade**

Echoing the sentiments of Kahn (1990, 1992) about intrinsic motivation as an outcome of employee engagement, Bhuvanaiah and Raya (2014) conceptualized employee engagement as “energy utilized in accomplishing purpose” (p. 61). The scholars proposed that employees feel energized to work due to the intrinsic motivation derived from engagement. Bhuvanaiah and Raya (2014) also point to the importance of the “emotional, psychological investment of the employee and the right kind of role provided” to the employee (p. 61). These concepts mirror Kahn’s (1990, 1992) postulations regarding psychological safety and availability.

MacLeod and Clarke (2010), in their report on employee engagement to the British government, also echoed strains of Kahn’s employee engagement ideas. The authors discovered that engagement caused employees to be the best they can be at work, but only if respect, involvement, listening, robust leadership, and employee value were part of the organizational culture. The authors posited that engagement consisted of attitude, behavior, and outcomes. Attitudes were described as the employees’ pride and loyalty towards the job and the employer. Behavior was consistent with employees acting above and beyond the point of duty regarding tasks. Outcomes such as boosts in productivity and innovation, reduction in conflicts, accidents, absenteeism, and attrition
levels were evident due to employee engagement. Trust and respect, alongside emotional commitment, were also highlighted in the report as imperative for engagement to exist.

Yoerger, Crowe, and Allen (2015) highlighted the importance of employee voice to the employee engagement discussion. The authors studied the impact of employee engagement on meeting participation. They posited that allowing the employees to express “ideas, feelings, and opinions” caused them to engage more fully (p. 3). The authors subscribed to both the Kahn (1990) and Schufeli and Bakker (2004) employee engagement models.

For this study, a sample of 297 participants completed an online instrument regarding their level of employee engagement, the frequency with which meetings were held on the job, and their perceptions of supervisory support (Yoerger et al., 2015). The researchers discovered that when meetings allowed for participation in decision making, this was related to higher levels of employee engagement, and the level of employee engagement was further mitigated by the frequency of these meetings and the level of perceived supervisory support employees received after making their input in these meetings (Yoerger et al., 2015).

Finally, Officevibe an online, employee engagement platform that assists companies in improving their management and leadership functions, produced a global employee engagement report that incorporated data from 2016 to the present (Officevibe, 2020). The data, gathered from 157 countries, has been continuously updated in real-time and reflects the latest trends in employee engagement metrics worldwide (Officevibe, 2020). The Officevibe team reported that recognition through praise and meaningful feedback was necessary for developing healthy employee engagement
(Officevibe, 2016); so, too, were personal growth opportunities that incorporated autonomy, mastery, and purpose. Similarly, it was discovered that personal alignment with the organization’s core values, mission, and vision was also imperative for employees to feel engaged. Yet, only 25 percent of employees were even aware of what the organization’s mission and vision were. Clear goals, work-life balance, personal connection, and transparent communication were deemed the final pillars determining the state of employee engagement in modern organizations.

**Two Engagement Models Put Together**

Although numerous employee engagement models have been developed, the two most widely used definitions of the topic remain related to the tenets underscored by Kahn and Schaufeli et al. (2002, 2006). Based on the postulations of these theorists, employee engagement is a construct that is comprised of the following six facets: meaningfulness, psychological safety, psychological availability, vigor, dedication, and absorption.

Whereas Kahn identified the undergirding tenets of engagement at the organizational level, Schaufeli et al. (2006) identified employee behavior and attitudes that could be observed and measured at the employee/personal level. Together, these elements could work in tandem to provide deeper insight regarding the levels of engagement that may exist among employees as delineated by vigor, dedication, and absorption (Schaufeli et al., 2006) and further provide an explanation of why this is so based on the meaningfulness, psychological safety and psychological availability (Kahn, 1990) experienced by employees. These six elements that make up employee engagement
working in tandem to measure, then explain employee engagement levels, can be expressed diagrammatically as in Figure 1.

**Figure 1**

*Diagrammatic representation of the six elements of engagement.*

*Note.* When put together, this figure demonstrates what the two employee engagement models under consideration could look like. The pointed grey petals have been used to depict employee engagement being measured using vigor, dedication, and absorption as prescribed by the Schaufeli et al. (2006) model. Beneath this layer of measurement, rounded blue petals depict the reasons that may account for the levels of engagement recorded based on meaningfulness, psychological safety, and psychological availability as described in Kahn’s (1990) employee engagement model. Together the figure layers both conceptual models in a manner that uses one to explain the other.

**Online Connectivity**

Employee engagement, therefore, has much to do with the mental state of the employee while at work and the resultant behaviors, attitudes, and quality of work that
the employee produces. Although engagement levels are increasing alongside technological advancement, the speed at which technology is advancing far outpaces any improvement in engagement levels. Further, the introduction of technology to the workplace places a novel type of demand on the mental capabilities of employees (Buckner et al., 2012).

According to Schaufeli (2013), the demands of the modern workplace— including but not limited to navigating organizational change, diversity, teamwork, networking, and resilience—tax the physical, mental and psychological faculties of employees; Therefore, employees need “psychological capabilities” and a willingness to invest in their job psychologically to be successful. (p. 3). Similarly, organizations need to engage body, mind, and soul, the total personage of the employee, to ensure organizational survival. This has produced a type of psychologization of the workplace in a way that never existed before.

The personal use of smart devices and online connectivity adds an additional layer of technology now vying for the psychological resources of employees while they are on the job (Li & Lin, 2018; Ter Hoeven et al., 2016). The challenge of organizations and their employees to foster and maintain adequate levels of engagement in the face of aggressive technological advancement has never been greater or more imperative (Schaufeli, 2013). A brief overview of the development and implications of online connectivity and its relation to nomophobia and employee engagement are discussed in the following sections.

The personal use of social media and the Internet via mobile devices has surged in recent years (Serrano et al., 2017). In 2000, 48 percent of the US population did not use
the Internet (Anderson, Perrin, Jiang & Kumar, 2019). In 2019, however, less than 10 percent of the populace fell into that category (Anderson et al., 2019).

The percentage of the US population accessing the Internet via cellular networks also increased from 6.7 percent in 2008 to 59.7 percent in 2014 (Serrano et al., 2017). Whereas 90 percent of young adults in the U.S. access social media sites such as Twitter, Google+, Instagram, Tumblr, Snapchat, and Vine at least once a day (Lin et al., 2020), 27 percent of the population aged 65 and over still do not access the Internet (Anderson et al., 2019). In 2000, however, 86 percent of this older U.S. segment of the population did not go online (Anderson et al., 2019).

**The Smartphone Cognitive Cost**

The advent of the smartphone has transformed online connectivity from an event or an activity that occurred when one dialed up to a new type of connection that is constant and ongoing. Constant connectivity to the internet is the new reality of life. The advancement has come at a cost. The literature suggests that employee engagement is adversely affected by the vagaries of mobile phone use (Ward et al., 2017). These costs include, for example, the distraction triggered by notifications of missed calls or text messages (Stothart, Mitchum, & Yehnert, 2015). Similarly, Isikman, MacInnis, Ülkümen, and Cavanaugh (2016) demonstrated that separation from one’s ringing phone resulted in lower levels of absorption and dedication. Further, Clayton, Leshner, and Almond (2015) discovered that an individual who was unwillingly separated from his/her ringing mobile phone resulted in an increase in the individual’s heart rate and heightened levels of anxiety, alongside a corresponding reduction in cognitive performance. Scholars (Thornton, Faires, Robbins & Rollins, 2014; Ward et al., 2017) have also discovered that
even when a mobile phone is not ringing, buzzing, or being used in any manner, its mere presence still results in the diminished performance of tasks.

**Nomophobia**

Tech addiction is a complex and multifaceted phenomenon. It can be defined as the repeated, compulsive engagement of an individual in one or more technology-related experiences, resulting in an addiction to the feeling brought about by the relevant action (Alavi, Ferdosi, Jannatifard, Eslami, Alaghemandan, & Setare, 2012; Marvin, 2018). Thus, technology addiction, and in particular, smartphone addiction, has been labeled an impulse or behavioral disorder—somewhat akin to gambling—because it occurs without the use of an intoxicating substance such as drugs or alcohol (Alavi et al., 2012; Park & Lee, 2014; Young, 2004). Tech addiction has also been loosely referred to as Internet addiction, a compound term for online, gaming, texting, and social media addiction (Buckner et al., 2012; Duke & Montag, 2017).

Gazzaley and Rosen (2016) define tech addiction as doing an activity using technology that elicits the release of more dopamine and serotonin from the brain and other organs to create pleasurable feelings (Gazzaley & Rosen, 2016). The researchers point out that tech addiction and tech obsession are two different things (Gazzaley & Rosen, 2016; Rosen et al., 2013). Tech obsession occurs when anxiety causes the brain and other organs to release adrenaline and cortisol, making one feel uncomfortable when not having access to technology (Gazzaley & Rosen, 2016). That is, to alleviate the discomfort being experienced, one chooses to engage in a particular activity, such as surfing the Internet obsessively on one’s smartphone (Gazzaley & Rosen, 2016; Rosen et al., 2013). Based on these descriptions, although we commonly refer to technology
overuse as addiction, in many cases, especially in the case of smartphones, the unease expressed by users may be more descriptive of an obsession rather than an addiction (Rosen et al., 2013).

For example, Rosen et al. (2013) recruited participants aged 18 to 65 years \( (n = 1143, \, M = 30.74, \, SD = 12.34) \) to participate in their anonymous study entitled “Media/Technology Use and Feelings.” There were 460 male and 683 female participants. The researchers gathered information related to (i) participant symptoms of psychological disorders; (ii) participant technology and media use per day; (iii) participant technology-related attitudes; and (iv) levels of participant technology-related anxiety (Rosen et al., 2013). Demographic data were also gathered. Facebook usage, in particular, was refined into a four-factor structure covering: general use, impression management use, friendship, and social uses. The use of Facebook for general use, impression management, and friendship purposes were found to be predictors of various negative and positive aspects of psychological health (Rosen et al., 2013).

Yildirim and Correia (2015) have studied how smartphone addiction, or more accurately, obsession–based on the clarifications of Rosen et al. (2013)–leads to anxiety when individuals are separated from their devices. The feelings of angst have been labeled nomophobia– derived from “no mobile phobia.” The term was coined by YouGov, a UK research company, in a 2008 study commissioned by the UK Post Office (Jackson, 2012). The researchers discovered that 53 percent of British mobile phone users were uneasy when they lost connectivity or battery charge or were just away from their phones (Jackson, 2012). Although addiction and obsession are specific terms, for this study, the term ‘nomophobia’ will be adopted to refer widely to all aspects of smartphone
addiction, technology addiction, and technology obsession, as combined technologies cause these phenomena to occur concurrently (Alavi et al., 2012; Chin & Leung, 2018).

Symptoms of nomophobia include the compulsive checking of one’s device throughout the day, accompanied by feelings of anxiety if separated from the phone or unable to use it for some reason (Bian & Leung, 2015). It is also characterized by negative pathological and physiological behaviors evidenced by smartphone preoccupation when performing tasks on the job and lack of control related to the use of the device (Alavi, 2012; Bian & Leung, 2015; Kwon et al. 2013; Park & Lee, 2014).

Simply put, nomophobia can be regarded as “the fear of being unable to communicate through the mobile phone” (González-Cabrera et al., 2017, p. 138). It is a social or situational phobia related to agoraphobia (Bragazzi & Del Puente, 2014; González-Cabrera et al., 2017; King, Valenca & Nardi, 2010), which is a marked fear or anxiety of using public transport, entering open or enclosed places, being in a crowd, standing in line, or leaving one's home (DSM-5; American Psychiatric Association, 2013). It also includes the fear of being unable to access and receive health or emergency assistance if needed (González-Cabrera et al., 2017; King, Valenca & Nardi, 2010). In essence, although it is not yet listed, nomophobia meets the requirements of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) regarding specific phobias (Bragazzi & Del Puente, 2014). This is because, in cases of nomophobia, individuals experience acute fear or anxiety when their mobile phones are inaccessible (Bragazzi & Del Puente, 2014; King, Valenca & Nardi, 2010; Lin, Griffiths & Pakpour, 2018).
Much research is focused on nomophobia in general, although the varied facets have been labeled differently (Alavi et al., 2012; Bian & Leung, 2015; Kwon, Lee, Won, Park, Min, et al., 2013; Park & Lee, 2014). Two popular examples of different labels attached to nomophobia are compulsive texting (Lister-Landman, Domoff, & Dubow, 2017) and smartphone addiction (Kwon et al., 2013). Other commonly used labels include mobile phone addiction, tech addiction, and the fear of missing out.

**Link Between Employee Engagement and Nomophobia**

As described earlier, employee engagement has been critical to organizations (Gallup, 2017). Numerous elements such as meaningfulness (Kahn, 1990; Kraner, 2019) and vigor (Schaufeli & Bakker, 2004) serve to boost employee engagement, while other elements such as a lack of alignment of personal and corporate values (Officevibe, 2016) serve to erode employee engagement. In the last decade, dependence on technology and mobile devices has been a novel phenomenon that should be studied in the context of employee engagement to assess its impact. Whereas studies have addressed employee engagement in other contexts, few studies have been dedicated to investigating the effect that nomophobia may have on this critical element of organizational life.

In the workplace, Duke and Montag (2017) found that employees used smartphones intermittently (every 18 minutes) to check social and leisure pursuits. It was also discovered that employees used smartphones periodically to escape organizational stressors (Duke & Montag, 2017). Given the impact that employee engagement or disengagement can have on organizations, narrowing in specifically on the effects of nomophobia regarding employee engagement may be informative for organizations.

**Summary**
This study, sought to unearth the relationship between nomophobia and employee engagement. Although research has been done on nomophobia and employee engagement independently, there remains a need to explore the context in which these two elements intersect. The study is presented to document and clarify the nuances of this relationship by addressing the three research questions (i) What is the prevalence of nomophobia among employees in the workplace? (ii) To what degree is there a relationship between nomophobia and employee engagement? and (ii) How does nomophobia affect employee engagement in the workplace? The study is aimed at the discovery of new data beyond Kahn’s (1990) seminal insights and Schaufeli and Bakker’s (2004) projections on employee engagement. The study is focused on delineating how employees perceive their levels of engagement to be affected by nomophobia. Yildirim and Correia’s (2015) assertions regarding nomophobia will also form an integral part of the study.
CHAPTER III

METHODLOGY AND DESIGN

Introduction

The conceptual framework for this study is grounded in the ideas posited by Kahn (1990) and Schaufeli et al. (2002) on employee engagement. Kahn’s (1990) ideas are generally that employees express themselves physically, cognitively, and emotionally as they perform their assigned roles on the job and that the following are needed for the existence of employee engagement: (i) meaningfulness, (ii) psychological safety, and (iii) psychological availability (Kahn, 1990). Kahn (1990), the seminal author on employee engagement, does not suggest a measurement for physical, cognitive, and emotional expression but describes how employees behave when the antecedents of employee engagement are present.

Conversely, Schaufeli et al. (2002) assert that employees become engaged in their work through the exertion of vigor, expressions of dedication, and realizing absorption while on the job. These authors developed an instrument to measure employee engagement using these bases, which they explain. The theorists do not, however, identify underlying causes for the existence of engagement, apart from engagement being the antipode of burnout. The instrument developed by Schaufeli et al. (2002), the Utrecht Work Engagement Scale (UWES) and its later iterations that consisted of 17 items in the UWES-17 (Schaufeli & Bakker, 2004), then nine items in the UWES-9 (Schaufeli et al., 2006) are widely used academic measures of employee engagement.

This study is aimed at discovering the effect of nomophobia on employee engagement and further demarcating how employees perceive its effect. Yildirim and
Correia (2015) posit that nomophobia is a phobia related to (1) the inability to communicate, (2) losing connectedness, (3) failure to access information, and (4) giving up convenience.

**Research Design**

I used a two-phased explanatory mixed methods design for the study, which allowed the data gathered in the first phase to inform the development of the second phase of the investigation. More specifically, I used the participant-selection variant of this method, which allows for a greater emphasis to be placed on the qualitative component of the study (Creswell & Plano Clark, 2017). Moreover, the initial phase of the investigation serves as a participant screening tool. It is used when the researcher needs the quantitative phase to identify and purposefully select the best sample for the qualitative phase of the study (Creswell & Plano Clark, 2017).

A diagrammatic representation of the two-phased explanatory sequential design is presented in Figure 2. In the initial quantitative phase, a survey was administered to the participants. The survey was used to gauge the degree to which participants experience nomophobia, which involves a phobia related to losing access to their mobile devices and associated technologies (Yildirim & Correia, 2015). The survey also gauged participants’ level of employee engagement via the three dimensions of vigor, dedication, and absorption (Schaufeli et al., 2002) using questions from the UWES-9. In the second qualitative phase of the study, only participants who experienced severe levels of nomophobia were asked to participate in the interview process. Participants who experienced mild and moderate levels of nomophobia or did not experience the phenomenon were excluded from the qualitative phase of the study.
Figure 2

Diagrammatic representation of the research process

RESEARCH DESIGN

**PHASE 1 DATA COLLECTION**
Questionnaire (NMP-Q + UWES-9 + Demographics + Open Entered Questions)

Preliminary Data Analysis
Descriptive Stats / Elements of Interest

**PHASE 2 DATA COLLECTION**
Narrative Prompts

Preliminary Data Analysis
Narrative Analysis (Bruner 1990) / Framework Model (Ritchie & Spencer 1994)

**PHASE 1 + PHASE 2 DATA ANALYSIS**
Inductive & Iterative Process

**FURTHER CONCEPTUAL ANALYSIS**

*Note.* This figure explains the research process showing all elements of the study process. Until the data from the first phase of the study was gathered and analyzed, it was impossible to state with finality what all the interview questions would have been. Thus, a semi-structured interview format was apt since the quantitative survey findings and participant responses informed the rest of these questions. My expectation, however, was that the analysis of the survey data would raise questions related to participants’ experiences with nomophobia and its impact on their level of work engagement based on their UWES-9 and NMP-Q scores. The NMP-Q scores would help answer the research question: (i) What is the prevalence of nomophobia among employees in the workplace?

Establishing whether there was a relationship between nomophobia and employee engagement was an essential part of this study. To ascertain this, the NMP-Q and UWES-9 scores were utilized. The Chi-square test of independence was used to determine the degree of association between these two variables. A small test statistic
would have indicated a relationship, while a large test statistic would have indicated no relationship between the two variables. This answered the research question (ii) to what extent is there a relationship between nomophobia and employee engagement?

I was also interested in discovering participants’ feelings and experiences when granted or denied access to their mobile phones on the job. These feelings may have been linked to participants’ feelings of meaningfulness, psychological safety, and psychological availability. Based on this information, I formulated possible interview questions. The probable interview questions are detailed in Appendix D. By delineating participants’ feelings of meaningfulness, psychological safety, and psychological availability; the interview questions helped answer the research question (iii) How does nomophobia affect employee engagement?

The following table stipulates how the research questions drive the data collection and corresponding data analysis for the study.

Table 2

Research, Data & Analysis

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<th>Research Questions</th>
<th>Variables</th>
<th>Analysis</th>
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<td>What is the prevalence of nomophobia among employees in the workplace?</td>
<td>NMP-Q scores</td>
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<td>To what extent is there a relationship</td>
<td>NMP-Q and UWES-9 scores</td>
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between nomophobia and employee engagement?

| QUAL | How does nomophobia affect employee engagement in the workplace? | Open-ended survey questions, Interviews | Content Analysis of a priori and emergent themes, Content Analysis of a priori and emergent themes |

Conceptually, the study is based on the idea that employee engagement may be affected by nomophobia because the underlying elements of employee engagement: meaningfulness, psychological safety, psychological availability, may suffer if individuals experience the underlying facets of nomophobia. These facets are: (a) being unable to communicate, (b) losing connectedness, (c) being unable to access information, and (d) inconvenience. As a consequence of this conceptual idea, employees with nomophobia may display lower levels of vigor, dedication, and absorption. The participants’ interview responses indicated which of the four elements of nomophobia affected employee engagement and in what way(s).

For example, one of the antecedents of meaningfulness is work interactions (Kahn, 1990). It is probable that employees who experience severe nomophobia may also experience strained work interactions because they may be agitated or distracted when they are without their phone on the job (Bhattacharya, Bashar, Srivastava & Singh, 2019). Similarly, an antecedent of psychological availability is what is happening in the employees’ lives outside of work (Kahn, 1990). It is probable that employees who experience severe nomophobia coupled with challenges, trauma, or problems in their outside lives also experience lower levels of psychological availability while at work because the affairs of their private lives consume their emotional energy (Schaufeli, 2013; Wang & Suh, 2018). Finally, it is possible that employees who experience severe
nomophobia may also experience challenges when working with others because of the aforementioned scenarios (Schaufeli, 2013). Thus, the employee’s ability to function in groups and the employee’s interpersonal relationships are negatively affected.

Both interpersonal relationships and group dynamics are part of the framework that determines the psychological safety that employees experience. Based on these examples, it is probable that severely nomophobic employees, therefore, experience lower levels of meaningfulness, psychological availability and psychological safety in the workplace. It was hoped that the interview process would help the researcher capture precisely how this lived experience is perceived from the employees’ point of view.

**Philosophical Paradigm**

Two methods of inquiry were used for the study, namely a quantitative survey with open-ended questions followed by semi-structured interviews. I used phenomenological inquiry to understand how employees perceived their levels of engagement given their degree of nomophobia. Phenomenology as a research philosophy and methodology allows researchers the opportunity of “looking at what we usually look through” (Sokolowski, 2000, p. 12). Rather than elucidating constructs that have been formally agreed upon, phenomenology touts the explication of participants’ lived experiences through emergent themes (Groenewald, 2004).

Elliott (2018) defined emergent codes as “specific words from participants’ voices,” or concepts which the researcher has “been sensitized to in the process of reading the literature in preparation” for the project (p. 2855). Emergent codes were highlighted as the researcher read through the open-ended questions and the interview transcripts for thematic clustering. Phenomenologists also recognized that they were co-
constructors of the phenomenon under consideration, as the researcher is beholden to a specific set of pre-suppositions before the research process begins and during the observation of the phenomenon under consideration (Groenewald, 2004; Hammersley, 2000; Mouton & Marais, 1990).

I embraced the perspective of Romm (2013), who contended that “questionnaires can be employed within a qualitative-constructivist outlook, where alternative standards for rendering researchers accountable are invoked” (p. 665). Thus, the researcher maintained a social constructionist stance—a qualitative perspective, which conditioned that a phenomenon retained its “essence” via “interpersonal” and “intersubjective” characterization—attributed to the phenomenon—“by people interacting in a network of relationships” (Patton 2015, p. 121). A foundational tenet of this stance is that an individual or group’s awareness of reality governs the significance the individual or group will encounter (Patton, 2015). Social constructionists contemplate “multiple realities constructed by different groups of people” and the “implications of these constructions to their lives, interactions,” certainty, shared values, and accord (Patton 2015, p. 121-122). This stance is compatible with phenomenology.

Researchers have contended that the combination of quantitative and qualitative perspectives presents epistemological contradiction because of the different assumptions regarding the nature of truth (Guba & Lincoln 1982, Lincoln & Guba 2000; Small 2011). The aim of the study, however, is to glean how participants understand and construct their reality in terms of their mobile phone use on the job. Thus, the constructivist epistemological stance and the phenomenological paradigm and methodology are appropriate.
Participants

The participants were all voluntary. They were students at a university in the Midwest United States. Participants were recruited via university email. An email with the survey link with a brief letter of solicitation was sent to each student age 18 and older, who was eligible to receive surveys according to the tenets of the Institution’s Research and Effectiveness Office guidelines.

Sample Size

The determination of sample type and the sample size is important for any robust investigation (Sullivan & Feinn, 2012). For this study, the sample size was determined by calculation and heuristics. To calculate the appropriate sample size needed for Phase 1 of this study, the heuristic level of difference deemed noteworthy for scholarly purposes—denoted by a 5 percent margin of error was applied (Sullivan & Feinn, 2012).

The target organization is a University in the Midwest of the United States. Participants were obtained in accordance with the requirements of the University’s Institutional Research Board and Office of Institutional Research and Effectiveness. According to the Raosoft sample size calculator, the resulting sample size was 374 participants, for a 95 percent confidence level, a response distribution of 50 percent, and based on a population of 13742 students at the target organization. Thus, for Phase 1 of the study, the researcher aimed to recruit 400 participants to meet the minimum of 374 Phase 1 participants.

Student participants were recruited through the Institutional Research and Effectiveness Office process. This process involved detailing the sample criteria and providing a copy of the study’s approval or exemption from the Institutional Review
Board to the Institutional Research and Effectiveness Office. Once this information was received and approved by the Institutional Research and Effectiveness Office, they released the data (student names and email addresses) requested for the sample.

A convenience sample was utilized for Phase 1 of this study because of the ease with which data could be collected from such a sample, as well as the relative cost and time benefits such a sample provided. Whereas qualitative studies have proliferated smaller samples from eight to 20 participants, mixed-method studies demand broader participant samples to allow for robust statistical analyses (Castro et al. 2010; Gelo et al., 2008; Yoshikawa et al., 2008), a sample of 400 for Phase 1 of the study mitigates this concern.

I used a purposive, critical case sample for Phase 2 of the study (Creswell & Plano Clark, 2017; Onwuegbuzie & Collins, 2007). Critical case sampling is a method that allows the researcher to collect only the samples that will provide the information that is being sought. These cases are particularly interesting, provide vital information, or are important in some way (Strewig & Stead, 2001). For this study, the critical cases were those participants who are severely nomophobic (scored higher than 99 on the NMP-Q) and have mild, moderate, or high levels of employee engagement, resulting in three groups. The sample size of the qualitative phase of the study was operationalized by the number of participants who meet the screening criteria after completion of Phase 1 of the study. Sampling continued until a saturation point was reached (Castro et al., 2010; Groenewald, 2004).

The challenge, however, has traditionally been in researchers’ definition of saturation—the point at which nothing new is introduced (Castro et al., 2010; Groenewald,
For this reason, the researcher aimed to interview 12 participants in each of the three groups in the hope that these would be sufficient responses for the saturation point to be reached (Groenewald, 2004). The researcher aimed for a minimum of 12 interview responses for each group because the minimum heuristic threshold for phenomenological research is 10 in-depth interviews (Creswell, 1998; Onwuegbuzie & Collins, 2007).

Nomophobia Assessment Instruments

Numerous instruments have been developed to measure nomophobia, such as the Compulsive Texting Scale (Lister-Landman, Domoff, & Dubow, 2017), the Nomophobia Questionnaire (Yildirim & Correia, 2015), and the Smartphone Addiction Scale (Kwon et al., 2013).

The Compulsive Texting Scale (Lister-Landman, Domoff, & Dubow, 2017), for example, was drawn from a sample of 403 students from grade 8 \( (n = 211) \) and grade 11 \( (n = 192) \). The study indicated that compulsive texting was positively related to students’ texting frequency. In contrast, compulsive texting was negatively related to students’ acquiring good grades, healthy social behavior such as school bonding, and perceived academic competence. Negative significant relationships between compulsive texting and academic performance did not occur for male students, only for female participants. Understanding the impact of nomophobia on youth can be informative since these students will represent a significant proportion of the working population in the coming years.

Alternatively, the Smartphone Addiction Scale (Kwon et al., 2013) provided results based on surveys from 197 participants–64 male and 133 female. There were no recorded differences in the Smartphone Addiction Scale (SAS) scores of males and
females (Kwon et al., 2013). Instead, significant differences were found based on the participants’ jobs, level of education, and self-reported levels of smartphone addiction (Kwon et al., 2013). Participants with higher levels of education (graduate degrees) reported lower SAS scores compared to those with only a high school education. Also, students and individuals who agreed that they had a smartphone addiction reported higher SAS scores than participants with professional jobs and individuals who were unsure or who did not have a smartphone addiction (Kwon et al., 2013). Focusing on how SAS scores vary by occupation may help provide further insight into the impact of nomophobia in the workplace.

**The Nomophobia Questionnaire (NMP-Q)**

The Nomophobia Questionnaire (NMP-Q) was developed utilizing information regarding participants’ tenure of smartphone and data plan ownership; the average time participants spent using a smartphone, frequency of checking the device, number of phone calls, text, and email messages made or received per day, the number of applications on the smartphone, alongside the purposes for which the smartphone was utilized. Of 301 undergraduate students, 14.6 percent (n = 44) reported checking their smartphone every five minutes, 25.2 percent (n = 76) every ten minutes, 23.9 percent (n = 72) every twenty minutes, 18.9 percent (n = 57) every thirty minutes, 12.0 percent (n = 36) every hour time and 5 percent (n = 15) every two hours or more. Findings also demonstrated that smartphone addiction was linked to lower levels of productivity. Such details are useful in providing a better understanding of the nomophobia phenomenon in the work setting.
The Nomophobia Questionnaire (NMP-Q) has been the only nomophobia instrument that has been satisfactorily assessed using exploratory factor analysis or any assessment for internal consistency and concurrent validity (González-Cabrera et al., 2017; Yildirim & Correia, 2015). It is also the only nomophobia instrument exposed to the rigors of advanced psychometric statistics such as confirmatory factor analysis (CFA) and Rasch models to assess its psychometric properties (Lin et al., 2018).

Yildirim and Correia (2015) developed the instrument following a mixed methods exploratory design. In the qualitative phases of their study, the four factors of the NMP-Q were identified. These are (1) being unable to communicate, (2) losing connectedness, (3) being unable to access information, and (4) giving up convenience (Yildirim & Correia, 2015). The four-factor structure of the NMP-Q was supported in exploratory factor analysis. The Cronbach’s α was acceptable in each factor (α = .814–.939), as well as across the entire NMP-Q (α = .945) (Yildirim & Correia, 2015).

The NMP-Q has been adapted for use in other languages. These include: Arabic (Al-Bahan et al., 2018); Chinese (Gao, et al., 2020; Ma & Liu, 2018); Indian (Ahmed et al., 2019); Italian (Adawi et al., 2018); Persian (Elyasi, Hakimi & Islami-Parkoohi, 2018; Lin, et al., 2018); Portuguese (Galhardo, et al., 2020) and Spanish (González-Cabrera et al., 2017). The questionnaire has also been utilized by scholars investigating a wide array of topics ranging from literature reviews (Rodríguez-García, Moreno-Guerrero, & Belmonte, 2020), investigating obsessiveness in college students (Lee et al., 2018) and the impact of nomophobia among university students (Ahmed et al., 2019; Batool & Zahid, 2019), to the relationship between nomophobia and the Fear Of Missing Out (FOMO) among Turkish university students (Gezgin et al., 2018; Yildirim et al., 2016).
The NMP-Q has also been used to assess the level of distraction that nomophobia causes among nursing students doing their clinical practicum (Aguillera-Manrique et al., 2018). Given the widespread application of the NMP-Q and its statistical trustworthiness, it was selected as the instrument of choice for this study.

Employee Engagement Assessment Instruments

Scholars and practitioners began developing employee engagement assessment instruments at the turn of the century. Numerous instruments have been developed since then. Some of these include the Gallup Workplace Audit (GWA) developed in 2002 (Harter et al.); The Utrecht Work Engagement Scale (UWES), also developed in 2002 by Schaufeli et al.; the Psychological Engagement Measure developed in 2004 (May et al.); the Global Engagement Survey (Blessing White, 2011) and the Employee Engagement Scale (Schuck et al., 2016).

The GWA and the UWES are still the most widely used of these instruments today (Shrotryia & Dhanda, 2019). The GWA (Harter et al., 2002) is now commonly referred to as the Gallup 12. Comprised of 12 items that measure employee perceptions regarding work and an additional question about overall satisfaction, the GWA has been used to investigate the relationships between engagement and profit, employee turnover, customer satisfaction, productivity, and employee safety (Harter et al., 2002). The 12-item instrument utilized a five-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree.’ The original study was based on a Gallup database of 7,939 company sub-units spread across 36 organizations.

Even more widely used in academic research than the GWA is the UWES (Shrotryia & Dhanda, 2019). The Utrecht Work Engagement Scale (UWES) (Schaufeli et
al., 2002) is a self-report questionnaire that measures the three dimensions of work engagement highlighted by the authors, namely: vigor, dedication, and absorption. The original version of the instrument contained 24 items. However, the authors eliminated seven items so that only 17 items remained (Schaufeli & Bakker, 2004).

The UWES-17 has been tested for internal consistency with Cronbach’s alpha ranges between .80 and .90 (Demerouti, Bakker, Janssen, & Schaufeli, 2001; Durán, Extremera, & Rey, 2004; Montgomery, Peeters, Schaufeli, & Den Ouden, 2003; Schaufeli & Bakker, 2004). The alpha values of the instrument meet and exceed the statistical heuristic of .70 or the more stringent standard of .80 (Nunnally & Bernstein, 1994; Henson, 2001).

**The Utrecht Work Engagement Scale (UWES-9)**

In 2006, the original UWES authors (Shaufeli et al., 2002) shortened the UWES-17 even further for pragmatic reasons. The researchers desired to include as few items as possible to reduce the burden on participants and thereby diminish survey attrition levels. The three original dimensions of the UWES—vigor, dedication, and absorption could be reduced to 3 items each. The validity coefficients of the shortened version of the scales were comparable with the 17-item version of the instrument. The authors suggest that scholars adopt the total nine-item score derived from the instrument as an employee’s measure of engagement.

The UWES–9 has been validated in industrial–organizational settings in various countries, including Brazil (Sinval et al., 2018); China (Fong & Ng, 2011); Finland (Seppälä et al., 2009); India (Alok, 2013); Italy (Balducci et al., 2010); Japan (Shimazu et al., 2008); Lithuania (Lazauskaitė-Zabielskė et al., 2019); Norway (Nerstad et al., 2010);
Poland (Kulikowski, 2019); Russia (Lovakov et al., 2017); Serbia (Petrovic et al., 2017); and South Africa (Storm and Rothmann, 2003). Comparisons have also been made between countries using the instrument (Schaufeli et al., 2002; Schaufeli et al., 2006). It has also been utilized with participants from diverse occupational settings, including teachers, dentists, hospital staff, business managers, police officers, and blue-collar workers (Schaufeli et al., 2006). For these reasons, the UWES-9 was selected for use in this study.

**Survey**

The online survey, which was uploaded into Qualtrics and administered to the participants, included four parts: (a) a basic demographic section; (b) the Nomophobia Questionnaire that measures the following four dimensions of nomophobia: (1) the inability to communicate, (2) losing connectedness, (3) failure to access information and (4) giving up convenience; (c) the UWES-9, a shortened employee engagement questionnaire that measures vigor, dedication, and absorption; (d) open-ended questions to assist in the crafting of interview questions for Phase 2 of the study.

**Demographics & General Information**

First, demographic information such as the participants’ age and gender, in addition to occupational information delineating the participants’ job and role within the organization and basic educational information, were collected as part of the survey. Participants were also asked if they work remotely or at the office (pre-COVID-19). They were also asked if mobile phone use was allowed at the location where they work/worked (pre-pandemic). Participants who experienced severe levels of nomophobia were asked to volunteer for Phase 2 of the study and provide their contact details (phone
or email) to enable the researcher to contact them for the Phase 2 interviews. Open-ended questions relating to nomophobia and engagement were also asked.

**Nomophobia Questionnaire**

The 20-item nomophobia questionnaire utilizes a 7-point Likert scale with 1 denoting “Strongly Agree,” and 7 denoting “Strongly Disagree” (Yildirim & Correia, 2015). There were no other word designations on the Likert-point scale, and scores were calculated in Qualtrics by summing up the responses to the 20 questions asked. The NMP-Q results in a total score ranging from 20-140 that identified the degree to which participants are addicted to their mobile phones and the associated applications and technology.

A low score of 19 suggested that nomophobia did not exist in the individual’s life. Scores higher than 20 but less than 59 indicated mild levels of nomophobia; scores between 60 and 99 indicated moderate levels of nomophobia, whereas scores 100 and over indicated severe nomophobia among such participants (Yildirim & Correia, 2015). Only participants who experienced severe levels of nomophobia were considered for Phase 2 of the study.

**UWES-9 Employee Engagement Questionnaire**

The 9-item UWES-9 employee engagement questionnaire utilizes a 7-point Likert scale requiring participants to say how often they experience the emotions described in the instrument with 0 denoting “Never” and 6 denoting “Everyday” (Schaufeli et al., 2002). There were no other word designations on the Likert-point scale, and scores will be calculated in Qualtrics by summing up the responses to the nine questions asked. The
UWES-9 results in a total score ranging from 0-54 that identifies the degree to which participants are engaged on the job.

The UWES is scored by finding the mean of each dimension: vigor, dedication, and absorption (by computing the scores on each specific dimension and dividing the number by the number of items in that subscale), then adding these mean scores together. Thus, the UWES can provide three-dimensional scores and an overall total score. Each of these scores will range between 0 and 6. The total score is recommended for indicating the employee’s overall engagement profile. Lower scores indicated lower levels of engagement, and higher scores indicated higher engagement levels (Schaufeli et al., 2006). There were no prescribed ranges for the UWES-9 as exist for the NMP-Q; however, the researcher ascribed scores below 13 to be indicative of no engagement, scores between 14 and 26 to be an indication of low engagement, scores between 27 and 39 to signal moderate engagement levels and scores over 40 to indicate high engagement.

**Semi-Structured Interview Questions**

Screening is essential for the study to maintain focus on the research questions. Phase 1 of the study facilitated screening of participants based on isolating those who had experienced severe levels of nomophobia. Therefore, in Phase 2 of the investigation, participants who scored 100 and above on the NMP-Q were invited to participate in the interview process, which comprised questions based on Phase 1 of the study. These individuals were selected because they experienced severe levels of nomophobia, alongside mild, moderate, or high levels of engagement. Therefore there were three resultant classes of critical cases for the analysis. These were participants who experienced: (a) severe nomophobia and low levels of engagement; (b) severe
nomophobia and moderate levels of engagement; and (c) severe nomophobia and high levels of engagement.

For each of the three aforementioned groups, the interviewer conducted semi-structured interviews comprised of pre-planned, piloted, open-ended questions. There were 12 interviews for the severe nomophobia, low engagement cohort, six interviews for the severe nomophobia moderate engagement cohort, and 12 interviews for the severe nomophobia high engagement cohort. The interviews lasted 15-30 minutes. The interviews took place remotely, via Zoom or telephone, so that participants were comfortable to answer the interview questions. Semi-structured interviews allowed flexibility for the researcher to follow up on other questions which arose during the interview (Cohen, 2011; Daniel & Franco, 2016; Robson, 2011).

The interviews were recorded and transcribed by the researcher. All data were collected according to IRB standards of inquiry for human subjects. There was no remuneration or incentive in exchange for participation. Member checks of transcriptions and researcher findings were used to contribute to the trustworthiness of the study. A flowchart depicting the flow of data collection can be observed in Figure 3.

Bruner’s (1990) conceptualization of meaning-making was applied to the interview responses. Bruner (1990) prioritized the sense-making function that the interpretation of events played for participants in how they found meaning in various situations and used their stories to construct their view of reality. This study was primarily concerned with the deeper insights gleaned from the participants’ interview responses that shed light on the population, above and beyond the scope of descriptive statistics. The hope was that this would unearth not just how but why participants
constructed their views of mobile phone use in relation to their employee engagement levels in the way they did. In addition to Bruner’s (1990) guidelines on meaning-making, Groenewald’s (2004) sequence of steps for phenomenological research—an applied qualitative research model—will also be used for the study.

**Figure 3**

*Diagrammatic representation of the flow of data collection*

*Note.* This figure is a diagrammatic representation of the flow of data collection for the study.

**Groenewald’s (2004) Phenomenological Research Design Model**

Groenewald (2004) advocated the explication of the interview data according to the following steps: a) bracketing; b) identifying units of meaning; c) clustering units to form themes; d) summarizing, validating, and modifying interviews; and e) unique theme extraction and composite summary of all the interviews. A diagrammatic representation of this process is depicted in Figure 4 below.
Figure 4

A diagrammatic representation of Groenewald’s (2004) Research Design Model

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracketing</td>
<td>Participants describe phenomenon without references to socially accepted terms in their descriptions</td>
</tr>
<tr>
<td></td>
<td>Researcher delimits preconceptions &amp; experience, interprets phenomenon as identified &amp; described by participants</td>
</tr>
<tr>
<td>Identifying units of meaning</td>
<td>Researcher shortlists relevant themes, eliminating redundant units being careful not to eliminate related but unique concepts</td>
</tr>
<tr>
<td></td>
<td>Researcher isolates statements made by respondents that seem to illuminate the phenomenon</td>
</tr>
<tr>
<td>Clustering units to form themes</td>
<td>Researcher engages in notetaking &amp; memoing throughout</td>
</tr>
<tr>
<td>Summarizing, validating, and modifying interviews</td>
<td>Researcher obtains a holistic context for each interview and its set of generated themes.</td>
</tr>
<tr>
<td></td>
<td>Researcher conducts member checks &amp; makes modifications if any concept was captured inaccurately</td>
</tr>
<tr>
<td>Unique theme extraction &amp; composite summary of interviews</td>
<td>Researcher notes themes common to all interviews, without conflating similar-sounding themes to preserving uniqueness</td>
</tr>
</tbody>
</table>

Note. This figure is a diagrammatic representation of Groenewald’s (2004) phenomenological research process used for the study.

As seen in Figure 4, bracketing referred to two separate activities that the researcher facilitates. In bracketing, the researcher must allow the participants to describe the phenomenon without references to socially accepted terms in their descriptions. The researcher must also, in this process of bracketing, delimit his/her preconceptions and experience and interpret the phenomenon as identified and described by participants (Creswell, 1998; Groenewald, 2004).

Identifying units of meaning refers to the process of isolating statements made by respondents that seem to illuminate the phenomenon (Groenewald, 2004). The researcher
is supposed to accomplish this without overusing his/her subjective viewpoints via bracketing. Once this is completed, the researcher will make a shortlist of relevant themes by eliminating redundant units being careful not to eliminate related but unique concepts.

Clustering the units to form themes is in keeping with the Framework model of Ritchie and Spencer (1994) for thematic analysis. Groenewald (2004) also highlights that this part of the process requires great skill on the part of the researcher, requiring “creative insight” (Hycner 1999, p. 151). The method requires that the researcher toggle back and forth between the original recordings, transcripts, and list of units to derive the best possible clusters of units (Creswell, 1998; Hycner, 1999).

Summarizing requires the researcher to obtain a holistic context for each interview and its set of generated themes. Validation is also included in this step because it is at this point that the researcher conducts member checks. The researcher must then make modifications if any concept was captured inaccurately (Groenewald, 2004; Hycner, 1999).

Theme extraction is the final step in the process. For this step, the researcher must note the themes common to all of the interviews, taking care once more not to conflate similar-sounding themes, ensuring that the uniqueness of each is preserved when those unique properties are significant. The researcher, at this point, composes a summary that reflects the context in which the themes emerged. The researcher then transforms the language used by participants to describe certain facets of the phenomenon into formal or scientific terms.

Throughout this process, the researcher is advised to be making notes and memoing as these steps are performed. I followed this protocol. The memos and personal
notes form part of the formal study process, and the researcher is encouraged to refer to them often for perspective and clarification (Groenewald, 2004). This was also applied during the study.

**Pilot Testing**

To ensure face validity, which is an evaluation of the instrument to ensure its suitability and the appropriateness of its components to the subject matter (Setia, 2017), the open-ended questions used in the survey and the interview questions were pilot tested.

The sequence of steps in piloting questions for both study phases is detailed in Table 2.

**Table 3**

*Piloting Sequence for Survey (Phase 1) & Interview (Phases 2) Questions*

<table>
<thead>
<tr>
<th>Item</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pilot survey with open-ended questions</td>
</tr>
<tr>
<td>2.</td>
<td>Tweak open-ended questions on the survey</td>
</tr>
<tr>
<td>3.</td>
<td>Disseminate (real) survey with finalized open-ended questions</td>
</tr>
<tr>
<td>4.</td>
<td>Formulate and pilot test interview questions based on survey responses</td>
</tr>
<tr>
<td>5.</td>
<td>Tweak interview questions</td>
</tr>
<tr>
<td>6.</td>
<td>Conduct interviews using finalized interview questions</td>
</tr>
</tbody>
</table>

In step one of pilot testing, a series of possible options for the open-ended questions were vetted by a minimum of two subject area experts for pertinence and applicability and changed as necessary (Setia, 2017). The subject area experts were selected based on their knowledge of employee engagement and technology application fields. In step 2, the open-ended questions were tweaked and re-tested to establish face validity. Once the open-ended questions were finalized, they were added to the survey and the full survey was administered to study participants. The dissemination of the survey to the participants fulfilled step 3 of the process.
In step 4, survey results, including participants’ answers to the open-ended questions, were analyzed to formulate the interview questions for Phase 2 of the study. In step 5, the interview questions that were formulated were then piloted using a minimum of four individuals who fit the participant profile of being students who own and use a mobile phone, who are employed full-time at an organization, and who took the initial survey and met the screening criteria—scoring 100 and above on the NMP-Q, and scoring between 0 and 6 on the UWES-9. Based on the pilot-participant responses to the interview questions and the researcher’s experience (Setia, 2017), the questions were adjusted again in tandem with insights offered from the subject matter experts. The best-adjusted interview questions informed by the two additional rounds of pilot testing were used for Phase 2 of the study.

Ultimately, in step 6, the final interview questions were part of the semi-structured interview process that occurred online via Zoom or by telephone. Only participants who experienced severe levels of nomophobia were interviewed, regardless of UWES-9 scores. In order to be able to match Phase 1 and Phase 2 responses, at the end of the survey, participants were asked to supply an email address. The email addresses were used to contact Phase 2 participants directly.

Interviews were selected for Phase 2 of the study because they are a valuable tool for gathering data based on the lived experiences of participants with regard to nomophobia and employee engagement. Given that the quantitative phase of this study utilized a one-group post-test only quasi-experimental design that is inherently weak due to the lack of a control group and pre-test information, as well as threats to internal validity due to history and maturation effects (Price, Jhangiani, Chiang, Leighton &
Cuttler, 2017), and given that the quantitative phase creates the criteria for Phase 2 participation, in-depth interviews help provide the much-needed pre-test information necessary for drawing inferences from the data that could be applied to the entire population (Creswell, 1998). Furthermore, interviews captured participant data in their own voice, using their own words, and allowed participants to share their own stories (Etherington, 2007). The interview process allowed the researcher to clarify or pursue further information on items introduced by participants at the time that they were mentioned. It allowed for member checking when the interview process was complete (Groenewald, 2004). This approach was compatible with phenomenology and social constructionism insofar as the lived experience of participants was explored using their own descriptions of the experience while also allowing the researcher to be a co-constructor of the findings generated by the study.

**Data Analysis**

The quantitative data derived from the surveys were analyzed through SPSS to provide basic descriptive statistics regarding the study sample. Some of the descriptive statistics explored include: (a) measures of frequency; (b) measures of central tendency including the mean, median, and mode ages, NMP-Q scores, and engagement levels of the population (c) measures of variability, including the standard deviation, variance, the minimum and maximum values for each variable as well as the kurtosis and skewness of the data; and (d) measures of position such as the percentile and quartile ranks of the data will be explored. Any other points of interest discovered in the quantitative data between participants’ demographics, their degree of nomophobia, and level of employee
engagement discovered were noted and expanded upon through the questions asked in Phase 2 of the study. Inferential statistics were not pursued.

The survey served a screening purpose in order to disaggregate participants by nomophobia level so that only participants who are critical cases with severe nomophobia were approached for the second phase of the study. Mild levels of nomophobia were denoted by scores between 21 and 59 on the NMP-Q. Scores between 60 and 99 on the NMP-Q were indicative of moderate-level nomophobia, whereas scores of 100 and above were considered severe on the NMP-Q scale (Yildirim & Correia, 2015). Similarly, mild, moderate, and high score ranges were applied to the UWES-9, although the questionnaire does not prescribe mild, moderate, or high ranges.

For the purpose of this study, scores of 1-2 were considered mild levels of employee engagement; scores of 3 and 4 were considered to be moderate-level employee engagement and scores of 5 and 6 were deemed to be high. It was expected that participants had scores that reflected mild, moderate, and severe levels of nomophobia as well as mild, moderate, and high levels of employee engagement. This is depicted diagrammatically in Figure 5. Phase 2 of the study, however, will be focused exclusively on those who experience severe levels of nomophobia.

Figure 5 depicts various groups of participants ranging from those with mild levels of nomophobia and high levels of employee engagement; to participants with severe levels of nomophobia and mild levels of employee engagement. The model also depicts participants with mild levels of nomophobia and mild levels of employee engagement and participants who experience severe nomophobia and high levels of employee engagement.
Figure 5

Nomophobia and engagement levels based on participant NMP-Q and UWES-9 scores

Note. This figure is a diagrammatic grid representation of nomophobia and employee engagement levels based on NMP-Q and UWES-9 scores of participants.

To further examine relationships that may exist within the data, the data were cross-tabulated to reflect the two variables in the various ranges: mild, moderate, and severe/high. The Pearson Chi-square test was applied to determine if the results of the cross-tabulations were statistically significant. Finally, the survey included open-ended questions that help the researcher ascertain the type of questions that should be asked in Phase 2 of the study.

In Phase 2 of the study, participants who scored 100 and over on the NMP-Q were interviewed about their nomophobia experience. The researcher then identified themes, which could be further analyzed. Some of the themes that were unearthed were entirely
emergent. In contrast, others reflected a priori themes already found in the literature, namely in the ideas of Yildirim and Correia (2015) regarding nomophobia, the work of Kahn (1990) and Schaufeli and Bakker (2004) regarding employee engagement. This is a hybrid approach to thematic analysis (Swain, 2018). The discovery of emergent themes is an inductive process based on the matter suggested by the data (Elliott, 2018). Emergent codes will add to the body of knowledge regarding employee engagement and nomophobia both individually and as they intersect with each other. The discovery of a priori themes will serve to substantiate the current literature. Identification of emergent codes will assist in defining concepts, mapping the range of the nomophobia phenomenon (Ritchie & Spencer, 1994).

Themes collated from the work of Yildirim and Correia (2015) suggest that nomophobia is related to (1) the inability to communicate, (2) losing connectedness, (3) failure to access information, and (4) giving up convenience. The a priori codes related to nomophobia are denoted in Table 3.

**Table 4**

*Nomophobia a priori code(s) based on nomophobia literature*

<table>
<thead>
<tr>
<th>Code Name</th>
<th>Author(s)</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The inability to communicate</td>
<td>Yildirim &amp; Correia</td>
<td>2015</td>
</tr>
<tr>
<td>2. Losing connectedness</td>
<td>Yildirim &amp; Correia</td>
<td>2015</td>
</tr>
<tr>
<td>3. Failure to access information and</td>
<td>Yildirim &amp; Correia</td>
<td>2015</td>
</tr>
</tbody>
</table>

A total of six themes related to employee engagement garnered from the literature review were also considered for the analysis. These themes were listed as a priori codes in Table 4 and were derived from the work of Kahn (1990) and Schaufeli et al. (2006).
Table 5

Employee Engagement a priori codes based on employee engagement literature

<table>
<thead>
<tr>
<th>Code Name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meaningfulness</td>
<td>The sense of worth that employees derive from working in environments in which they feel as though their contribution makes a difference and in which their value on the job transcends the job itself (Kahn, 1990).</td>
</tr>
<tr>
<td>2. Psychological safety</td>
<td>The feelings that employees derive when they can work devoid of fear or negative consequences regarding their image, position, or career trajectory. In such environments, employees find interpersonal relationships on the job to be positive and rewarding (Kahn, 1990); delineated by non-punitive responses to interpersonal risk-taking behavior; and where “candor is allowed and expected” and “asking for help or admitting failure” are par for the course (Edmondson 2018, pg. 15).</td>
</tr>
<tr>
<td>3. Psychological availability</td>
<td>The perception of self-efficacy and empowerment that employees experience when they possess the emotional capacity to get their assigned responsibilities done (Kahn, 1990).</td>
</tr>
<tr>
<td>4. Vigor</td>
<td>High levels of energy and mental resilience workers exude while working, the willingness of workers to infuse their work with effort, and persistence despite encountering challenges and difficulties at work (Schaufeli et al., 2006).</td>
</tr>
<tr>
<td>5. Dedication</td>
<td>“Deep involvement in one’s work combined with feelings of “significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al. 2006, p. 702).</td>
</tr>
<tr>
<td>6. Absorption</td>
<td>The experience of being completely and joyfully engrossed in one’s work. As a result, the passage of time seems to occur quickly, and it is difficult to withdraw oneself from the task at hand (Schaufeli et al., 2006).</td>
</tr>
</tbody>
</table>

Emergent themes identified from the content analysis of the interviews were also noted to reflect the dispositions recounted by the participants (Etherington, 2007; Ritchie & Spencer, 1994).
The semi-structured interview model (Cohen et al., 2011; Robson, 2011) is in keeping with thematic clustering (Creswell, 2012). Thematic clustering allowed the researcher to easily construct thematic clusters, which were used to derive meaningful units describing elements of the phenomenon of nomophobia and its impact on employee engagement that go beyond the scope of the ideas presented in the literature. Significant statements regarding the participants’ experience were extracted to provide salient insights into how the phenomenon of nomophobia affects the working lives of participants.

To address issues of reliability, the researcher adhered to robust research practices in both phases of the investigation. For example, Shenton (2004) suggested that methods described in the literature be utilized for the study. I have adhered to this tenet.

For Phase 2, the analysis is qualitative in nature. Thus, to boost confidence in the findings, the researcher also used comparison and contrast between the existing literature and interview data to allow for triangulation, which is the use of multiple methods to arrive at a conclusion (Remler & Van Ryzin, 2015). This will alleviate concerns regarding construct validity since multiple sources will be utilized to aid in comprehension of the nomophobia phenomenon. Construct validity in qualitative research refers to the degree to which a construct or element under study is congruent with other variables and responds as expected based on previous investigations (Remler & Van Ryzin, 2015).

To further boost the credibility of the study’s Phase 2, Shenton (2004) suggests that the researcher participates in debriefing sessions with dissertation advisors periodically to identify flaws in the proposed format of the investigation, possible
researcher bias, and alternate avenues through which the research may progress (Shenton, 2004). In addition, I also maintained a “reflective commentary” to assist in monitoring my research constructions as they evolve throughout the study. A reflective commentary is used by the researcher to note one’s experiences, opinions, thoughts, and feelings throughout the research process (Ortlipp, 2008). Details from the commentary could prove insightful and allow the thought processes of the researcher to become apparent. The reflective commentary is an acknowledged part of the research design, data generation, exploration, and clarification process in qualitative investigations (Ortlipp, 2008).

**Conclusion**

Research into nomophobia, specifically, is in its infancy and as a result, many of the studies are exploratory in nature (Rodríguez-García et al., 2020). Explanatory studies such as this one offers the opportunity to more deeply investigate the phenomenon of nomophobia. More specifically, the study allows for the exploration of how nomophobia affects employee engagement, given that both technology and the utilization of mobile devices will likely expand in the future.
CHAPTER IV

RESULTS

Introduction

This mixed-methods explanatory study was aimed at the discovery of the effects of nomophobia on employee engagement. More specifically, the study was aimed at uncovering what factors influenced the nomophobic tendencies of individuals and how these factors influenced their levels of employee engagement. The study was conducted at a medium-sized IHE in the Midwest. The study was conducted in two phases, with 588 participants responding to the initial survey that formed the basis of the first phase of the study. Individual interviews were used to collect participants’ responses regarding the factors that influenced their nomophobia and employee engagement scores. These interviews formed the second phase of the study.

The conceptual framework was twofold: (a) that employees express themselves physically, cognitively, and emotionally as they perform their assigned roles on the job and that the following are needed for the existence of employee engagement: (i) meaningfulness, (ii) psychological safety, and (iii) psychological availability (Kahn, 1990) and (b) that employees become engaged in their work through the exertion of vigor, expressions of dedication and by realizing absorption while on the job Schaufeli et al. (2002).

The NMPQ and UWES-9 were the instruments used for the study. The data provided by the study supported that both instruments were robust in terms of internal validity. The Cronbach’s α for the NMPQ was acceptable (α = .944). Similarly, the Cronbach’s alpha value for the UWES 9 reflected internal consistency (α = .859). Both
alpha values were in keeping with the statistical heuristic of .70 or the more stringent standard of .80 (Nunnally & Bernstein, 1994; Henson, 2001).

There were three research questions around which the data collection and analyses were centered.

**Research question 1:** What is the prevalence of nomophobia among employees in the workplace?

**Research question 2:** To what degree is there a relationship between nomophobia and employee engagement?

**Research question 3:** How does nomophobia affect employee engagement in the workplace?

The proposition for this explanatory mixed-methods study is that employees who experience nomophobia grapple with additional factors that influence both their level of nomophobia and their levels of employee engagement. The findings related to the research questions are presented first. Connections with Kahn’s (1990) employee expressions of meaningfulness, psychological availability, and psychological safety; as well as the theories of Schaufeli et al. (2002) vigor, dedication and absorption are included in the presentation of the findings. These are specifically articulated in the interview questions asked. A summary of the study is then presented, followed by limitations of the study and suggestions for future research. I then present the conclusion of the study.

**Preliminary Results by Nomophobia Level**

**Responses No Nomophobia**

After checking and removing incomplete responses, the clean dataset \( n = 434; M = 24.92, SD = 7.91 \) was used for the research analyses. Of these responses, .007% of
the respondents \((n=3)\), scored less than 21 on the NMPQ, denoting that they were not nomophobic. Of this cohort, 33.3\% identified as males \((n=1)\), 66.6\% identified as women \((n=2)\). These respondents were aged 21, 38 and 40. Among them were two respondents with master’s degrees, one individual who had attained only a High School diploma to date.

**Responses Mild Nomophobia.**

Out of the total number of respondents \((n=434)\), 27.18\% of the respondents \((n=118)\), scored between 21 and 60 on the NMPQ, denoting that they were mildly nomophobic. Of this cohort, 48.3\% identified as males \((n=57)\) and 52.5\% identified as women \((n=62)\). These respondents ranged in age from 18 to 47, with the bulk of the respondents being between ages 18-25. Among them was one respondent with a doctoral degree, 16 respondents with master’s degrees, eight persons with professional certification. There were 47 undergraduate degree holders in this group and 46 persons who had attained only a High School diploma to date.

**Responses Moderate Nomophobia.**

Out of the total number of respondents \((n=434)\), 53.9\% of the respondents \((n=234)\), scored between 61 and 100 on the NMPQ, denoting that they were moderately nomophobic. Of this cohort, 33.7\% identified as males \((n=79)\), 65.8\% identified as women \((n=154)\) and 0.008\% \((n=2)\) identified as binary non-conforming individuals. These respondents ranged in age from 18 to 40, with the bulk of the respondents being between ages 18-26. Among them were three respondents with doctoral degrees, 21 respondents with master’s degrees, two individuals with graduate certificates, and three
persons with professional certification. There were 69 undergraduate degree holders in this group and 132 persons who had attained only a High School diploma to date.

**Total Responses Severe Nomophobia.**

Out of the total number of respondents \((n=434)\), 18.2% of the respondents \((n=79)\), scored over 100 on the NMPQ, denoting that they were severely nomophobic. Of this cohort, 3.9% identified as males \((n=17)\), 13.8% identified as women \((n=60)\) and 1.37% \((n=2)\) identified as binary non-conforming individuals. These respondents ranged in age from 18 to 35, with the bulk of the respondents being between ages 18-22. Among them was one respondent with a doctorate, two respondents with master’s degrees, 33 undergraduate degree holders in this group, and 43 persons who had attained only a High School diploma to date. This information is represented in Table 1 hereafter.

**Table 6**

*Gender Distribution of Participants by Nomophobia Level*

<table>
<thead>
<tr>
<th>Nomophobia Level</th>
<th>Males</th>
<th>Females</th>
<th>Binary Non-Conforming</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Mild</td>
<td>57</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>Moderate</td>
<td>78</td>
<td>153</td>
<td>2</td>
</tr>
<tr>
<td>Severe</td>
<td>17</td>
<td>60</td>
<td>2</td>
</tr>
</tbody>
</table>

This information could also be presented in a bar graph as seen in Figure 6. The mean age for the total population was 24.92 and the standard deviation in age was 7.91.

**Figure 6**

*Diagrammatic representation of gender based on nomophobia levels.*
Note: This is a graph to show the nomophobia levels of participants by gender.

**Figure 7**

*Diagrammatic representation of nomophobia levels based on gender - males*

Note: This is a pie chart showing the percentages of males for each nomophobia category for the study.

**Figure 8**

*Diagrammatic representation of nomophobia levels based on gender - females*
Note: This is a pie chart showing the percentages of males for each nomophobia category for the study.

Figures 7 and 8 depict the levels of nomophobia experienced by males and females. It is evident from the percentages represented in the pie chart that both men and women in the moderately nomophobic categories are similar. However, a larger percentage of men are mildly nomophobic compared to women. Most interestingly, however, is that the percentage of women who are severely nomophobic is two times the percentage of men who are severely nomophobic.

Participants’ nomophobia scores and employee engagement levels could also be viewed simultaneously to provide further insight regarding the prevalence of nomophobia among employees. In Figure 6, a diagrammatic representation of the NMP-Q and UWES-9 scores of participants were used to show nomophobia levels and engagement levels for the study group, with the numbers of participants for each category.

Figure 9

Diagrammatic representation of nomophobia and employee engagement
Note. This is a diagrammatic representation of nomophobia and employee engagement levels with category numbers based on NMP-Q and UWES-9 scores of participants.

**Research Question 2.**

The second research question sought to examine if there was a relationship between nomophobia and employee engagement and, if it did exist, to what degree this relationship exists. To answer the question, a chi-square test of independence was conducted to examine the relationship between nomophobia and employee engagement. The chi-square result was significant at \( p < .05 \). The analysis showed that nomophobia does affect levels of employee engagement, \( x^2 (2, n = 434) = 15.2414, p = .01846 \).

A linear regression was also conducted using participant responses from the NMP-Q and the UWES-9 to test if nomophobia significantly predicted employee engagement levels. The results indicated a linear fit based on the mean of counts. The regression data is detailed hereafter, with the data plotted on a fitted curve demonstrated...
diagrammatically using the mean of counts for NMP-Q scores (Q12) and UWES-9 scores (Q 13), as seen in Figure 7.

**Figure 10**

*Diagrammatic representation of linear fit mean of counts*

![Image of linear fit mean of counts](image-url)

_Note._ This is a diagrammatic representation of linear fit mean of counts to assess if nomophobia (based on Survey Q12 - NMP-Q scores) was predictive of employee engagement (based on Survey Q13 - UWES-9 scores).

A quadratic regression was also conducted using participant responses from the NMP-Q and the UWES-9 to test if this method was a better model if nomophobia significantly predicted employee engagement levels. The results indicated a quadratic fit based on the mean of counts as well. The regression data for this method is detailed hereafter, with the data plotted on a fitted curve demonstrated diagrammatically using the mean of counts for NMP-Q scores (Q12) and UWES-9 scores (Q 13), as seen in Figure 8.
**Figure 11**

*Diagrammatic representation of quadratic fit mean of counts*

![Diagram](image)

**Notes.** This is a diagrammatic representation of quadratic fit mean of counts to assess if nomophobia (based on Survey Q12 - NMP-Q scores) was predictive of employee engagement (based on Survey Q13 - UWES-9 scores).

In both Figures 7 and Figure 8, the darker blue shading is a confidence band, and the lighter blue shading is a prediction band. A confidence band is used in statistical analysis to represent the uncertainty in an estimate of a curve or function based on limited or noisy data. Similarly, a prediction band is used to represent the uncertainty about the value of a new data point on the curve but subject to noise. Confidence and prediction bands are often used as part of the graphical presentation of regression analysis results. They are closely related to confidence intervals, representing the uncertainty in estimating a single numerical value. Since confidence intervals pertain to a single point, they are narrower (at this point) than confidence bands which are positions above and
below the data point that hold simultaneously at many points. These confidence bands represent more accurate data models.

In both scenarios, the regression was fit, meaning that the regression model fits the participant data well in assessing if nomophobia (based on Q12) was predictive of employee engagement (based on Q13). However, although the quadradic fit had a higher R^2 (0.626 compared to 0.568), a comparison of the R^2 adjusted values (0.438 compared to 0.481), the quadratic model contained less useful data points; thus, the linear regression proved to be the option with more useful variables, with the higher R^2 adjusted value, and the better fit. In addition, the RMSE Root Mean Square Error, which tells us how far the actual data points are from the line of best fit, was lower with the linear model at 7.86 compared to 8.18 on the quadratic regression model. This was yet another piece of evidence to suggest the use of the linear model. There is a statistically significant relationship between nomophobia and employee engagement, per the survey results—the higher the nomophobia, the lower the employee engagement.

Finally, a simple linear regression was run, utilizing the final scores from the NMP-Q and the UWES-9, rather than the questions from the instruments, to determine if nomophobia significantly predicted employee engagement. The fitted regression model was: engagement = 37-.034 (nomophobia). The overall regression was statistically significant (R^2=.006, F(1, 432) = 2.402, p <.001). Thus, nomophobia can significantly predict employees engagement levels (β = 37, p <.001). The data points for this regression are depicted hereafter with the graphical presentation seen in Figure 12.

**Figure 12**

*Diagrammatic representation of linear regression*
Notes. This is a diagrammatic representation of a linear regression to assess if nomophobia (based on NMP-Q total scores) was predictive of employee engagement (based on UWES-9 total scores).

Research Question 3:

The third research question was aimed at discovering how nomophobia affects employee engagement in the workplace; to ascertain this, phase two of the study was qualitative. Participants explained their views regarding their levels of engagement, highlighting moments when they felt meaningfulness, psychological safety, vigor, dedication, and absorption. In their answers to the Phase 2 interview questions, the participants revealed the following:

Meaningfulness
Based on participant responses across all levels of engagement (low, moderate, and high), participants did not get a sense of meaningfulness from having access to their phones while on their jobs.

**Psychological Safety**

Some participants were free of any psychological pressure regarding their ability to do their jobs without fear of negative consequences regarding their image, position, or career when having access to their mobile phones. Others expressed concerns in this area.

**Psychological Availability**

Participants disagreed regarding their energy levels and absorption to do their jobs when the mobile phone was present. For some, it was the absence of the phone that adversely affected their emotional capacity to get the job done. For others, the ability to use their phones on the job did not impact their energy or absorption levels.

**Phase 2- Qualitative Data Interviews**

Participants who scored over 100 on the NMPQ were the only ones selected for Phase two of the study, as critical case phenomenological analysis was used as the lens for the study. This selection criterion was necessary for a critical case, phenomenological analysis. Critical case sampling is conducted when it makes “strategic sense” to select the location or group that would allow the researcher to gather “the most information and have the greatest impact on the development of knowledge” (Patton 1990, p. 174). In this study, the group that would provide the most detailed information on any effect (if it existed) between nomophobia and employee engagement would be the group of
participants who experienced severe nomophobia. Thus, this group was selected for further qualitative analysis.

The critical sample of participants were asked to provide contact details and were contacted by email and phone. The target was for 12 responses to be recorded from participants in the high, mid, and low engagement categories so that a comparison could be made in the way that these questions were answered by each engagement cohort.

**UWES-9 Scores of the Participants**

The distinction for each category (Low, Moderate, Severe) was made in keeping with the ranges indicated in the original model. Scores below 13 were deemed to be indicative of no engagement. Scores between 13 and 26 were deemed to be an indication of Low engagement. Scores between 27 and 40 were deemed to signal Moderate engagement levels. Scores over 40 were deemed to indicate High engagement.

There were no participants with scores less than 13 on the UWES-9 scale. Therefore, there was no category for no engagement in the study. I was successful in gathering 12 interview responses from participants in the High and Low engagement categories but fell short of the goal for the required number of responses for the Moderate engagement category.

The participants who responded to the request for an interview were asked five questions utilizing a semi-structured format to allow for follow-up or clarification if needed. The interviews were conducted online via Zoom and lasted approximately ten minutes. The findings of the interview phase of the study are presented hereafter.

**Question 1**
Participants were asked if they were “allowed to use their mobile phone on the job.” If they were allowed, they were asked to “share an account of a time when they needed to use their mobile phone at work and were happy that they had the freedom to do so.” As a follow-up, they were asked “how” they thought “things would have been different if they were not allowed this freedom.” Alternatively, if the participants were not allowed to use their mobile phones on the job, they were asked to “share about a time when you nearly got caught using your mobile device on the job.” Further, they were asked to relate “why they wanted to use their phone so badly that company policy was not followed.” Participants were also asked how they felt using their mobile devices under those circumstances.

It was important to divide the participants into the categories Low, Moderate, and High engagement because phenomenology is designed to explain participants’ lived experiences and garner their subjective perspective of that experience. In phenomenological research, the researcher also acknowledges the possibility of articulating and expressing differing views regarding the same phenomenon. For this reason, the critical case sampling of participants with severe nomophobia was further subdivided into groups of Low, Moderate, and High engagement to discern if there were similarities and differences within and between the groups.

The findings were as follows:

**High Engagement**

Of the 12 participants interviewed, eleven were allowed to use their phone on the job, and one was not. Most of the participants who were allowed mobile phone use while at work were happy to use the phone to connect with family in case of an emergency.
...I have two kids, and I can't count on even one or two hands the number of times the school has called...me on my school phone, on my...mobile phone...even, even while teaching. I can think once I was, I was in the middle of teaching a class, and my phone was just on the desk, you know, like the podium and it rang... and that happens sometimes. And I continued to teach, but then I saw that it was my child's school. And I just said if you will excuse me for a minute. And then I, you know, just went into the hall and made sure that my kids were okay. I mean, so, um, that's happened, I mean, gosh, more than a dozen times where the kids' school has called. When my dad died in 2011, but just before he died, his wife, my stepmom, called me right before, as I was going into a class, I was teaching a night class, letting me know he'd been moved to intensive care... and that we should come, we should come in.

Similarly, a younger participant explained why having access to the phone at work was important for family and other reasons.

I'm grateful because there are certain times that I have to communicate with maybe my family about something or school. Cause sometimes, I'm at work and have an email come in, or I have a group. I can remember, maybe a month ago during the semester, I had a group project that I had to do, and I had to set up meeting times and things like that and try to make sure that that was taken care of. So I needed my phone to be able to communicate. So I was grateful that I was allowed to use my phone and communicate and get that sorted out instead of waiting until after work, which would have been maybe too late.
Another participant, herself a teacher, shared how the use of the phone was important for use in real-time, that is when she was in the classroom interacting with her students.

…One specific instance that I actually use an as an example, all of the time, um, when people try to talk about whether or not teachers should have access to cell phones during class, um, my students asked me during a lesson, what the difference between the verb indicate and what the verb find was. And those words are so separated in my mind that I couldn't figure out what they thought was so similar about them that they needed them differentiated. So what I ended up doing is, of course, like pulling up the definition, and it still wasn't separated enough. So what I did was, from my phone research, those two words in the native language of the student who asked me, defined that there are not separate concepts, indicate and find they use the same word. So, then that helps me realize, this is why it's this, this word, this action, the whole concept seems like the same thing to that student because, in their language, they just have one word for it. And so then we were able to use that information to break down what the small, what the difference was, but so it taught me why they thought it was the same and then helped me separate it that way. I think that if I had not been able to do that on my cell phone, that would have been an issue …

Other participants were happy to have used the phone because it helped them be efficient on the job and saved them time.

… I can check-in, like clock into work on my phone. So, uh, I often use it to do that, and it's a lot faster. And otherwise, I would have to wait for computers to boot up, or there's an older gentleman that is at my work… he won't remember
[his login details]… So now we check in on my phone, [at the same time] it
allows him to also check in to work. So it's like being truly beneficial.
The use of the phone was also helpful so that participants didn’t feel like they were
missing out on something. One participant expressed it this way…

… there's a lot of times that as soon as I walk away from my desk, I’m like, oooh,
do I have my phone, Nope. Let me go back and get it. So I'd probably be a little
anxious, like, Oh crap, I don't have my phone. Did I miss something? What what's
going on? Um, even if it's work or personal related, like, okay, I'm missing a call
from somebody, I'm missing a meeting, I'm missing something.

One participant, a parent whose daughter was in an abusive relationship, shared why she
was felt safe and connected to the family because of her freedom to use the phone on the
job.

You know, there's been times where, you know, my daughter, she was an abusive
relationship, and she needed me, you know, and there's been a time that, um, I
didn't get it, you know, in the right time, you know, so yeah. It's so like in a panic
I'm like…Oh! I have my phone like right here, and I'm like, I have it on vibrate,
and I have everything to start. I could be ready for like an emergency, and plus we
had a house fire, and I had one like five years ago. So yeah.

**Moderate Engagement**

Like members of the high engagement group, members of the moderate
engagement group highlighted family concerns as a major reason for wanting to use their
mobile phones on the job. Unlike their counterparts in the high engagement group,
however, the eight persons in the moderate engagement group spoke more in terms of stress and fear regarding their ability to use or not use their mobile phones on the job use.

An example of such a participant concern was shared by a participant who still lived with their parents.

…in trying to get with my parents, trying to get hold of me about something important. And if I wasn't able to answer it, the situation probably would have been different, but I don't know like I know it would probably stress me out if I didn't have access to it.

Another person shared family concerns and the stress that went with it. They expressed it this way.

…Last year, my father was really sick, and so being able to use my phone at work allowed me to be able to check in frequently. Um, if I was not able to do that, I probably would have been a lot more stressed and really unable to do my job effectively.

Other participants in this group highlighted boredom and the desire to communicate with the outside world as drivers toward mobile phone use.

…I was charting at work, and I just wanted to text a friend, and a manager came, so I slipped the phone underneath the computer, like under the computer table. Um, and I mean, I just, I just really want communication with the outside world. ‘Cause my shifts are 12 hours and so I wanted to communicate with my friends and, um, and I, I was frightened when the manager came…

Low Engagement
Participants who had scores that put them into the low category of engagement responded similarly to their counterparts in both the high and mid sections, in that family emergencies were a concern.

I would say that um, it's nice to be able to have contact with my dad. Who's been having a lot of health issues this year. Um, he's been going through cancer treatments, so I would be really worried if I couldn't update you, like get updates for him or, um, have a phone conversation with him throughout the day.

For one participant, the value and urgency she ascribed to being able to reach her family via her mobile phone in case of emergencies were so substantial that if she were unable to enjoy this benefit, she would quit her job. She expressed it this way:

Uh, honestly, I probably would have quit. I feel like the sense of urgency, just like, cause I think to when I got a text that my father had fallen off a roof and I didn't know the condition that he was in, if he was okay, what the situation was, was it urgent? Was it just, you know, some scrapes and bruises and being able to just stop what I was doing quickly, call them and get that relief and that security, you know, but if I wasn't able to reach them and they said, no, sorry, you have to continue working. You know? And when you're off your shift, then you can figure that out. I would have been like, bye.

However, boredom was another central theme for this group. One farmhand expressed it this way:

…and I would probably get the same work done, it's just, I probably would be more bored throughout a day because there are quite a few times where everyone's doing something, but I got my jobs done. So I have like 30 minutes off
or something, and during that time, I might answer Snapchat, Instagram, and things like that. So I think it would cause a lot more boredom and I probably might enjoy the job even less than because I am bored. I have nothing to do…

One participant shared his experience, taking the chance to use his phone because he was bored and the consequences that followed:

…it was only at one time, and they saw me. Uh, we were just super slow in my area, so I was just on it for a minute because…out of boredom and someone from another department saw me and they got upset because their department was really busy and mine wasn’t… so I had to come help them in their department.

Yet another participant was happy he could use his phone on the job to help him navigate his social interaction with others who held political views that were different from his own.

…So, um, I work with a lot of people that are very opinionated politically. Um, I live in an area that's very, um…I work with a lot of very conservative people, which is fine. Um, but a lot of them believe stuff that's just not true. And so there's a lot of times where they want to look up something, and I want to look up something to show who's has stats and stuff like that behind it. Um, and so I'm usually pretty happy when I'm able to, you know, go like, here's this right here. Um, if it would have been different, it would have been hard. I'm not the best at not arguing, but, um, presenting a case without like just stats in front of me. So that might've been a little bit different. Um, I wouldn't have been able to, um, look up that information, which is an important with my phone is having access to the internet.
Question 2

Participants were then asked to consider the sense of meaningfulness (worth and value) they got from doing their jobs. They were asked if having/ not having access to their mobile phones while at work affected this feeling. Many participants did not feel as though there was any meaningfulness attached to their phone use on the job. An example of this sentiment is expressed by this participant from the high engagement group.

…I find a lot of value in what I do at the hospital. I'm a phlebotomist. So I see a lot of different patients and I know that my job is essential to getting them to where they need to be health-wise and like diagnosis-wise. So I do find a lot of worth in that. I don't think that not having my phone affects my view on the worth of my job.

The findings amongst the three participant groups were as follows:

**High Engagement**

Within this group, three participants agreed that having the mobile phone was linked to their sense of meaningfulness, and five participants said that having the mobile phone on the job did not add to their feelings of meaningfulness in any way. The four others felt there was some connection between mobile phone use and feelings they had toward their job, but they did not necessarily equate this feeling to meaningfulness. One person shared having the phone allayed concerns for family in an emergency, and to that extent, the phone use added some dimension of meaningfulness to the job.

I don't think it really affects how I view my job. I could do my job even if I wasn't allowed to have my phone and I would like it just as well. I feel like I just maybe feel a little bit better about going into work have less worries because if
something does happen, I have access to my phone. And if an emergency does happen with my family, I'm able to know right away instead of having to wait until later. But I don't feel like it's a huge part of how I view my job…

Another shared that having the use of the phone at work was validating, and this made them feel relaxed.

… it's like a validation. It's like a validation that you're relaxed and enjoy to do your job because if I knew what was going on, then I'm relieved, and I could feel like a good job. I will have like done it back of my mind that like, I don't the not knowing, you know? So I feel like I have to have it just for that validation for myself and to know that, okay, everything’s okay. I can go on my way and do the best I can do.

One participant said that she derived feelings of freedom and respect from her ability to use the phone at work.

…It's rather liberating that I'm able to use my phone on the job. Um, I have that freedom. Um, so as far as my meaningfulness, uh, I know I’m respected enough to know that I want to use it.

Yet another participant explained how the phone was used for job-related activities.

…I think it does enhance it because sometimes, um, I am able to use my phone to look up studying things that are related to my job, um, that if I did not have in that, if I was not allowed to have my phone, it would have either delayed it or would have to say, I have to get back to you on that. Um, so I do think it does help in a way it does improve it.

Moderate Engagement
Question 2 was met with similar responses as shared by participants in the High engagement group, that meaningfulness was not related to having their mobile phones. Although they did not feel meaningfulness was enhanced by having the phone, these cohort members acceded that having the phone helped them “break up the day,” or when feeling bored, the phone helped them “speed up time.” Another participant shared that it “relaxes me.” Another stated bluntly that the two were “not connected” and that the sense of worth that was derived from the job was enormous (this participant was an educator), but that sense of value had “nothing to do with” having a mobile phone on the job.

Only two members of this cohort held the opposite view. One member of the group stated plainly that the having the phone provided “a greater sense of security” that translated to greater emotional availability on the job. Another who felt having their mobile phone enhanced meaningfulness also thought it was a distraction. This participant expressed a duality about having the mobile phone on the job that was interesting and noteworthy.

…I would say it would add value and worth, but I mean, it can be distracting. Um, if someone's like messaging me and like, it vibrates the table and stuff, then I get like kind of annoyed, but if I don't want my, I don't want my phone, like near me, I can put it somewhere, and I will do that occasionally if there's too many people messaging me.

The response is indicative of the participant experiencing tension between appreciating the benefits of having the phone and all that this could mean while simultaneously acknowledging the drawbacks from the constant connection and overwhelm that
accompanies being accessible all the time. Overall, the question seemed to raise some angst for members of the moderate engagement cohort. One participant shared her frustration over her employer’s phone policy.

I don't know if this is the right answer, but, um, I guess not being able to use my phone makes me feel undervalued and that they don't trust me to use my phone appropriately.

*Low Engagement*

These participants were also of the view that phones were not linked to meaningfulness on the job, but they did add something to the working experience. One person put it this way “Um, I don't know if it does have necessarily affect meaningfulness. I think it more affects, um, like happiness viability in the workplace.” Yet another participant shared that the pizza delivery job he currently had bore little meaningfulness.

Yeah, that's hard cause, you know, it's this job. There's no meaning behind it. Um, not at all. I mean, uh, you know, the meaning is all… Hey, the meaning is, uh, um, is based on our social interactions, actually. I mean, cause you know, I work with a lot of high school students, and I love to work with like some older people that are just doing it because they're, it's a part-time job after they retire. I mean, you know, so, um, so my phone, it doesn't [influence my sense of meaningfulness] in a weird way. It, it definitely influences my meaningfulness. Um, but not work-related [meaning].

One participant shared that using her mobile phone at work not only added no sense of meaning for her, but it also caused some resentment.
…I don't think it does so much for me. I think it actually causes a little bit of resentment sometimes because, you know, most people like to have that separation of their work and their home life. And when people have access to your cell phone, they tend to blur those guys, those lines. So, you know, here, you having a nice dinner with your family and all of a sudden your phone won't stop going off and you have to answer it because it's your boss, so…

**Question 3**

This question was about psychological safety. Participants were provided with a definition of psychological safety as being able to work without fear of negative consequences regarding your image, position, or career. They were then asked how having/not having permission to use your mobile phone on the job enhanced or eroded their feeling of psychological safety. The findings were as follows:

**High Engagement**

The participants in this category generally felt as though having the phone boosted their feelings of psychological safety. Most of the feeling was attributed to knowing that they could be reached in the event of a family emergency.

Um, I think sometimes I think just knowing that my phone is available and I'm allowed to use it in a way, it gives me a sense of safety. That makes sense because I'm like, okay, if I need to call someone or if I need to check in on something because can sometimes I might go to work and I have things that I need to check in on and knowing that I can do that on my phone or knowing that if someone needs me because I'm from a big family and sometimes, you know, someone might need to send me something that's urgent or just knowing that I have that
day. It gives me a sense of like a peace of mind. So I think if I was not allowed to have it if I was not allowed to use my phone, then there will be this anxiety or feeling anxious that okay, what is, you know, especially on days that I know I'm, I might be expecting a call from a parent or, you know, a sibling, so it will be okay. Okay. What is, what am I missing? So I'm going to be at work for eight hours and not communicate with people and not check-in. So I think it does give me a sense of peace knowing that I am allowed to use it. And I have it beside me.

Another sentiment expressed was related to self-care and mental breaks.

One participant expressed that having the phone simultaneously enhanced and eroded feelings of psychological safety.

…It kind of goes both ways. Um, because like before, when I didn't have access to my mobile phone, um, I definitely felt a little bit more of like psychological safety and that, you know, I, if, if I got an email after hours or if I had something, you know, it, that I needed to respond to, it was like, Oh, well, I, I don't have to respond to this because I don't have access to respond to it right away. Um, so that helped a little bit. Um, and that definitely made me feel like, Oh, well, my image is kind of protected because it's like, you know, I, I don't even have access to be able to respond to my boss right away, you know? Um, but then when I did have access to be able to use my mobile phone at work, um, I definitely, it, it felt a little bit different because there was a specifically, I can talk about one instance when I first started this new job. Um, I was, uh, my boss had asked like the team for some stuff after hours, like on a Tuesday. And I wasn't used to checking my phone after hours because I was like, Oh, like, I don't need to. And then I felt like
I had missed something, um, you know, and that my image was affected because I was like, well, you have access to this, and you didn't respond. You know? Um, so I think that kind of negatively impacted it in a way, which is kind of weird because it's like, you know, you would think that if you had access to it, it might not. But, um, it's definitely a little different, and it's been a little bit of a learning adjustment to have that access at work. Um, and then kind of juggle, like how does that affect my image, um, at work and, and all of that kind of stuff. So, yeah.

Four of the 12 respondents in this category deemed phone use a stressor that eroded their feelings of psychological safety. They expressed concerns for their professional image if they were to be seen on their phone.

I think it kind of; I want to put out the impression and the image that I am dedicated to my work. And I think that being caught with my phone would diminish that. And so I think that for me, I'm going to try not to be on my phone, especially in front of my supervisors or coworkers who I know have a negative feeling about having your phone while at work. Um, so I think that overall, having my phone at work, or maybe not having my phone at work would affect how people perceive me as an employee or somebody who's dedicated to the work..., and I think that's why I do, like when I do choose to check my phone, I do have that like anxiety that kind of rises because I don't want to lose that image. And I know how certain people feel about using a cell phone during work that I'm like, okay, I got to hide it. So nobody sees it versus, you know, I'm just checking it real quick. And I, I do my job, and I know that, but yes...my value for that perception is very high.
Another participant expressed it this way.

I definitely think it's just more me. I never, it was never even mentioned or anything at work. Um, it's just more of like an inherent fear that you have of like doing bad at your job. I think like I just, that's the way I managed myself. I want to be a professional member of my workforce. So I, I just didn't; it was more my own fear than anything that my workplace

Another participant said it like this

…There's some times that I'm on my phone actually doing work-related stuff in front of the computer. Like somebody's texting me. That's work-related, but I almost feel like somebody who's watching me, like, why are you on your phone? You shouldn't really be on your phone. So there's, there's still, even though we're allowed to enable to, there's still that little bit of somebody who's like watching either. Nobody is, but it feels like somebody is watching and judging because you're on your phone, even though it legitimately is a work-related response.

Meanwhile, one participant expressed a view opposite of those shared before, namely that being without the mobile phone was a stressor.

I feel strongly that we should be able to use them. I think that there's like two reasons, I guess, that I do get stressed out if I'm not allowed to use like my cell phone…and so the professional one is I guess, you know because I want to have like the access to information to help them and teach them how to do it again on their own. But I do think there is like a personal fear too, of if I can't answer this question and I can't look it up, am I a bad teacher. And so I think while, you know, many logically and say, there's no possible way for me to know everything
about the English language, you know, I still want to. And so sometimes, and I think it's because my job is such an essential part of my life. Then it becomes like, a self-worth thing. So if I'm not good at my job, then that's like a whole other thing that can happen. And I think that having that, that connection even if it's, it's not very common that I don't know something and have to look it up, but it has happened, and I'm sure will happen in the future…and so I think having that ability even if I don't use it a lot, just makes me feel better about being able to teach as well as I need to.

**Moderate Engagement**

Participants in the Moderate engagement cohort shared how their feeling of psychological safety was affected, positively or negatively, by their company’s policy regarding phone use. One participant was in leadership outside of work, and having the phone meant that both roles could be filled effectively, thus enhancing psychological safety.

I feel like being able to have access to my phone, which means that I can be accessible to those that need me. That makes me feel safe. Not being accessible gives me anxiety because I play an important part in some people's lives.

Most of the participants in the group felt that they were viewed negatively by peers and supervisors if they were seen on their mobile phones. One participant, although allowed to use the phone on the job, shared why she felt mobile phone use could negatively impact psychological safety:

…I think it could ruin my career if I was on it too much, you know? …I don't; honestly, I don't know. I think there's like a good in-between like; you need to
know when you're supposed to use it when you're not supposed to…I think if a person's using it like too much, I think it could cause problems in the workplace…

Another participant, who was not allowed usage of a mobile phone at work shared that perspective and spoke to the effect that the no phone policy had on psychological safety:

…It definitely erodes it because I have to work in here that if I use my phone, even if it is for a responsible purpose that I am going to be in trouble and that there will be an action taken against me… so it definitely, it definitely promotes a feeling of fear, which I don't think is necessarily necessary in this age. And I mean, how prevalent the use of electronic devices are…but I definitely feel that it, it definitely promotes fear and, I guess anxiety, it's also anxiety producing because I want to use my phone. I want to text somebody. I want to look something up on the internet. And even if I'm doing something for my job, looking up a medication or something, it appears that I'm not doing my job. And so you stand to face repercussions.

*Low Engagement*

Participants in this group shared how they felt guilty about being unable to perform tasks in a timely manner and having a phone enabled them to do their tasks uninterrupted regardless of where they were. One participant said it like this:

…it helps, makes you feel a little bit more like safe because if I had to leave or if I had to travel to a different place to work from home, I can always work from my phone. So it's almost like a safety net. Like if I have to run errands, I can still answer emails, and I can still answer on Microsoft teams. Right. So I don't feel like I've totally abandoned my job in that way, because I can do just about
everything from my phone…because I'm, I kind of like that… I put a lot of value in answering emails very quickly… and being just really responsive. So I do feel guilty if I'm not very responsive or quick to respond…

Another person described their mobile phone use during a trying family time as follows:

…so I had a lot of anxiety and I would have panic attacks at work. And there were periods of time where it was really bad. Like it was worse than, than usual. Like it was like a throughout the day. Like, I just just cried the whole time. But one thing that I felt was that my family wasn't safe, and I was at work. And so I worried about something happening to like my parents or my, my siblings and me not being able to be there. And, um, so that was like a huge source of my anxiety. So I would call them throughout the day. And I don't know if that was helpful or detrimental because, as I would, I would have to check in and make sure that they're okay. Or, I would call people at work. Um, so I was not only interrupting my productivity. I was interrupting theirs, but I just needed to speak to them to make sure that they were okay at that moment.

When asked what things would have been like without the phone during this trying time, the participant expressed why things would have been worse.

I think it would have been worse because I wasn't enough. Sometimes having that conversation would give me enough to go on for the rest of the day. Um, but sometimes like, um, if they let me know like, oh, I'm leaving work early. Well, then I would want to leave work early because I'd want, I wanted to be with them. So, sometimes it helped me, um, keep moving and get through the rest of the day. It was kind of like check-in and then have my moment, my little mid-morning
breakdown, and then go back to work. And then sometimes it was just like, if I knew they were available, then I would stop what I was doing and then go, cause I needed, If I knew that they weren't working, I was able to go back to work. But if they weren't, I wanted to go home to make sure that they were okay.

With regard to safety, one participant felt safe when he did have his phone to help him get through

…it's yeah, that's interesting. Um, definitely these, these people, it's not fully because you know, we all like each other, but when it comes to having that in my information, it definitely becomes, um, I do, I feel like I cannot be attacked. That's not a weird way of saying it, but I feel like I'm not, you know, able to have access to what I need when I need it. Um, also, you know, I, I enjoy these people, but sometimes, you know, again, this is a job where it's so many different, um, populations and so many different viewpoints and everything like that, which is fine. You know, I'm going to work with that in my career, but to the point where like, I need to be able to have my phone to talk to like text friends and stuff and just be like, this is ridiculous. Listen to what this one guy just said, you know? So safety-wise, I, without my phone, I think obviously I'll be fine. You know, I can still talk to them about other stuff, but with my phone, I mean, I definitely, [am better able] to, yeah, to maneuver that environment…

**Professional Image Perception**

One of the most interesting disclosures revealed when participants spoke about psychological safety was regarding how participants judged others and themselves when the mobile phone was used on the job. This was interesting because the way the
participants’ own perceptions, how they felt others were perceiving their level of professionalism, and the organizational culture all played a role in how employees explained their feelings about phone use. One participant expressed the conundrum this way:

Um, but I mean, I personally sometimes judge people like, why are you on your phone? Cause you can like walk by him like they’re on the first five minutes doing whatever, whether it be work-related or not. I don't know. But I just myself feel that I shouldn't be on my phone while I'm at work. Yeah. Even though some of it is work, nothing's legit really, work… like emails and messages. Yeah. I mean, it's, uh, the office culture is pretty open as, you know, open environment, open concept of you're here to work, but you're also, you're also a teammate. You're not an employee. So, you're a member, not a number interesting type thing.

**Question 4**

Respondents were asked how having/ not having access to their mobile phone while at work affected their emotional capacity to get assigned responsibilities done. The findings were as follows:

**High Engagement**

Three participants in this cohort denied that having access to their mobile phones affected their ability to get their jobs done. The other ten participants expressed that having the phones provided them with a sense of comfort that they could be reached in an emergency, making them feel more emotionally present and available to do the job. One participant shared how the phone helped her be a better service provider and thus be her best, most confident, and emotionally sound self on the job. Another participant who
shared this view said it was “emotionally comforting” and disclosed that often that would include having “a podcast running in the background.” Another shared that being allowed to freely use their phones granted them “a great deal of security” on the one hand, and the participant further disclosed that they felt “anxious” or “stressed” without their phone. Yet another participant experienced being “emotionally drained” when they did not have access to their phone and said that without the phone, it was “harder to focus” as they were unable to “take a mental break” from “work stressors.”

Two participants shared more deeply on the topic and noted that having the phone on the job was both good and bad. On the one hand, being able to use the phone was a convenience, but on the other, it was an intrusion into family life. The first participant shared it this way:

Um, it, it's kind of like I would say to begin with, it's kind of a two-edge (sic) sword. Um, it, it's nice to have it so we can check, see what's going on. Especially if I'm out and about doing things. I don't want to carry my laptop to check things messages. So it allows me to feel that I'm getting that done. But then, on the other hand, it allows us the workload to come back in a phone call; hey, this isn't working out. It's not working. Um, like today, I had three people contact me for the same issue, and I'm like, call the service desk. That's the procedure. But I had people texting me, messaging me, and then a phone call. So it was like, how, how much do I need to be, get a held of...

The other person who shared this concern said it like this:

I would say before when I didn't have access, it definitely affected my… kind of emotional capacity to be able to get the job done. Because I was feeling like I was
running up against a bit of a brick wall, you know because all of my other teammates were in that role. In my old role [those] who are salaried and had access to their phones after hours. I was the only one that didn't, so it definitely felt like I can't do this. You know, it felt like a little bit of a disconnect with me and rest of my team. And now that I have access to it, I would say as far as like emotional stability, it feels like it's definitely reassuring to know that I can respond quicker to things that come up at work or questions that my boss or director might have or my teammates even. Still, it's also, it eats up more of my emotional stability in terms of like my personal life because it's like it spills out into your personal life. And when you're salaried, you know, you're expected to work more hours than, you know, because you're not really tracking that like exact 40 hours. So I would say like emotional stability at work is better with access to my phone. But personal, like outside of work, um, emotional stability is like, uh, it suffers a little with access to my phone because, you know, we're obviously in the midst of a pin though, and it's like, it's hard to be like, Hey, like I'm going to respond to everything no matter what time it is, you know what I mean?

Moderate Engagement

Like participants in the high engagement group, participants in this group had a range of feelings regarding emotional capacity to get tasks done when granted access to their phones on the job. Some participants felt that phone on the job enhanced this feeling and one participant shared how having access to the phone reduced anxiety.
I've been, most of my jobs I've had, I've been able to use my phone, but if I ever forgot something or like, um, I've had one time where my grandfather fell over, and I needed to go quickly to, uh, help him. Um, so I think it does provide more security to me, emotional, like security by having my phone and being able to just, um, just be connected in case there's an emergency. And I don't feel that I, I don't know. I guess I'm anxious. I feel less anxious [having the phone].

One participant was adamant there was no emotional effect at all as that daily tasks were not affected in any way by phone usage:

I always get my stuff done regardless. So I am not on my phone a lot at work because I want to get my stuff done, so I don't have to worry about it. Right. It's like in-between stuff. So it doesn't really affect what I get done at work.

Another participant in the group shared how her tasks always got done, but there was an emotional drain on certain days based on what was happening with people who were making contact by phone on a given day.

I would say it varies depending on the day. Um, if it's a day where I'm not really being pulled at on my cell phone, then I'm probably a lot more present at work. Um, if it's a day where my phone is kind of constantly going off, then I'm probably not as present… I will always get my work done…it may not be in the timeliest manner if I'm being pulled at by my cell phone. Um, luckily, I have a job where my schedule is more flexible. Um, but there are definitely days where less work gets done because more's happening on the cell phone.

On the other hand, participants who did not have access to their phones shared how their ability to use their diminished morale. One participant felt that although levels of vigor
and absorption were unaffected by the inability to use the mobile on the job, other important elements of engagement were affected.

I think the only way that it has affected me at work is that I don't feel trusted. I don't feel that I am trusted to use my phone by management. And when you're not trusted, it's definitely a morale breaker. So I don't like that feeling. I don't like the feeling. I don't like being treated like a child. And I feel that if they allow you to use your phone when you deem it appropriate, then that's instilling trust in you. And I don't feel that I have that from management. That's a good example of them not trusting.

One participant who was forbidden from phone use at work shared a family example to highlight expressed how the lack of trust by management affected her emotional availability.

Um, I don't think it really plays on the assigned responsibilities, but it does distract me in a way that, you know, I have to worry about my family. Um, you know, in, in communication with people who need me, my job isn't my life. And in one instance, my daughter went into anaphylaxis, and um, they called, and I went into a back room because they had called twice, but had I not carried my phone on my person, I would've had no idea that my daughter was in anaphylaxis. So like not having like accessibility to the phone can make you feel really helpless. And had I not gone against management's rules, I would never have known that. And my family is more important than my job.

Low Engagement
In answering this question, participants in this cohort had mixed views. One participant expressed that her emotional capacity to get the job done was both positively and negatively affected by having her mobile phone.

I think it does. Um, only because it can be a little bit distracting when you're trying to get work done and you have friends and social media, and you have those notifications constantly popping up on your phone. But at the same time, it's also kind of refreshing because, you know, being stuck in an office with gray walls and I do welfare benefits... So I see people on like the worst day when they're just having a hard time. And then, you know, you just happen to see a post as somebody who has this beautiful newborn baby, you know, and you get that little emotional relief, like, okay, there’s still good in this world...

One participant shared that not having access to the phone was not usually a problem; however, there were times when the desire to use the phone was great, and there was an emotional affect.

Most days, I don't think it affects me, but some days I just really want to be on my phone cause, uh, I don't know something happening or something. Usually, it doesn't bother me too much, but sometimes it can cause a little bit of anxiety I guess, like, uh, my family like needing the contact me or like just, I don't know, like a sports game I’m really looking forward to hearing about or something. Just something I just find like really important...

Another shared that his job required little mental or emotional investment to begin with, so having access to the phone barely affected his feelings of psychological availability.
Um, emotional capacity? Well, obviously it helps a little bit, but when it comes to getting my task done, it's probably not at all. Um, again, it's very simple as a delivery driver. I am usually in and out the door, and when I'm hanging out in the store, it's because we're dead and I'm doing dishes, you know, it's a really mindless job. Um, I do it because it's actually mindless, you know, I can go from studying and writing a paper all day to just go into work for five, six hours and just do and exactly, you know? And um, so definitely, um, I don't think it affects my work directly. Um, I can't speak for how it will be in my future career, but currently [no].

The use of podcasts as a means of adding meaning, comfort, and refreshment to the work environment was an unexpected revelation that came up when participants answered question four regarding their emotional capacity to get the job done:

…I usually have my phone either listening to a podcast or something that, you know, just being there. Um, and it kind of makes the time go by in a way because, um, yeah, I'm multitasking, but at least I'm listening or watching something that's also, you know, in the background. So I think emotionally, maybe to be comforting…

Another participant said it this way:

…I just play a podcast that I could listen to so I could still pay attention. And when I had to wait on a customer, I would just pause it.

**Question 5**

Finally, participants were asked to try to remember/imagine life at work before mobile phones existed. They were then asked if they thought their level of vigor (energy,
mental resilience) and absorption (being joyfully engrossed in one’s work) would have changed with the advent of the mobile phone and their use of it on the job.

The findings were as follows:

**High Engagement**

Some participants thought that there may have been some change in their levels of vigor and absorption. Some felt there would be a definite reduction in their impact on the job if they did not have their phones.

…I was like 13 when I got my first cell phone. Um, so I don't really remember what it was like before then. Um, um, but I, I think that I would struggle more, I think that having the cell phone and having it in the classroom and being allowed to use it, especially in the classroom, um, is, um, I think it just creates like a sense of ease that makes me calmer as an instructor. Um, and I think it also is something that, like, um, kind of breaks down the barrier between me and my students. Um, so instead of them just seeing me as like this all-knowing person who just, I know everything. And so I, you know, I think, I, I think it's good that I have this, you know, a tool so that when they don't know something, I'm, you know, I'm like, well, let's, let's pull our phones out.

Others felt that their vigor and absorption would remain the same.

I don't think it's really made a difference just based on my work ethic. Um, I could see that with you. Yeah. I, I don't think it would really matter. Um, I'm trying to think back to, I mean, if I'd have to go way back, I'm just thinking about like when I was a kid, you know, I had the type of jobs that were low skilled, and you wouldn't, you wouldn't even be carrying a cell phone with you because the type of
job you had Where you would need your hands to work, you would, you would need your body sometimes to work. Um, there would be nowhere to carry it. There'd be there just it, you know, and with work ethic, my work ethic. Yeah. I just don't think it would really make a difference.

Some felt that having the phone on the job was detrimental to vigor and absorption.

…as far as vigor and absorption, honestly, it might've been better because there's less of a distraction. Right. So maybe I would be able to like focus in more on the tasks that I would be doing at work and be able to absorb more because there's not as many outside distractions. For example, when I'm working on class stuff, I try to limit my distractions when I'm in class, and it helps me absorb a lot more. I mean, it's obviously not a true example of how it would be without a phone, because, you know, there are so many distractions in modern times. But it's a good indicator that it is a little bit easier to absorb when there's not as many like technological distractions coming at you. But I think that as far as like vigor goes, then it might be better without all of the distractions. Um, but it's hard to tell because I've not really been in that position.

A participation with a similar view shared that a slower pace would be the result of having no phone and that would improve vigor and absorption:

…I would say the pace would probably slow down a little bit, and it'd be more focused on what you're actually doing versus continuously trying to do the next thing, next thing, next thing. Um, because you don't have something constantly dinging… I get notified of a meeting on my phone, my watch, and my computer. I have three things, and it just feels like, okay, what's going on next? What's next
what's next…Like I'll get notifications on Facebook, Twitter, email, calendar invites all the time, text messages, like what's going on. It's just like a constant notification. Like sometimes, it gets to the point where I like, okay, stop dinging at me. Like it gets too annoying, and that's, but yeah, it would probably allow a lot more focus and downtime or actual yeah, focus time on the task at hand, when I'm working on versus constant interruption of content switching,

And the last group felt that they could not answer the question because they had never experienced life without mobile phones and it was difficult to imagine.

I think, I think that's a, that's a tricky question. Um, I think if I was working at a time where mobile phones were not, um, that common, I don't think it would've even been an issue at all because it's non-existent in a way. Um, so I might, I want to say it without it; I will have to be working harder. So when I meet what I mean by that is like right now, sometimes I have to pull up resources on my phone. Like someone might ask me something at work, and I might not know where exactly that is located, or I might exactly not know what the eligibility requirements are for that program. And I'm like, okay, just give me a second. Let me figure that out. And I'll let you know. And I got my phone, typed it up, and figured it out. If I did not have my phone, that means that I literally have to go find that resource. So if I have to drive back, we'll figure it, um, ask questions or, you know, it'll take me longer. So maybe working smart, not hard in a way, if that makes sense.

**Moderate Engagement**

Participants in the Moderate engagement range were also divided on the effect that having their phones had on vigor and absorption. Three participants echoed the time
savings expressions of their counterparts from the high engagement cohort that is having their mobile phones helped them save time and helped them be more efficient:

Um, I think definitely for sure. Um, it's saving me time in a way. Um, the fact that I don't have to drive somewhere and ask the question, I can easily pull it, pull that information up, or even just simply call the agency that because I worked in social service, so it's easier for me to just pull up information, call the people, ask questions, or even go on their website through my phone and figure out what's what, um, what's going on. So it's saving me time, um, on certain tasks. Um, I'm more effective when I'm doing setting things, knowing that I have the resource of having a phone with me, and knowing that I can easily pull something up or make a call. So, yeah. Um, effective.

There were other mid-engagement cohort participants who felt that not having their mobile phones would increase their level of absorption.

Yeah, I do think that not having a phone, um, and not having to worry about everything. Um, I think I would probably be more engrossed in my past and more, um, more present sometimes…if I didn't have a phone…A lot of times, sometimes you'll get like a message or a notification, and it'll take you out of work and maybe productivity, or maybe change your mood depending on what was said or just what the notification was. So if you didn't really have the phone at work or at a time, whenever there wasn't a phone at work, you just kind of be more present, um, at the time, because there was no way unless you use like maybe the office telephone. So you'd be more, I guess, engrossed in your tasks.
And probably, I would think just maybe happier. I don't know. I think… I dunno about that one, though.

One participant shared how things might change if phones did not exist prior to this moment and how that change would affect vigor and absorption levels now that phones did exist and they were allowed on the job.

…I think I would probably want to be on my phone all the time because it's new, and I'd be so interested in that. And it would probably change. I don't know. It probably would change it for sure, but since I grew up with it, um, yeah, I just, I'm just used to it, but I think it's definitely a distraction though, regardless.

Another participant shared how her levels of psychological availability would have suffered if phones did not exist or if she were not allowed to use them on the job.

In my opinion, I am happier being able to use my mobile phone, uh, because if I need a mental break, I can get on Facebook for five or 10 or 30 minutes and, um, you know, kinda zone out for me, I could play music, I could play a game to me it breaks up the monotony of just staring my computer screen for eight hours, you know, in an Excel sheet or making calls after calls. You know, whatever my workday calls for, having that mobile phone just really provides an escape. So, um, yeah, I don't know that I would have been as good of an employee, uh, without it, uh, I dunno…

Another participant shared the following when answering question five, regarding how absorption looks different now that mobile phones have been invented:

Um, I think too, um, while we did have an issue about that, um, um, a coworker of mine when people thinking just because he has his phone out, that he's not
working or he's not, um, he might be procrastinating or something like, I don't know. Um, basically, they were looking at it in a negative light, which I can understand. Um, I wish I had a conversation about, uh, with my supervisor about, um, I think, to be honest, there are people... still people do look at it... some people. And I also think it depends on the person's, um, mindset, or maybe I want to say socialization, cause you need to people that they might not, technology might not be something that they're approving of too much. Um, so to them, it's like, oh, you are using this waste time, or you're using this to, they look at it in a negative way. Still, then people like me, maybe in my age group, I'm like, I use this at work, knowing that I'm using it for work, even though it's my own personal phone, but I'm not using it for anything else. Um, that is not being helped for when it comes to the job. So some people look at it in a positive light, knowing that you have that, considering it as a resource, some people might look at it as a distraction.

**Low Engagement**

In response to this question, participants in the low engagement cohort expressed the view that vigor would be increased if mobile phones were not allowed on the job.

…I think without a phone you'd feel more, well, I guess, an energetic or something like that because you wouldn't have your phone on your mind at all. You would just; you're just the, uh, there's nothing to distract you really, or at least not nearly as much to distract you. I don't think having a phone or not having a phone would really affect my enjoyment or whatnot of my work. I think it would just be pretty much the same in that regard.
Another participant shared the pressure she felt simply having her phone with her all the
time. She believed that this pressure would not have existed before mobile phones were
in existence. Thus, workers would have had higher levels of vigor and absorption.

I think that if I would have worked before mobile phones were a thing, I would
probably feel more energized and involved at work. I see phones as being like a
big distraction for me. Like even like at work, you'll just want to like go on your
phone and check social media. And so that's a distraction for sure. So I think that,
um, like even with my schoolwork, it's just a distraction to me, and I like having it
now, but I do think if I didn't know that they were a thing like before they were
invented, I would be happier at work.

Another participant in this cohort shared a similar view.

I think it [vigor and absorption] would decrease because I do not think having that
distraction allows you to be more, in the moment, focused on what you're doing. I
do think that there's something to be said for being able to call your husband on
your lunch break or checking with the grand babies or whatever it is you want to
do on those, you know, moments. But I think that, cause I'm trying to imagine
their perspective, you know, like you've gone all this time and you worked, and
you've not had any problems. And now you have this phone, which seems more
of a distraction. You know, like I have a lady I work with who she's like, I want to
say she's 63, 64. And she presents her phone, and she hates it. She hates it when
people call her; she tells him to call her work desk. She doesn't want anything
because when she's at work, she's at work, and she wants to focus on that. And
you know, she feels like if she talks to her husband all throughout the day, when
she gets home, she has nothing to talk about, you know? And she loses that quality. So I feel like that's more where I would stand with it.

One participant lamented how much working relationships had changed since the advent of the mobile phone and expressed the view that work interactions would be different if mobiles were not allowed.

I am on that cusp of, you know, having the phone, everything. So my first job was when I was 16. So I'm about to turn 26, about 10 years. Okay. So 10 years ago, when phones were just the flip phones and the only entertainment on it was just the little games that were not enough for you to, you know, I could text friends, I'm sure. And all that, but I worked at, um, I don't know if you've ever skyline. Um, yeah, so I was a server there 16, and you know, no one was on their phone, you know, it was all. And so I remember I was really close friends with like three or four of the girls, you know, one I'm a big basketball fan, and one of the girls got a scholarship to play at the University of Tennessee, which is one of the best girls, women's basketball teams. So we would always talk basketball, you know, so definitely looking back now. I mean, if phones didn’t exist, I definitely can see not only work being fine but could even be improved for sure. Um, you know, cause I, I, I'm one of those that, that generation customer, I can definitely say that, you know, our phones definitely changed our social interactions for the better, but also, you know, for the worst. So I would definitely say that, um, it could, it could prove social relationships. Um, you know, cause like I said, I mean we at work… work was fun at skyline. I mean, it was my first job. So, you know, I was always, of course, pumped for that, but um, you know, I got to know everyone, you know,
there was no, there was no need to get on your phone or anything. And there was people, you know, at work that you didn't like, but you still, you know, dealt with them and everything. And I don't know. I just, I think it'd be different for sure.

**Overarching Considerations Across All Questions**

Participants made several disclosures that did not fall strictly under the categories for consideration in the study. Given the nature of the study and its aim to understand the phenomenon of nomophobia and how it affects employee engagement, it was considered prudent to detail some of these disclosures as well. One of these was a concern regarding social media. One participant shared the following:

I love social media. I do like, I like being on it, but it's just, I just don't like what it's becoming and what it is now, but it's um, I don't know, like already, I feel like our society just revolves around it, and I just don't like it.

The issue of trust was a recurring idea, especially when participants wanted to use their mobile phones to ensure the safety and wellbeing of their families. One participant made this statement:

…Like if you can have it on the, um, your phone on a job, that means that, um, you don't have to sneak, like, is that what you're saying? Like, you know, you don't have to see that about it even can just be like, this is what I'm doing. Um, I'm not doing it to like break a rule or be, um, you know, rebellious or you know, anything I'm I'm um, I have a family and just want to make sure everything's okay without sneaking, you know…Um, you can have your phone on your desk, but you can pick it up like for like 10 seconds just to check and put it back down, you know, just have it there on like silent, if you need it just in case like your phone
does light up and then you can like, see like, Oh, it's not important. Cause you gotta like, think like what are, what is important at the time? And you can be like, okay, at that phone lights up and it's my family or my kids that's important. If it's anything else, then don't pay attention to it. But if you need to pick it up, say for 10 seconds, just to check, make, put it back down, you know, like,

Another participant made this disclosure:

…So I've done… I've actually done that before. Um, I've like I was working in, um, customer service, um, like telephone customer service, right. Where they're very regimented about, like the times that you're on the phone and taking phone calls and all of those kinds of things. Um, because that's your job is taking phone calls. So like, if you were to step away to take a personal call, you would be reprimanded for taking time out of your work schedule. So I've actually been in that position before. Um, and that's, it's very, like, it feels like your workplace doesn't care about you. They don't care if it's like an emergency or an extenuating circumstance. It's, it's just, it feels, um, it feels a little bit degrading almost because you're like, I, you know, I'm like, Hey, somebody in my family is having a health emergency, and I have to step away to take this phone call, but then my statistics for the month are getting like, dinged for that. You know what I mean? Um, so I've, I've been in that position before. It, it's not, it's not fun.

Finally, participants shared that there was a change in the culture regarding how dependent the younger generation was on their parents and that parents, like herself, allowed it. This participant underscored how mobile phones helped facilitate that change:
Um, like beforehand, you know, like, ‘cause you know, I'm in my forties, my late forties. Um, I remember going to work with no phone, and back then, you just, um, if something happened, you just hear about it after work, you know, and everybody took care of their own thing. But now I think we live in a time where people rely on other people besides themselves, like the middle, I wouldn't call it. Millenniums yeah. Yeah. So like, um, so back then I remember, you know, you just didn't worry, you know, it's just everybody like took care of himself, and [if there were a problem, you would] just hear about it afterwards. But now that everybody's connected, everybody wants to share or pull other people into their situations to help fix it. And I think being a mom with the kids, and it's my fault too, where I felt obligated to be, um, like approached about that and to be interrupted. Does that make sense?

**Conclusion**

In this chapter, excerpts from the interviews were shared in the context and categories they were received. Some of the other interesting responses were also shared so that the overall tenor of the data could be appreciated. The participants’ exact words were conveyed to preserve their voice and add texture to the phenomenological understanding we glean from their responses on nomophobia and employee engagement.
CHAPTER V
SUMMARY, DISCUSSION & CONCLUSION

Introduction

This study was conducted to elucidate the impact of nomophobia on employee engagement. In particular, the study aimed to gain insight into the phenomenon of nomophobia and capture the lived experience of participants, using the voices of the participants in a critical case, mixed-methods explanatory format. This chapter summarizes the study findings, limitations, implications for practice, recommendations, and conclusions, based on the findings shared in the chapter prior. The purpose of the study, the research questions, and the study’s results stipulated the conclusions that will be explained in this chapter. The implications of the findings and recommendations were formulated based on the conclusions derived from the data analysis, keeping with the study’s original purpose.

Overview of The Study

The study was an explanatory, mixed-methods study (Castro et al., 2010; Creswell & Plano Clark, 2017). The researcher leveraged a two-phased, phenomenological approach to attain the objectives of the study. In Phase 1 of the study, participants completed the Nomophobia Questionnaire (NMP-Q). In Phase 2 of the study, semi-structured, qualitative interviews were conducted with thirty-two students of a medium-sized Midwestern University in the United States, all of whom experienced severe nomophobia.
The interviews were conducted remotely and recorded via Zoom. The researcher noted themes and categories that emerged from the data, and extant literature on each of these themes was used to augment the researcher’s analysis (Lincoln & Guba, 1985).

The research questions were:

RQ1: What is the prevalence of nomophobia among employees in the workplace?

RQ2: To what extent is there a relationship between nomophobia and employee engagement?

RQ3: How does nomophobia affect employee engagement in the workplace?

**Interpretation of the Findings**

The research, as quoted in previous chapters, was aimed at achieving the following objectives:

- To add to the body of literature concerning employee engagement, specifically from the perspective of the presence and impact of nomophobia among employees.
- To discover new data beyond Kahn’s (1990) seminal insights and Schaufeli and Bakker’s (2004) projections on employee engagement.
- To delineate how employees perceive their levels of engagement to be affected by nomophobia.
- To discover the effect of nomophobia on employee engagement and demarcate how employees perceive its effect. Yildirim and Correia (2015) posit that nomophobia is a phobia related to (1) the inability to communicate, (2) losing connectedness, (3) failure to access information, and (4) giving up chow glean
how participants understand and construct their reality in terms of their mobile phone use on the job.

- To uncover what factors influenced the nomophobic tendencies of individuals and how these factors influenced their levels of employee engagement.

Summary of the Data

Six a priori themes, based on the tenets of Kahn (1990) and Schaufeli et al. (2015), were used to analyze the data. These themes reflect that employee engagement is to:

(1) Meaningfulness
(2) Psychological Safety
(3) Psychological Availability
(4) Vigor
(5) Dedication
(6) Absorption

It was thought that these factors could be impacted by nomophobia, which is the fear of being without one’s mobile phone (Yildirim & Correia, 2017).

Meaningfulness

When employees feel a sense of worth from their work because they feel as though they are making a difference through their contribution, this is meaningfulness. In this sense, the contribution made by the employee and the feelings of worth they experience at work transcends the job itself (Kahn, 1990).

Chalofsky (2003) described meaningfulness as a measure of how employees view their work based on how much it allowed them to experience integrated wholeness.
Integrated wholeness is based on the employee’s (i) sense of self and what they bring to the work; (ii) the work itself, including opportunities for risk, challenge and learning; and (iii) a sense of balance, the ability to bring one’s personal and spiritual self in alignment with the work self and the task at hand (Chalofsky, 2003). Meaningfulness on the job is related to positive individual and organizational outcomes such as employee engagement (Chalofsky & Krishna, 2009).

**Psychological Safety**

When employees work without fear of negative consequences regarding their image, position, or career trajectory, this is psychological safety. Psychologically safe environments allow employees to experience positive and rewarding interpersonal relationships (Kahn, 1990). In such settings, employees regard the approach of management to be non-punitive and encouraging of interpersonal risk-taking behavior, alongside the expectation of candor in communication (Edmondson 2018, pg. 15).

**Psychological Availability**

Psychological availability is the perception that employees have of their self-efficacy and empowerment in tandem with if they possess the emotional capacity to get their job done (Kahn, 1990).

**Vigor**

Vigor is demonstrated when workers display mental resilience and demonstrate high energy levels while working, as well as their willingness to infuse their work with resilience and energy. When employees present these attributes on the job and incorporate persistence despite difficulties while at work, they are displaying vigor (Schaufeli et al., 2006).
**Dedication**

Dedication is characterized by employees feeling a sense of purpose through their work that redounds to them experiencing enthusiasm, inspiration, pride, and challenge in a healthy way. When the employee is involved in his/her work at a deep level, dedication can occur (Schaufeli et al., 2006).

**Absorption**

This is the term used to describe the employee’s full engagement experience to the point that he/she is in deep concentration and joyfully engrossed in his/her work. For an employee experiencing absorption, time seems to pass quickly, and he/she finds it challenging to detach him/herself from the work (Schaufeli et al., 2006).

Seven emergent themes were observed after the analysis of the data. These themes were categorized based on:

1. extrinsic pull reasons outside of the job that lured individuals toward phone use
   a. Family
   b. The Inability to Reach Others or be Reached in an Emergency
2. intrinsic push factors related to the job pushed individuals toward phone use
   a. Efficiency
   b. Boredom
   c. Trust & Respect
   d. Professional Image Perception
3. Work-inducing factors for phone use
   a. Isolation

**Family**
The mention of the family was a recurring theme throughout the entire Phase 2 interview process across all engagement levels. For this study, family refers to individuals who are biologically related, or who are legally connected such as in marriage, or by adoption, as well as in-laws or such connected groups that also share responsibilities of care for each other. Family members may, or may not, live together. Specifically, when participants answered meaningfulness and psychological availability questions, they expressed that family was the ultimate driving force behind their decisions. This is in keeping with gerontological studies that explain the tasks and roles played by caregivers who provide “social and emotional support, advanced care planning, financial assistance, and care coordination” (Committee on Family Caregiving for Older Adults; 2016). This is also congruent with the findings of Bailey and Madden (2016). They interviewed 135 individuals from ten differing occupations and discovered that meaningfulness was episodic, discovered by the employees themselves, and based on personal values. The researchers also discovered that meaningfulness was also easily eroded by poor management practices (Bailey & Madden, 2016).

The importance of family across all engagement levels was interesting because the study is aimed at delineating how individuals across varied levels of engagement, low, moderate, and high, experience the phenomenon of nomophobia. The theme emerged as a response to questions on their freedom to use phones in the workplace. When asked to share an experience about a time when they needed to use their mobile phones so badly that they broke company policy to do so (in working environments where mobile phones are disallowed) or where they were happy they had the freedom to do so (where mobile phones are allowed), 33 percent of respondents, four of the 12 in the
High engagement category shared a family story. In response to the same question, 25 percent of participants in the Moderate engagement category (two of eight) and 25 percent of participants in the Low engagement category (three of 12) shared a family story. Participants mentioned their parents in all of these stories; one participant’s account included siblings.

Participants also mentioned family when asked if having access to their phone enhanced their feelings of psychological safety. Three of 12 in the High engagement category, one of eight in the Moderate engagement category, and three of 12 in the Low engagement category mentioned family in response to this question. Finally, the family was also mentioned by participants in response to whether having their mobile phones allowed them more or less emotional capacity to get their jobs done as follows: One of 12 participants in the High engagement category, one of eight participants from the Moderate engagement category and two of 12 participants from the Low engagement category.

The stories shared indicate that family is important to employees as a significant consideration in decision-making on the job. This idea, however, is in contradiction to the latest Gallup poll that suggests that Americans care very little for the elderly and family relations among the nation’s least important problems (Gallup, 2021). Given that for this study, the family was a theme across all engagement levels as a trigger for fear of being without one’s mobile phone, nomophobia may be indicative of a shift in values toward stronger family ties. The reasons for this shift may be linked to more profound socio-economic, socio-cultural, socio-generational challenges that affect individuals in the post-
modern era. Future studies may be aimed at delineating the impact of such social changes on individuals’ fear of being without their mobile phones.

**The Inability to Reach Others or be Reached in an Emergency**

For this study, an emergency refers to unexpected, serious, urgent, sometimes dangerous situations that require quick action in order to be resolved. Nomophobia includes the fear of being unable to access and receive health or emergency assistance if needed (González-Cabrera et al., 2017; King, Valenca & Nardi, 2010). The interviews confirmed that participants experienced fear related to accessing health and emergency assistance for their loved ones and relatives. This is distinct from the nomophobia literature that refers to nomophobia being related to the fear of being unable to access health and emergency assistance for oneself (González-Cabrera et al., 2017; King, Valenca & Nardi, 2010).

Four of 12 participants in the High engagement category told a story about emergencies when asked to share about their freedom to use their mobile phones on the job. No participants in the Moderate engagement category mentioned emergencies in their stories, and four of 12 participants in the Low engagement category mentioned emergencies in the stories shared. Participants were concerned regarding the health and wellbeing of family members, namely aging parents, grandparents, or at-risk children. It was interesting to note that only 2 participants expressed care for their children. One person voiced care for an adult child, and two participants cared for siblings. All the other references regarding concern about accessing healthcare and emergency services were toward parents and grandparents who were at risk of falling or had recently experienced falls. This is in keeping with CDC reports that falls are the leading source of injury and
death for seniors in the United States (CDC, 2016). Whereas it appeared that employees from families with multi-generational living arrangements, or those who were responsible in some way for parents were concerned for the elderly, it appeared that employees with families that were suffering trauma or abuses of any kind experienced heightened anxiety regarding siblings and adult children or grandchildren who may have been at risk. It was interesting to observe that the family took two paths of concern, one was toward the elderly, and the other was toward children and younger adults in abusive situations.

Emergencies, such as something happening to the study participant, a colleague, or a loved one, were also mentioned by one participant in each of the three engagement categories, High, Moderate, and Low, when sharing about psychological safety. One High engagement participant mentioned having one’s phone in case of emergencies when addressing whether having access to one’s mobile phone affects meaningfulness on the job. Having the phone as emotional security in case of emergencies was mentioned by a participant with Moderate engagement levels when responding to whether having access to one’s mobile phone affected one’s emotional capacity to get the job done. Participants in the Low engagement category mentioned emergencies three other times when sharing meaningfulness.

Efficiency

Efficiency can be defined as one’s ability to get work done in the most optimal manner, with little to no waste or redundancy. Although related to one’s ability to access information and convenience, the efficiency theme unearthed was not as much to do with access as it was to do with participants’ time savings and confidence. The researcher wished to highlight this distinction out by delineating the subtle difference. Participants
who valued working in a streamlined manner and whose confidence on the job was attached to their ability to present themselves as professionals equipped to handle a multiplicity of scenarios appreciated the use of their phones on the job primarily for this reason.

Two out of 12 Highly engaged participants shared stories relating to efficiency when asked to share about a time when they used their mobile phones on the job (whether or not they had the freedom to do so). Two participants of eight in the Moderate engagement category shared an efficiency story. Three participants of 12 in the Low engagement category shared an efficiency story when asked the same question. When asked the second question, regarding if having access to one’s mobile phone affected the meaningfulness one experienced on the job, three participants from the High engagement category, one participant from the Moderate engagement category, and one participant from the Low engagement category shared that having access to their mobile phones helped with efficiency.

**Boredom**

For this research, boredom can be defined as the lack of stimulation or interest in one’s activities. The theme of boredom, although expected to feature more prominently due to the modern habit of taking breaks with smartphones (Dora, van Hooff, Geurts, Kompier & Bijleveld, 2021) as a reason that employees were distracted, was mentioned only four times. Dora et al. (2021) tested hourly boredom and fatigue levels, in conjunction with mobile phone use, of 83 Ph.D. candidates. In that study, the results indicated that the more fatigued and/or bored participants became, the more likely there
were to engage in mobile phone use. This practice, however, resulted in greater levels of fatigue and boredom.

With regard to this study, it was interesting to note that use of the phone because of boredom was only mentioned by study participants with Low levels of engagement twice as they shared stories of a time they used their mobile phones whether they had freedom to do so, and twice by members of the Moderate engagement cohort when asked if mobile phone use contributed to their feelings of meaningfulness. This theme was not mentioned among members of the High engagement cohort at all. Whereas social media platforms were mentioned as outlets participants relied on for boredom relief, educational podcasts seemed to be the instrument of choice in scenarios where participants from the High engagement and Moderate engagement cohort were allowed to use their phones on the job. When responding to whether their mobile phone use impacted their emotional capacity to get their jobs done, these participants explained that the phones were used to help them access podcasts rather than videos or social media.

It is also interesting to note that despite the findings of Dora et al. (2021) that mobile phone use when bored or tired led to worse feelings of boredom and tiredness, the perception of seven of the 12 participants in the High engagement cohort reported that having access to their phone was “emotionally comforting,” “reassuring,” helping them to be “emotionally present on the job.” They also shared that mobile phone access prevents them from feeling “off-kilter” and “emotionally drained” because of “job stressors.” Four of the eight Moderately engaged participants shared similar views, and seven of the 12 participants with Low engagement felt the same. For all these reasons, the
perception of these participants was that having their mobile phones increased their emotional availability on the job.

Two members of the High engagement cohort felt that phone access did not affect their emotional capacity to get their tasks done. Two of the eight Moderately engaged participants echoed this sentiment, and two of the participants with low engagement levels. Two other participants from the High engagement cohort felt that mobile use was “a double-edged sword” that caused stress because they were “tempted to scroll” while on the job.

**Trust and Respect**

Participants described trust and respect as the positive way their managers treated them on the job when their feelings, rights and needs were understood and taken into consideration. They described a lack of trust and respect as environments in which managers disregarded their feelings, rights and needs. Participants shared two opposite sets of trust and respect experiences based on whether they were allowed to use their phones on the job. The role of devices differed in each context, and was mitigated by organizational culture, leadership interactions, and professional image. At organizations in which mobile phone use was allowed, participants expressed feelings of being trusted and respected by management. Conversely, at organizations where mobile phone use was disallowed, participants felt guilty when they hid to use their phones and expressed their anguish over being mistrusted and disrespected by their leadership.

Two employees who were allowed to use their phones in the High engagement cohort shared that they felt respected and trusted in that they were treated like adults. On the other hand, three participants employed at organizations where phone use was not
allowed expressed the opposite feeling. One was from the Moderately engaged cohort, and the other was in the Low engagement cohort. These employees lamented the lack of trust and respect they suffered at the hands of the organization’s management apparatus. These feelings were observed to be further compounded in situations where employees were isolated and/or working shifts longer than eight hours.

**Isolation and Loneliness**

Whereas isolation occurs when an individual is physically solitary, separate from others, loneliness is a feeling of aloneness that one can experience even when in the company of others—as well as when one is isolated (Park et al., 2020). It is possible to be isolated and not experience loneliness. Loneliness due to isolation was mentioned by two participants, one in the Moderate engagement and one in the Low engagement cohorts, as a factor that affected their levels of engagement. Participants who mentioned this often worked long shifts 12 hours or more and were usually alone with machines, the infirmed, or the elderly. In these cases, participants disclosed their frustration in wanting to communicate out of a sheer need for human interaction.

The literature suggests that loneliness should be added to the list of stressors that can lead to depression, anxiety, suicidality, and general mental health concerns (Park et al., 2020). The desire to use mobile phones to ease feelings of loneliness is in keeping with the point of view expressed by Duke and Montag (2017) that mobile phones are used when employees desire to escape job stressors. As mental health concerns are becoming more widely acknowledged (Park et al., 2020), mental stressors due to the lonely nature of the job may be an area for leaders to improve within organizations in which it is normal for employees to work long solitary shifts.
Professional Image Perception

The Merriam Webster Dictionary online defines perception as “a capacity for comprehension” (2022). The same source renders image as “a mental conception held in common by members of a group and symbolic of a basic attitude and orientation” (Merriam Webster, 2022). Thus, for this study, professional image perception is the mental conception employees hold of themselves as professionals and how they understand their roles, attitudes, and orientation as employees, to be reflected in their work.

Throughout the interview process, participants shared their concern that their professional image suffered when they were seen using their mobile phones. In many cases, participants divulged that their professional image was important to them, having been cultivated over time and potentially compromised through phone use. Three members of the High engagement cohort, three members of the Moderate engagement cohort, and three members of the Low engagement cohort expressed these views.

Some participants disclosed that they feared being seen as unprofessional, and they were cautious when using their phones as a result. Others shared that they viewed individuals who were on their phones as unprofessional. Therefore, they felt guilty and sensed an internal pressure when they needed to use their phones, even for legitimate and/or work-related tasks. This was similar to a study in which 16 nursing students shared their perceptions of mobile use on the job. There was a similar dichotomy in perceptions based on the environments being supportive or non-supportive of nurses using their mobiles to access information (Beauregard, Arnaert, & Ponzoni, 2017). Thus, it must be noted that overall, employees desired to have clarity on the role that devices...
could play in their workplace, and they felt trusted and respected when leadership made allowances for responsible mobile phone use in their unique professional settings.

Participants shared that the age or tech-savviness of the supervisor mattered with regard to how mobile phone use was perceived. While there were individuals over thirty who expressed the view that mobile phone use made one appear unprofessional, younger participants in their twenties expressed this sentiment as well. For individuals who are already experiencing a fear of being without their mobile phones, the additional pressure of negative professional perceptions accompanying phone use could make for more stressful work environments and nervous employees.

**Summary of Findings**

The study confirmed that employees did experience nomophobia, and there was a significant relationship between nomophobia and employee engagement. The higher the level of nomophobia, the lower the level of engagement. The Phase 2 interviews confirmed all the a priori codes posited by Kahn (1990): meaningfulness, psychological safety, and psychological availability and Schaufeli et al. (2006), namely vigor, dedication, and absorption as being salient. These codes were embedded in the interview questions and the relationship between the a priori codes and emergent codes can be observed in Table 5. The study questions can also be found in Appendix 2. The study confirmed that meaningfulness is salient for employee engagement, but limited in scope with regard to nomophobia, as employees seem to derive meaningfulness elsewhere. Conversely, psychological availability and psychological safety when viewed with nomophobia, were strong areas of focus for employees. The same was true for vigor, dedication, and absorption.
Table 7

Table of codes, topics and questions

<table>
<thead>
<tr>
<th>Emergent Code</th>
<th>Theorist</th>
<th>A priori code/topic/Question</th>
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<th>Mod</th>
<th>Low</th>
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<td>3</td>
<td>7</td>
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<tr>
<td></td>
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<td>4</td>
</tr>
<tr>
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<td>Schaufeli et al.</td>
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<tr>
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<td>Meaningfulness (Q2)</td>
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<td>4</td>
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<tr>
<td></td>
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<td>1</td>
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<tr>
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<td>Schaufeli et al.</td>
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<td>0</td>
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</tr>
<tr>
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<td>3</td>
<td>7</td>
</tr>
<tr>
<td></td>
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<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Schaufeli et al.</td>
<td>Vigor/Dedication/Absorption (Q5)</td>
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<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Boredom and or Energizing</td>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
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<td>Meaningfulness (Q2)</td>
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<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td></td>
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<td>2</td>
<td>6</td>
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<tr>
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<td>10</td>
</tr>
<tr>
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<td>2</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Professional Image Perception</td>
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<tr>
<td>Isolation</td>
<td>Kahn</td>
<td>Psychological safety (Q3)</td>
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<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

In particular, however, the findings of this study confirm the tenets of Nikonlova and Cnossen (2020) with regard to meaningfulness being predicated on autonomy, relatedness, and competence. In some cases, however, the experience of meaningfulness
(Kahn, 1990) was simply not present for some participants in the work they were employed to do at the time of the study.

Apart from adding to what is known about employee engagement and nomophobia, the research contributes fresh insights regarding isolation. The research contributes to the literature, adding the extrinsic measure of organizational culture to the engagement conversation. Organizational culture elements that affect engagement levels for employees experiencing nomophobia include whether employees feel seen, heard, and respected, as well as management leadership and communication style.

**Interpretation of Findings**

To some degree, the findings were in keeping with the research propositions. Based on the current literature, the researcher expected that there would be evidence to show that employees are already facing stressors in the work environment and that mobile phones and the related technology present an additional layer of complexity to the working equation (Duke & Montag, 2017). Employees, therefore, need the skills to navigate all this complexity in addition to functioning at optimal levels in order to succeed (Schaufeli, 2013). To this end, one might have expected that the study would give credence to the idea that life would be simpler and organizations would be more productive if employees were without access to mobile phones at work. In some cases, this was true; however, the opposite was true in many cases. Many employees were less stressed when they had their phones to be able to access family members and be reached in the event of an emergency.

It was also expected that the experience of nomophobia would cause employees to be less focused on the job when they had access to their mobile phones. The findings
indicate that this was rarely the case. Whereas it was anticipated that participants would be distracted and get in trouble due to compulsive and obsessive phone use, it became evident that access to one’s phones on the job improved employee investment. This idea echoes the sentiments of other theorists (Bhuvanaiah & Raya, 2014; Schaufeli, 2013). For example, when employees listened to work-related educational podcasts or listened to music to help soothe and calm themselves as they worked through the day, they made a psychological investment of their own in their jobs and the organization. Schaufeli (2013) stressed investment in the job as an essential element of employee engagement. It is possible that mobile phone use is no longer regarded as a novel tool for gamified, pleasure activities but rather an implement for higher-level efficiency and connectivity.

**Implications for Theory and Practice**

Comparing this study’s results with past engagement theories underscores both similarities and differences in study focus. Kahn (1990), as well as MacLeod and Clarke (2010), stressed the undergirding components of organizational culture as an imperative for employee engagement; this study confirms this to be so. The organizational culture components stressed by Kahn (1990) and MacLeod and Clarke (2010) included respect, involvement, listening, robust leadership, employee value, trust, and emotional commitment. This study confirmed the importance of the extrinsic frame of organizational culture as impacting employee engagement. This is in keeping with Kahn’s (1990) model, especially regarding meaningfulness.

Depending on whether mobile phones are allowed or disallowed in the organization compounds the issue of meaningfulness even further. This study confirmed that employees need clarity on the treatment of mobile devices in the workplace. They
want to feel trusted and respected by management that they are responsible enough to use their devices without abuse, rather than being made to feel guilty should they need to do so. This is an implication for leadership. The organizational culture, leadership interactions, and the overall professional image portrayed by management regarding what successful employees look like, will now require inclusion and mindfulness for employees who may need to use their mobile phone.

**Organization limitations**

The study makes a case for robust organizational culture. If the organizational culture is weak, then nomophobia may negatively impact the sense of meaningfulness employees feel in such organizations more than in cases where the underlying corporate culture is strong. This observation is in keeping with the discoveries of Nikolova and Cnossen (2020) that poor management practices and, therefore, the organization’s cultural tone erode employees’ perception of any sense of meaningfulness they derive from their jobs (2020). In some cases, participants were allowed to use their phones on the job and were fearful of not having the phone because they did not wish to miss anything. Even in these cases, the underlying culture of the organization and management practice impacted the employee’s perceptions of meaningfulness.

The original theorists (Kahn, 1990; MacLeod & Clarke, 2010) surmised that once the organizational culture was robust, the employee would experience meaningfulness on the job. Evidence from this study suggests that it is possible for employees to feel a sense of meaningfulness on the job even when these elements are absent from the organizational culture if the job is self-transcendent. Again, this is in keeping with the literature (Nikolova & Cnossen, 2020). The findings of this study also suggest that in
these cases, nomophobia, the fear of being without one’s phone, can negatively impact engagement levels when employees are concerned about family emergencies or if they feel isolated, bored, mistrusted, or disrespected. On the other hand, many participants explained that access to and attitudes regarding their lack of phone use while at work in no way impacted their sense of meaningfulness at all.

Similarly, Schaufeli et al. (2016) stressed the employee's intrinsic posture and attitude central to employee engagement. The factors they considered were vigor, dedication, and absorption. According to this model, employers desired to have employees who were in the best mental frame of mind for work and who could invest in their jobs and into the organization (Schaufeli, 2013). Further, savvy employers would seek to implement policies that would encourage employees to make the psychological investment desired in their jobs and the organization (Schaufeli, 2013). This could be directly applied to mobile phone policy in the workplace.

**Recommendations**

This study brings to light several recommendations for organizations. First, employers should implement strategies to mitigate family worries for employees while they are on the job. The recommendation is salient based on the findings of this study, as it appears that family and related emergencies weigh heavily on the minds of employees, affecting engagement levels as a result. An example of how this could be done may be for leaders of organizations where mobile phones are not allowed to implement a family emergency hotline that can be accessed by schools, nursing homes, or care providers. Alongside the hotline, those responding to the calls will need to implement an aggressive protocol to ensure that calls received are promptly actioned for employees to have
confidence that the intervention works. The hotline could fail to allay fears, concerns, stress, or serve the organization if there is a lackluster, laissez-faire response to calls received. To the extent that employees know that experience that calls to the hotline are regarded as serious and important, it is the researcher’s view that it is to that extent that the measure will serve the organization.

Secondly, the effect of isolation appears to be devastating when employees are left on their own or with non-responsive patients for long shifts. It may prove beneficial for employers in situations where this is the norm to implement a break system that allows employees to interact with the rest of the world. The interaction may be with other humans in a common area or a break to enable employees to access social media or connect with family members via mobile technology. Again, it is the researcher’s view that it is only to the extent that the implemented intervention remedies isolation and/or feelings of loneliness accompanying isolation that positive results will accrue to the organization.

Finally, each organization will need to assess the impact of remote working on engagement levels, whether due to the pandemic or technological advancement. It would be remiss of leaders to assume that engagement works precisely the same way in the online, remote, virtual scheme of things as it does in person. The effects of virtual and hybrid models of working on such a large scale should be investigated, and operational methodologies should be tweaked to ensure that both the organization and its employees are mutually getting what they need from the partnership.

Limitations

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This mixed-methods explanatory study inquiry bounded by interviews from 32 participants collected employees’ voices regarding their levels of nomophobia as it related to their levels of employee engagement. Information regarding whether participants were working on-site or remotely was not gathered. This may have been a critical factor affecting the study results. Thus, the failure to collect this information is a limitation of the study.

Although the researcher made attempts to enhance the trustworthiness of the study (as detailed in Chapter II), the positionality of the researcher as a former educator and mother—who values the individuality, creativity, and connectedness of the individual—may have influenced the way the data was collected, in terms of the latitude of expression permitted and the way that the interviews were interpreted. Selection bias may have also occurred given that the study was administered online, thus excluding possible participants who lacked access to the Internet. The study was restricted to students enrolled at a medium-sized tertiary level institution, which excludes all others from other walks of life.

Participants may have also engaged in social desirability bias. They may have done so by providing information that would cause them to appear more acceptable. This could have occurred if participants answered questions in a less than truthful manner to be better liked or feel more socially accepted by the investigator.

The interview responses revealed that participants were doing varied things with their mobile phones. Some were listening to podcasts; others were researching information. Yet others were sending and receiving calls, emails and text messages. The
failure to gather exactly what each participant used the mobile phone for while at work may have posed another limitation for the study.

The moderator’s manner of asking questions such as the volume, tonal inflection, expression, or appearance. The moderator’s age, perceived social status, race, and gender may have also presented moderator bias into the equation. The effect of this bias is that the moderator’s persona impacts the data. Finally, most study participants were still working in the environments they described in the study. This may have further skewed participants’ perceptions, especially in cases where the opinions expressed were emotional.

While a mixed-methods explanatory approach was beneficial for the study, it is possible that a mixed methods exploratory approach may have been equally, if not more beneficial, because some of the themes and nuances derived from the study could have been better vetted. In such a scenario, the data capture of exactly how much time employees spent on their phones while working, alongside tracking of what activities these phone interruptions were for, could have been better than the self-report, subjective views expressed by participants. Such a methodology would have eliminated any attempts at impression management or reactivity on the part of participants.

COVID-19 protocols may have been another limiting factor as employees who would typically have been at work in person were working from home. This may have skewed the data causing greater levels of mobile phone use than would have been normal previously. There may also have been greater tolerance for mobile phone use on the job due to new pandemic social distancing requirements. It is also possible that due to pandemic sanitation requirements, phone use was restricted or conducted differently from
what would have been the norm pre-pandemic. The study outcomes may have been affected to show more or less phone usage on the job as a result.

It is also possible that the ideas represented by a sample of participants located in the Midwest of the United States regarding nomophobic tendencies may not be generalizable to more urban city centers or indicate what is happening on a global level. The interviewer may also have interpreted responses based on personal bias regarding her understanding of particular words and phrases used in the interview process.

Future Research

The future research recommendations are organized according to themes central and specific to this inquiry. These themes are Kahn’s three aspects of motivation: meaningfulness, psychological safety, and psychological availability, and the facets of engagement presented by Schaufeli et al. (2006): vigor, dedication and absorption. The emergent themes of family, the inability to reach others or be reached in an emergency, isolation, efficiency, boredom, trust, and respect, professional image perception, and working in the post-Covid-19 reality are also covered.

Kahn’s Model

In Kahn’s (1990) employee engagement model, the three factors of meaningfulness, psychological safety, and psychological availability comprise the employee engagement construct. Specifically, regarding meaningfulness, there may be a need to revisit the scope of these definitions as more and more employees are working remotely due to social distancing, telecommuting, and other global changes since the model was framed. Psychological safety may also need to be re-assessed in many organizations as employees are being asked to navigate the world of work in novel ways.
This may be a good topic for future employee engagement research. It must be noted that Nikolova and Cnossen (2020), as well as Kubiak (2020), have already started research on meaningfulness in this vein. These theorists have developed and explored a model that captures the autonomy, competence, and relatedness that an employee experiences to measure the degree to which their need in each of these areas is being met. Nikolova and Cnossen (2020) also distinguish traditional models based on hedonic attributes of work as being different from their model of meaningfulness based on the eudaimonic aspects of work. Kubiak (2020) explores how management application of the eudaimonic method redounds to increased employee perceptions of meaningfulness related to their jobs.

**Schaufeli et al. Engagement Model**

The Schaufeli et al. (2006) model asserts that engaged employees display vigor, dedication, and absorption. Whereas employees need “psychological capabilities” and a willingness to invest in their job psychologically to be successful (Schaufeli 2013, p. 3), organizations must engage the total person of the employee to thrive. As a result, organizations are competing for the attention of their employees, and the personal use of smart devices and online connectivity adds an additional layer of technology now vying for the attention of employees (Li & Lin, 2018; Ter Hoeven et al., 2016).

**Family and Emergency**

Research suggests that employees care for senior relatives, siblings, adults in volatile situations, and young children (Park et al., 2020). Serving as a caretaker for these groups necessitates a method to contact one in case of an emergency. Future studies into how this could best be accomplished without using the mobile phone may be beneficial.
for employees as well as for schools, medical facilities, and other stakeholders who have experienced the frustration of needing to get an urgent care message to a relative without timely success.

Options for further investigation may include using “Life Alert” type devices for caretakers so that in the event of an emergency, an alarm device worn by the caretaker will beep or flash, indicating the need to reach the parent, school or family member concerned. Still, this adds another layer of complexity and cost to employees’ lives, and research into solutions that can be low cost, streamlined and straightforward would serve a broad cross-section of the community.

**Isolation and Social Intimidation**

Gazzaley and Rosen (2016) and Rosen et al. (2013) underscore that an obsession is when the gadget or device (such as a mobile phone) is used to alleviate the discomfort being experienced. Some participants shared that they used mobile phones in such a manner when they were isolated or when feelings of loneliness or social intimidation occurred on the job. Participants shared about breaking the rules regarding phone use or suffering depression when they had no social outlet in those moments when they felt utterly isolated and lonely. This is an interesting and poignant topic given the far-reaching effects of the pandemic through social distancing. Such a study would be a worthy addition to the literature and a critical work, informing theory and practice as we navigate a post-pandemic reality.

**Working in the COVID-19 reality**

The pandemic may have skewed participants’ ideas and concerns about the emergencies that they would have anticipated pre-pandemic, as compared to the angst
they expressed at the time the study was conducted. This was beyond the scope of this investigation; however, the scope and impact of the pandemic on nomophobia and employee engagement should be explored.

**Other Considerations**

Alternative research paths may prove beneficial for studying this topic. These include using factor analysis to determine the subtle influences that may be at play between the aforementioned factors identified in this study. A multivariate statistical approach may also be beneficial to explore more than one result simultaneously to mirror the reality of how the elements unearthed in the study work in tandem with nomophobia and employee engagement in real-time.

One might also consider how changing technology has affected how employees interface with mobile phones. Employees may regard the mobile phone more as one would a functional article of clothing-like a belt, or a useful and necessary gadget—like a calculator, which may put a different meaning behind the fear of being without one’s mobile phone as technology advances. This may be an area for future research.

The effect telecommuting has had on engagement will also need to be assessed, as working remotely is becoming a ubiquitous feature of life. Studies aimed at helping us navigate the effect that this has on engagement would be helpful as we navigate the new organizational terrain of having large segments of the working population working remotely.

The study was conducted during COVID-19, and this may have had a confounding effect on the data regarding care for the elderly. One may surmise that although concern for elderly relatives is a societal norm, these concerns may have been
heightened due to the pandemic. This may also be another factor worthy of deeper consideration, but the topic is beyond the scope of this current investigation.

**Conclusion**

The mixed-methods, explanatory analyses elucidate the experiences of employees using their own voice. The researcher highlighted nomophobia factors that affected engagement. Participants demonstrated that both Kahn’s model of engagement that focuses on meaningfulness, psychological safety, and psychological availability, and Schaufeli et al.’s model of employee engagement that focuses on vigor, dedication, and absorption, were both salient regarding feelings of nomophobia, except for meaningfulness which may have been more impacted by trust and respect.

Additional themes arose that might help explain the relationship between nomophobia and engagement, including pull factors extrinsic to the job such as family and the inability to reach others or be reached in an emergency; intrinsic job factors of isolation, efficiency, boredom, trust, and respect, and professional image perception; and the work inducing factor of isolation.
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APPENDIX A

NOMOPHOBIA QUESTIONNAIRE (NMP-Q)

Please indicate how much you agree or disagree with each statement in relation to your smartphone.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

1. I would feel uncomfortable without constant access to information through my smartphone.

2. I would be annoyed if I could not look information up on my smartphone when I wanted to do so.

3. Being unable to get the news (e.g., happenings, weather, etc.) on my smartphone would make me nervous.

4. I would be annoyed if I could not use my smartphone and/or its capabilities when I wanted to do so.

5. Running out of battery in my smartphone would scare me.

6. If I were to run out of credits or hit my monthly data limit, I would panic.

7. If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network.

8. If I could not use my smartphone, I would be afraid of getting stranded somewhere.

9. If I could not check my smartphone for a while, I would feel a desire to check it.

10. If I did not have my smartphone with me, I would feel anxious because I could not instantly communicate with my family and/or friends.

11. If I did not have my smartphone with me, I would be worried because my family and/or friends could not reach me.
12. If I did not have my smartphone with me, I would feel nervous because I would not be able to receive text messages and calls.

13. If I did not have my smartphone with me, I would be anxious because I could not keep in touch with my family and/or friends.

14. If I did not have my smartphone with me, I would be nervous because I could not know if someone had tried to get a hold of me.

15. If I did not have my smartphone with me, I would feel anxious because my constant connection to my family and friends would be broken.

16. If I did not have my smartphone with me, I would be nervous because I would be disconnected from my online identity.

17. If I did not have my smartphone with me, I would be uncomfortable because I could not stay up-to-date with social media and online networks.

18. If I did not have my smartphone with me, I would feel awkward because I could not check my notifications for updates from my connections and online networks.

19. If I did not have my smartphone with me, I would feel anxious because I could not check my email messages.

20. If I did not have my smartphone with me, I would feel weird because I would not know what to do.

**Scoring:**
Sum up your responses to each item. Higher scores indicate more severe levels of nomophobia. Refer to the following table to determine your nomophobia level.

<table>
<thead>
<tr>
<th>Score</th>
<th>Nomophobia Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMP-Q Score = 20</td>
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</tr>
<tr>
<td>21 ≤ NMP-Q Score &lt; 60</td>
<td>Mild</td>
</tr>
<tr>
<td>60 ≤ NMP-Q Score &lt; 100</td>
<td>Moderate</td>
</tr>
<tr>
<td>100 ≤ NMP-Q Score &lt; 140</td>
<td>Severe</td>
</tr>
</tbody>
</table>
APPENDIX B

WORK & WELL-BEING SURVEY (UWES-9) ©

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the “0” (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

<table>
<thead>
<tr>
<th></th>
<th>Almost never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very often</th>
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</thead>
<tbody>
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<td>2</td>
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<tr>
<td>6</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Never times a</td>
<td>A few times a</td>
<td>Once a month</td>
<td>A few times a</td>
<td>Once a week</td>
<td>A few week</td>
</tr>
<tr>
<td>Every day</td>
<td>or less</td>
<td>or less</td>
<td>month</td>
<td></td>
<td>week</td>
</tr>
</tbody>
</table>

1. ________ At my work, I feel bursting with energy
2. ________ At my job, I feel strong and vigorous
3. ________ I am enthusiastic about my job
4. ________ My job inspires me
5. ________ When I get up in the morning, I feel like going to work
6. ________ I feel happy when I am working intensely
7. ________ I am proud of the work that I do
8. ________ I am immersed in my work
9. ________ I get carried away when I’m working

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APPENDIX C

PILOT STUDY OPEN ENDED SURVEY QUESTIONS

1. (a) Sometimes employees feel a deep involvement with their work that leads to a sense of significance, enthusiasm, inspiration, pride, and challenge. Do you think that not having a mobile phone on the job increases or detracts from these experiences?

(b) Why do you think so?

2. If you could create from scratch a mobile phone policy for your workplace, what would it include?

(b) Describe the rationale for your policy.
APPENDIX D
PILOT STUDY POSSIBLE INTERVIEW QUESTIONS

1. (a) Share about a time when you nearly got caught using your mobile device on the job. What happened? Why did you want to use your phone so badly that you didn’t follow company policy? How did it make you feel to be using your device under the circumstances?

OR

(b) Share an account about a time when you needed to use your mobile phone at work and you were happy that you had the freedom to do so. How do you think things would have been different if you were not allowed this freedom?

2. Consider the sense of meaningfulness (worth and value) you get from doing your job. How does having/not having access to your mobile phone while at work affect this feeling?

3. If psychological safety is being able to work without fear or negative consequences regarding your image, position or career, how does having/not having permission to use your mobile phone on the job enhance or erode this feeling?

4. How does having/not having access to your mobile phone while at work affect your emotional capacity to get your assigned responsibilities done?

5. Try to remember/imagine life at work before mobile phones existed. How do you think/has your level of vigor (energy, mental resilience) and absorption (being
joyfully engaged in one’s work) would have changed since you’ve
owned a phone but have been allowed to/prohibited from using it while at work?
If so, how? If not, why not?